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“THE IDEAS OF ECONOMISTS AND POLITICAL PHILOSOPHERS, BOTH WHEN THEY ARE RIGHT AND WHEN THEY ARE WRONG, ARE MORE POWERFUL THAN IS COMMONLY UNDERSTOOD. INDEED, THE WORLD IS RULED BY LITTLE ELSE. PRACTICAL MEN, WHO BELIEVE THEMSELVES TO BE QUITE EXEMPT FROM ANY INTELLECTUAL INFLUENCES, ARE USUALLY THE SLAVES OF SOME DEFUNCT ECONOMIST. MADMEN IN AUTHORITY, WHO HEAR VOICES IN THE AIR, ARE DISTILLING THEIR FRENZY FROM SOME ACADEMIC SCRIBBLER OF A FEW YEARS BACK....SOON OR LATE, *IT IS IDEAS*, NOT VESTED INTERESTS, WHICH ARE DANGEROUS FOR GOOD OR EVIL.”

JOHN MAYNARD KEYNES

THE GENERAL THEORY, PP. 383-4.

MODELLING A NEW ECONOMIC GROWTH THOUGHT FOR
DEVELOPING ECONOMIES WITH PARTICULAR REFERENCE TO
ECONOMIES IN TRANSITION

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of the requirements for the
awarding of the degree of
Doctor of Philosophy

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ABSTRACT

MODELLING A NEW ECONOMIC GROWTH THOUGHT FOR DEVELOPING ECONOMIES WITH PARTICULAR REFERENCE TO ECONOMIES IN TRANSITION

The objective of this research work is to model a new economic growth thought for developing economies by mainly taking into account the complex structure of the economies in transition. The post-war debate on an age-old problem of growth and development has once again gained a momentum with the demise of the socialist system in the former Soviet Union and in the Eastern and Central European nations. The dynamism of these economies in transition would depend largely on the working of capitalist-market mechanism, to which they have allied themselves. While designing new economic growth strategies, we consider the economic variables which need to integrate socio-cultural phenomena. The economic policy imperative is based on the conviction that the fusion of the way of thinking of the people and the way of acting of the economic agent results either in economic development or in economic stagnation.

The whole work is divided into three main sections with chapters in sequence. The opening chapter of every section designs a composition of place. The composition of place examines the historical, geographical and the existential relevance of the section in analysis. Once we have placed ourselves in that particular scenario, it is easy for us to delve into the investigation proper. We conclude each section by making a critical assessment of the subject-matter.

The Theoretical Growth Path

Our first section deals with the theoretical growth path. The path we tread in this section is the capitalist-market economy oriented development path. The economic growth models are theoretical in nature but applied in varying degrees to enhance the operation of market performance with an objective of development. Therefore as we

outline the theoretical growth path, it is important to capture the historical context and to visualise a composition of place of growth economics in its relevant global setting, as we have done in chapter one. The description of the basic concepts like growth, development, sustainable development etc., is given in the second chapter of this section. From chapter three to seven of section one, we have designed a particular framework to determine the engines of economic growth and their motivating forces. In chapter three, we analyse the economic growth model with an emphasis on physical capital and human labour by following the Harrod-Domar model. We proceed to analyse in chapter four the growth model with an emphasis on technological progress as proposed by Solow. In chapter five, we concentrate on the economic growth model with an emphasis on human capital. The shift of emphasis from exogenous technical innovation to human capital accumulation as the key source of growth and development is one of the major themes of the new economic development literature. The new growth theories are proposed by Romer, Barro and others. We proceed to analyse the economic growth model with an emphasis on the research sector in chapter six. The new direction given by the endogenous growth models enables us to understand better the 'unexplained growth' by endogenizing the determinants of economic growth. Following this path of direction, we shall try to introduce a novel factor into the mechanisms of economic growth. The identification of a growth influencing knowledge sector is our prime objective in chapter seven. We conclude section one of our study by introducing a dual knowledge sector, namely, *the macro knowledge sector and the micro knowledge sector* and we propose the idea that it is the integration of these two sectors that would account for any further economic growth.

The Applied Growth Path

The second section of our research deals with the applied growth path. The path that we tread here is the socialist - command economy oriented development path. We call this section the applied growth path because of the fact that there have been a conscious development and application of an ideology oriented growth models. The socialist-planned economies developed their own growth economic models for their

countries' economic development. The socialist ideological structure and dynamism have been endogenized in these applied growth models.

The composition of place of the socialist system within a global framework, as we have done in chapter eight, enables us to delve into our particular form of search, namely, the motives and engines of economic growth process in the socialist economies. Every economic growth model has a specific structure and a dynamism and the application of such a model could either stagnate development or ignite the economy forward, as we have shown in chapter nine. To understand the nature of the socialist system better, we proceed to examine the features of forced growth in the light of the diverse theoretical literature on growth. We begin by analysing the socialist economic growth model with an emphasis on primitive accumulation in chapter ten. Primitive socialist capital accumulation, as described by Preobrazhensky, simply cannot go on unobstructed for a long period. Since the adherents of the socialist state were convinced of the role of capital formation, they decided to follow the model of investment, as we have shown in chapter eleven. Fel'dman's growth model is based on a Marxist foundation and it may be of use in unravelling a few puzzles in Soviet economic development and in achieving a better understanding of Soviet economic thinking. More investment coupled with less consumption raises the issue of savings. The role of savings in a socialist state is a new phenomenon in the theory of economic growth, as we have shown in chapter twelve. If the socialist state has to survive, the household consumption has to be improved. The priority to consumption over production goods resulted in a new debate, as we have described in chapter thirteen. Our analysis of the model developed by Brus and Laski, which is based on the works of Kalecki, shows not only the interplay of consumption and production but also the inherent problems of a socialist system. In chapter fourteen we proceed to make a critique of the socialist economic system based on the applied core economic growth models which we have analysed in our study. We conclude section two of our investigation by proposing the idea that the applied model of socialism can be considered as a form of micro knowledge; but it is the victory of macro knowledge that led to the demise of applied socialism.

The Transition Growth Path

The new thinking that an evolving transitional and developing economy assimilates in its process of economic growth would have far reaching developmental consequences. The third section of our research deals with the transition growth path. The economies in transition are simultaneously engaged in dismantling the legacies of a socialist - planned economic system and building up a structure of market-oriented capitalist economic system. The economic objective of growth and development remains a top priority during the period of transition. This section also begins with the composition of place of the economies in transition. While in chapter fifteen we concentrate on central and eastern European nations, chapter sixteen treads the transition path of the former Soviet Union. Our analysis of the transition process of these economies unfolds the complexity of the nature of the task that is ahead. As we try to have a conceptual understanding of the term *transition*, we realize that the economies in transition need to follow certain strategies., as we have discussed in chapter seventeen, to accomplish the desired economic objective of growth and development. Analysing the interlocking wheels of transition points to the necessity of having strategies like macroeconomic stabilization, liberalization of prices, privatization of the economy, and a market-supporting institutional infrastructure. Though we cannot at this stage establish a unique optimal path of transition, most now argue that macroeconomic stabilization, if not a necessary condition for transition, greatly facilitates it, as we have shown in chapter eighteen. We have followed the case studies of Russia and Baltic states in this regard. Our analysis outlines the relevance of macroeconomic stabilization as a primary condition for the emergence of capitalism. At this stage, the economies in transition would be applying economic growth models that would bring about the desired growth. From the ashes of historical socialism emerges the hopes of the economies in transition. These hopes are to be translated into reality by providing a new vision to their economic objective. We begin chapter nineteen by formulating a new vision-growth path and we move to design a solution-growth path. This is a new vision of economic growth and development and its realization depends on a new perspective of the knowledge sector of a new growth model. The economic modelling that we undertake identifies a growth influencing knowledge sector and we integrate into this knowledge sector the hitherto unintegrated macro knowledge variables, namely,

freedom, democracy and human rights. We hope this will also contribute to the new attempts at creating alternate economic growth models.

We conclude this investigative-research work by placing the vision-solution growth path into a global growth path.

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University of Glasgow

April 1996

JOHN JOSEPH PUTHENKALAM, S.J.

MODELLING A NEW ECONOMIC GROWTH THOUGHT FOR
DEVELOPING ECONOMIES WITH PARTICULAR REFERENCE TO
ECONOMIES IN TRANSITION

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LIST OF ABBREVIATIONS

AOC: Average Operating Cost
ATC: Average Total Cost
CBR: Central Bank of Russia
CC: Convertible Currency
CEE: Central and Eastern Europe
CIS: Commonwealth of Independent States
CMEA: Council of Mutual Economic Assistance
COMINFORM: Communist Information Bureau
CPE: Centrally Planned Economy
CPSU: The Communist Party of the Soviet Union
CSCE: Conference on Security and Co-operation in Europe
EBRD: European Bank of Reconstruction and Development
EC: European Community
EE: Eastern Europe
EEC: European Economic Community
FDI: Foreign Direct Investment
GATT: General Agreement on Tariffs and Trade
GDP: Gross Domestic Product
GNI: Gross National Income
GNP: Gross National Product
Gosbank: The U.S.S.R. State Bank
HDI: Human Development Index
HDR: Human Development Report
IMF: International Monetary Fund
LDCs: Less Developing Countries
MEG: Modern Economic Growth
MICE: Moscow Interbank Currency Exchange
MITI: Ministry of International Trade and Industry
MOC: Marginal Operating Cost
NATO: North Atlantic Treaty Organization
NEP: New Economic Policy
NGT: New Growth Theory
OECD: Organization of Economic Co-operation and Development

R&D: Research and Development

RFE/RL: Radio Free Europe/Radio Liberty

RL: Rouble

SOEs: State-Owned Enterprises

TEs: Transitional Economies or Economies in Transition

UN: United Nations

UNCTAD: United Nations Council for Trade and Development

UNDP: United Nations Development Programme

US\$: US Dollar

USSR: Union of Soviet Socialist Republics

VAT: Value-Added Tax

WB: World Bank

MODELLING A NEW ECONOMIC GROWTH THOUGHT FOR DEVELOPING ECONOMIES WITH PARTICULAR REFERENCE TO ECONOMIES IN TRANSITION

SECTION A

INTRODUCTION

The invisible hand that works in any economic action is the invisible thought that exists among the people of a nation. Since the beginning of civilization we have been in the pursuit of taming the nature. The technique of processing that took place on the face of the earth is termed as economic action. As the civilization process is conscientized, the spirit of the economic being emerged to be called as culture. Cultural development is the process of praxis civilization. The moment the economic agent becomes aware of the culture in which he is situated, he turns also to be an agent who develops and remoulds the culture. The way of thinking that exists in the micro-agent expands and spreads into the macro level. The outcome would be the birth of a national philosophy, which penetrates into every corner of the whole nation and its every action. Every nation needs to become aware of the existing way of thinking - *macro knowledge* - that motivates its people to act. To a great extent, it is this awareness that brings change and in the economic sphere, this conscientized change is termed as economic development. How much a nation is truly aware of the existing philosophy that motivates the economic agent is very influential in any economic reforms. It is this consciousness of the nation that becomes the conscience of the people. If the existing thought is a distorting phenomenon for human progress, then we need to re-evaluate the influencing or motivating thought that benefits only a few citizens to develop and the rest of the nation to be at the mercy of these chosen few. But, if the existing thought helps a large majority of the nation to achieve its designed goal, it is still important to focus on the way of thinking that did influence the outcome and it is necessary to recharge the same with a conscious-push and try to eliminate the national

energy wasting element, that subsists in it with a conscious-pull. Thus, we can safely state that economic development is greatly influenced by the way of thinking of the people or the national philosophy. As any person is motivated to act because of his/her deep-rooted convictions, a nation will act according to its convictions.

The following research mainly takes into account the complex structure of the economies in transition (and of developing economies in general) and their need for modelling a new economic growth thought. This research attempts to shed a new light on an age-old problem of economic inquiry: the problem of growth and development. We shall particularly consider the economic variables which need to integrate socio-cultural phenomena while framing economic policies. The fusion of the way of thinking of the people and the way of acting of the economic agent results either in economic development or in economic stagnation. Thus this research will also be an attempt at creating a philosophy of political economy as we design an alternate model of economic growth.

A.i. **Methodology**

The methodology that we employ in this research is more of a descriptive nature than of an analytical one. In the theoretical growth path we have used some analytical tools. In the applied growth path and in the transition growth path, the method of description is more applicable. The descriptive method is followed mainly due to the fact that the regimes and portfolios and events described are existential in nature. Economics, as a social science, when trying to explain the raw events of economic mechanisms of birth, growth, decay, collapse and transition-evolution, descriptive method is more suitable to explain the economic behaviour. The economic agent to whom it is addressed would find it easy to identify oneself with this scenario of events.

A.ii. Executive Summary

In the introductory chapter we outline the objective of this research work and the executive summary of its content. The whole work is divided into three main sections with chapters in sequence. The opening chapter of every section designs a composition of place. The composition of place examines the historical, geographical and the existential relevance of the section in analysis. Once we have placed ourselves in that particular scenario, it is easy for us to delve into the investigation proper.

A.iii. The Theoretical Growth Path

Our first section deals with the theoretical growth path. The path we tread in this section is the capitalist-market economy oriented development path. The economic growth models are theoretical in nature but applied in varying degrees to enhance the operation of market performance with an objective of development. Therefore as we outline the theoretical growth path, it is important to capture the historical context and to visualise a composition of place of growth economics in its relevant global setting, as we have done in chapter one. The composition of place of growth economics in its global framework raises certain inevitable questions. Which were the economic growth models that the developed and developing economies followed thus far? What are the determinants on which these models were grounded? But before we answer such questions, we need to clarify certain basic concepts of our study. The description of the basic concepts like growth, development, sustainable development etc., is given in the second chapter of this section. From chapter three to seven of section one, we have designed a particular framework to determine the engines of economic growth and their motivating forces. In chapter three, we begin analysing the economic growth model with an emphasis on physical capital and human labour by following the Harrod-Domar model. We proceed to analyse in chapter four the growth model with an emphasis on technological progress as proposed by Solow and Swan. A new wave of research on economic growth was stimulated by Romer and Lucas. Their work relies on Arrow's mechanism of learning -by-doing. But, more importantly, by following Uzawa [1965], Romer and Lucas have

redirected its application to the accumulation of knowledge and human capital rather than the accumulation of plant and equipment. In chapter five, we concentrate on the economic growth model with an emphasis on human capital. The shift of emphasis from exogenous technical innovation to human capital accumulation as the key source of growth and development is one of the major themes of the new economic development literature. We proceed to analyse the economic growth model with an emphasis on the research sector in chapter six. The new direction given by the endogenous growth models enables us to understand better the 'unexplained growth' by endogenizing the determinants of economic growth. Following this path of direction, we shall try to introduce a novel factor into the mechanisms of economic growth. The identification of a growth influencing knowledge sector is our prime objective in chapter seven. We conclude section one of our study by introducing a dual knowledge sector, namely, the macro knowledge sector and micro knowledge sector and we propose the idea that it is the integration of these two sectors that would account for any further economic growth.

A.iv. The Applied Growth Path

The second section of our research deals with the applied growth path. The path that we tread here is the socialist - command economy oriented development path. We call this section the applied growth path because of the fact that there have been a conscious development and application of an ideology oriented growth models. The socialist-planned economies developed their own growth economic models for their countries' economic development. The socialist ideological structure and dynamism have been endogenized in these applied growth models.

The composition of place of the socialist system within a global framework, as we have done in chapter eight, enables us to delve into our particular form of search, namely, the motives and engines of economic growth process in the socialist economies. Every economic growth model has a specific structure and a dynamism and the application of such a model could either stagnate development or ignite the economy forward, as we have shown in chapter nine. Our survey of the structure and dynamics of the socialist state

unveils the nature of a veiled economic system. To understand the nature of the socialist system better, we proceed to examine the features of forced growth in the light of the diverse theoretical literature on growth. We begin by analysing the socialist economic growth model with an emphasis on primitive accumulation in chapter ten. Primitive socialist capital accumulation, as described by Preobrazhensky, simply cannot go on unobstructed for a long period. There is neither unlimited supply of labour nor is it advisable to follow an unbalanced growth path. Therefore, new devices had to be formulated to fulfil the economic objectives. Since the adherents of the socialist state were convinced of the role of capital formation, they decided to follow the model of investment as we have shown in chapter eleven. Fel'dman's growth model is based on a Marxist foundation and it may be of use in unravelling a few puzzles in Soviet economic development and in achieving a better understanding of Soviet economic thinking. More investment coupled with less consumption raises the issue of savings. The role of savings in a socialist state is a new phenomenon in the theory of economic growth, as we have shown in chapter twelve. Savings in a centrally planned economic system is a non-existent phenomenon. In a literal sense, there is no savings. Since planned investment is the controlling force, the role of savings is irrelevant as far as economic decisions are concerned. The decision of the central planners to reduce the consumption of the households is no alternative mechanism for savings mechanism. It is this misunderstanding among the socialist planners that derailed the investment in the long-run and thereby stagnated the growth of the economy. If the socialist state has to survive, the household consumption has to be improved. The priority to consumption over production goods resulted in a new debate, as we have described in chapter thirteen. Our analysis of the model developed by Brus and Laski, which is based on the works of Kalecki, shows not only the interplay of consumption and production but also the inherent problems of a socialist system. In chapter fourteen we proceed to make a critique of the socialist economic system based on the applied core economic growth models which we have analysed in our study. We conclude section two of our investigation by proposing the idea that the applied model of socialism can be considered as a form of micro knowledge; but it is the victory of macro knowledge that led to the demise of applied socialism.

A.v. The Transition Growth Path

The new thinking that an evolving transitional and developing economy assimilates in its process of economic growth would have far reaching developmental consequences. The third section of our research deals with the transition growth path. The economies in transition are simultaneously engaged in dismantling the legacies of a socialist - planned economic system and building up a structure of market-oriented capitalist economic system. The economic objective of growth and development remains a top priority during the period of transition. This section also begins with the composition of place of the economies in transition. While in chapter fifteen we concentrate on central and eastern European nations, chapter sixteen treads the transition path of the former Soviet Union. Our analysis of the transition process of these economies unfolds the complexity of the nature of the task that is ahead. As we try to have a conceptual understanding of the term *transition*, we realize that the economies in transition need to follow certain strategies., as we have discussed in chapter seventeen, to accomplish the desired economic objective of growth and development. Analysing the interlocking wheels of transition points to the necessity of having strategies like macroeconomic stabilization, liberalization of prices, privatization of the economy, and a market-supporting institutional infrastructure. Though we cannot at this stage establish a unique optimal path of transition, most now argue that macroeconomic stabilization, if not a necessary condition for transition, greatly facilitates it, as we have shown in chapter eighteen. We have followed the case studies of Russia and Baltic states in this regard. Our analysis outlines the relevance of macroeconomic stabilization as a primary condition for the emergence of capitalism. At this stage, the economies in transition would be applying economic growth models that would bring about the desired growth. From the ashes of historical socialism emerges the hopes of the economies in transition. These hopes are to be translated into reality by providing a new vision to their economic objective. We begin chapter nineteen by formulating a new vision-growth path and we move to design a solution-growth path. This is a new vision of economic growth and development and its realization depends on a new perspective of the

knowledge sector of a new growth model. The economic modelling that we undertake identifies a growth influencing knowledge sector and we integrate into this knowledge sector the hitherto unintegrated macro knowledge variables, namely, freedom, democracy and human rights. We hope this will also contribute to the new attempts at creating alternate economic growth models.

We conclude this investigative-research work by placing the vision-solution growth path into a global growth path. The economic convergence on a global scale is possible only if we dare to face future challenges and reap opportunities with a desire for further and deeper integration between developed and developing nations.

SECTION ONE

THE THEORETICAL GROWTH PATH

The economies in transition aim to transform their societies into a more humane one by reinterpreting the political ideologies, economic institutions, and social values. They aim to transform their politics into a more freer and democratic-oriented scenario, which promotes a new set of social values. They aim to transform their economies into a capitalist one based on the market mechanism of the developed world. The fulfilment of these objectives involves a thorough designing of a theoretical framework and its concrete application to the economies in transition. It has to be a praxis approach of designing, applying, and re-designing the objectives and the re-formulation of their necessary theory. In this section, we shall analyse a few relevant theoretical models that have been followed in the market-oriented economies, and we propose the integration of these models of economic growth with certain specific modifications, during the period of transition to a new world.

CHAPTER ONE

EVOLUTION OF THE THEORETICAL GROWTH MODELS

The new thinking that an evolving transitional and developing economy assimilates in its process of economic growth would have far reaching developmental consequences. History of economies shows that all the growth process need not necessarily lead to permanent development. Our perspectives on growth would be an indication of our desire for development. Our frame of reference would be the blueprint on which national economic policies would be drawn. Therefore as we outline the theoretical growth path, it is important to capture the historical context and to visualise a composition of place of growth economics in its relevant global setting. We shall begin with history.

I.1.i. The Historical Setting

The big increase in trade between the countries of Western Europe and North America and the rest of the world dates from the second half, and more precisely the last quarter, of the nineteenth century. Trade links existed before then, but were quantitatively less important. Nineteenth-century innovations led to increased demand for materials such as rubber, copper and other minerals, while the spread of railways after the 1850s and the rapid drop in ocean freight costs after 1870 opened up new areas to trade by reducing transport costs. Exports from tropical countries grew by 4 per cent a year from the 1880s to 1914, establishing an interdependent world economy. The economies of the exporting regions were transformed, but economists showed little interest in these changes. The tropical regions were participating in a global division of labour and sharing the gains from trade, just as the classical economists predicted. Lack of interest in issues of growth and development also reflected the dominance since the 1870s of neo-classical economics, with its emphasis on resource allocation rather than on macroeconomic or dynamic issues.¹ We note that the classical economists such as Adam Smith, Ricardo, Malthus, J. S.

Mill and Marx had written about long-term economic change, but they limited their analysis almost exclusively to European economies.

Several influences during the 1930s stimulated thought on economic development. First, the economic depression hit some less developed countries (LDCs) very hard as the drop in commodity prices from their 1928 peak was more severe than the fall in price of manufactured goods (Cuba, for example, is estimated to have suffered a loss in per capita income of at least a third). The benefits from entering the international division of labour were reversed, and disillusionment with the market mechanism and with free-trade policies set in. This effect was strongest in Latin America, where most independent LDCs were at the time. A particularly influential individual was Raul Prebisch, who had pursued *laissez-faire* policies as the Argentinean Under-Secretary of Finance during the 1920s but around 1930 shifted to advocating shielding domestic industry by trade barriers. Meanwhile, Western economics was experiencing the Keynesian Revolution. Keynes challenged the neo-classical orthodoxy by advocating more interventionist policies to cope with the economic depression. Also, his mode of analysis encouraged *ad hoc* theorising as opposed to the universal theories of classical and neo-classical economists. Western economics could be seen as appropriate to the special case of the Western economies, while different assumptions would be needed for development economics. Finally, there was a common sentiment that economic forces had contributed to the outbreak of the Second World War and that a better post-war economic order could be designed. Among the Anglo-American architects of the post-war economic order, most of the discussion had little to do with LDCs. Rosenstein-Rodan's paper (1943) was the first to analyse 'underdeveloped countries' and it focused on East and South-East Europe, but the rapid move to political independence of former colonies in Asia spread interest in development economics across the world.²

These simultaneous threads in world economic history and in economic theory created the background for the emergence of development economics as a distinct subject. The revulsion of many Latin Americans with the workings of the market system after 1928, the inevitability of Indian independence and the break-up of the colonial empires, and the

coming to power in Turkey, China, Egypt and else-where of modernizing rulers, all created an environment in which policy-makers were eager for ideas on how to achieve economic development. In such an intellectual and political ferment, with both analysts and policy-makers reacting to the same world background, it is difficult to identify how much the theorists influenced the practical people and how much they were simply rationalizing the policies which would have been adopted anyway. The writings of the pioneers in development economics, do, however, capture most clearly the central themes.³

The dominant economic systems of our century resulted in the creation of super-powers and the epicentres of economic activity. The 1990s witnessed the collapse of the socialist planned model and the strength of market economy models. The collapse of an economic system necessitated the shift of developmental activity to a new world, hitherto, hidden in the bosom of socialist paternalism. Any application of capitalist growth models to these transitional economies which are now part of the developing world, and have undertaken their own developmental paths, has to be carefully designed within the framework of a global economy.

I.1.ii. The Composition of Place of Growth Economics

Macroeconomics theories of economic growth explain the determinants of the wealth of nations and try to analyse why the fortunes of nations change over time. Various economic growth theories developed as a response to the historical events that unfolded on our planet. The new realisation of a wounded and divided world of South and North or of developing and developed or of centrally planned or transitional or of poor and rich had a shattering economic effect. Effective ways of integrating the world economy has become the concern of economists. Interest in growth economics revived as a result of an immense practical concern with development after the Second World War. We could state that the real motivating power behind the establishment of the present international economic system arose due to the following factors. “The war-damaged economies were trying hard to reconstruct fast, the underdeveloped countries were attempting to initiate economic

development, the advanced capitalist countries being relatively free from periodic slumps were trying to concentrate on raising the long-run rate of growth, and the socialist countries were determined to overtake the richer capitalist economies by fast economic expansion.”⁴ Piecemeal responses of the international community to the under-development issues of the planet threaten the partial growth of the developed nations. As it is said, poverty anywhere is a threat to prosperity everywhere. “The challenge of finding sustainable development paths ought to provide the impetus---indeed the imperative---for a renewed search for multilateral solutions and a restructured international economic system of co-operation. These challenges cut across the divides of national sovereignty, of limited strategies for economic gain, and of separated disciplines of science.”⁵ The new challenges posed by the quest for growth and development need to be viewed wholistically. We can no more measure development by a single economic indicator as growth. The human family is becoming more and deeply aware of its need for creating sustainable survival strategies within the framework of development.

We are concerned not just with socio-economic dimensions of development alone but with the historical and political and cultural implications and above all very much worried about the sustainability of our planetary system itself. “In the middle of the twentieth century, we saw our planet from space for the first time. Historians may eventually find that this vision had a great impact on thought than did the Copernican revolution of the sixteenth century, which upset the human self-image by revealing that the Earth is not the centre of the universe. From space, we see a small and fragile ball dominated not by human activity and edifice but by a pattern of clouds, oceans, greenery, and soils. Humanity’s inability to fit its doings into that pattern is changing planetary systems, fundamentally. Many such changes are accompanied by life-threatening hazards. This new reality, from which there is no escape, must be recognised - and managed.”⁶ This new vision of the world is, fortunately, coincided with more positive developments new to this century. “We can move information and goods faster around the globe than ever before; we can produce more food and more goods with less investment of resources; our technology and science gives us at least the potential to look deeper into and better understand natural systems. From space, we can see and study the Earth as an organism

whose health depends on the health of all its parts. We have the power to reconcile human affairs with natural laws and to thrive in the process. In this our cultural and spiritual heritages can reinforce our economic interests and survival imperatives.”⁷ We see the possibility for a new era of economic growth which is more prosperous, more just, and more secure and this form of growth is essential to relieve the great poverty that is deepening in much of the developing world.

I.1.iii. Growth Policies: Stories of Success and Shadow of Failures

To ensure both sustainable human progress and human survival, we need to understand the global challenges in the light of successes and in the shadow of failures. Our growth policies which led to success are signs of hope and they are many: infant mortality is falling; human life expectancy is increasing; the proportion of the world’s adults who can read and write is climbing; the proportion of children starting school is rising; and global food production increases faster than the population grows. But the same processes that have produced these gains, have led to failures of ‘development’. On the development side, in terms of absolute numbers there are more hungry people in the world than ever before, and their numbers are increasing. So are the numbers who cannot read or write, the numbers without safe water, or safe and sound homes, and the numbers short of woodfuel with which to cook and warm themselves. The gap between the rich and poor nations is widening-not shrinking-and there is little prospect, given present trends and institutional arrangements, that this process will be reversed.

According to the report of *The World Commission on Environment and Development*, there are also environmental trends that threaten to radically alter the planet, that threaten the lives of many species upon it, including the human species. Each year another 6 million hectares of productive dryland turns into worthless desert; more than 11 million hectares of forests are destroyed yearly, and much of this forest is converted to low-grade farmland unable to support the farmers who settle it. In Europe, acid precipitation kills forests and lakes and damages the artistic and architectural heritage of nations; it may have acidified vast tracts of soil beyond reasonable hope of repair. The burning of fossil fuels puts into

the atmosphere carbon dioxide, which is causing gradual global warming. This 'greenhouse effect' may by early next century have increased average global temperatures enough to shift agricultural production areas, raise sea levels to flood coastal cities, and disrupt national economies. Other industrial gases threaten to deplete the planet's protective ozone shield to such an extent that the number of human and animal cancers would rise sharply and the ocean's food chain would be disrupted. Industry and agriculture put toxic substances into the human food chain and into underground water tables beyond reach of cleansing.

There has been a growing realisation in national governments and multilateral institutions that it is impossible to separate economic development issues from environment issues; many forms of development erode the environmental resources upon which they must be based, and environmental degradation can undermine economic development. Poverty is a major cause and effect of global environmental problems. It is therefore futile to attempt to deal with environmental problems without a broader perspective that encompasses the factors underlying world poverty and international inequality. "Many present development trends leave increasing numbers of people poor and vulnerable, while at the same time degrading the environment. How can such development serve next century's world of twice as many people relying on the same environment? This realisation broadened our view of development. We came to see it not in its restricted context of economic growth in developing countries. We came to see that a new development path was required, one that sustained human progress not just in a few places for a few years, but for the entire planet into the distant future. Thus 'sustainable development' becomes a goal not just for the 'developing' nations, but for industrial ones as well."⁸

I.1.iv. Global Economy versus Global Ecology

Until recently, the planet was a large world in which human activities and their effects were neatly compartmentalised within nations, within sectors (energy, agriculture, trade), and within broad areas of concern (environmental, economic, social). These compartments have begun to dissolve. This applies in particular to the various global 'crises' that have seized public concern, particularly over the past decade. These are not separate crises: a development crisis, an environmental crisis, an energy crisis. They are all one. The question is how are we going to deal with all these interlocking crises. The planet is passing through a period of dramatic growth and fundamental change. Our human world of 5 billion must make room in a finite environment for another human world. The population could stabilise at between 8 billion and 14 billion sometime next century, according to UN projections. More than 90 per cent of the increase will occur in the poorest countries, and 90 per cent of the growth in already bursting cities.

Economic activity has multiplied to create a \$13 trillion world economy, and this could grow five-or tenfold in the coming half-century. Industrial production has grown more than fiftyfold over the past century, four-fifths of this growth since 1950. Such figures reflect and presage profound impacts upon the biosphere, as the world invests in houses, transport, farms, and industries. Much of the economic growth pulls raw material from forests, soils, seas, and waterways. A mainspring of economic growth is new technology, and while this technology offers the potential for slowing the dangerously rapid consumption of finite resources, it also entails high risks, including new forms of pollution and the introduction to the planet of new variations of life forms that could change evolutionary pathways. Meanwhile, the industries most heavily reliant on environmental resources and most heavily polluting are growing most rapidly in the developing world, where there is both more urgency for growth and less capacity to minimise damaging side effects. These related changes have locked the global economy and global ecology together in new ways. We have in the past been concerned about the impacts of economic growth upon the environment. We are now forced to concern ourselves with the impacts of ecological stress - degradation of soils, water regimes, atmosphere, and forests - upon

our economic prospects. Ecology and economy are becoming ever more interwoven - locally, regionally, nationally, and globally - into a seamless net of causes and effects.⁹

All the recent research has shown the inter-relationship between development of an economy and ecology. Flourishing the economy at the expense of perishing the ecology is disastrous. It is time to realize that impoverishing the local resource base can impoverish wider areas. Studies again proved beyond doubt that deforestation in Latin America and Asia is causing more floods and more destructive floods, in downhill, downstream nations. Acid precipitation and nuclear fallout have spread across the borders of Europe. Similar phenomena are emerging on a global scale, such as global warming and loss of ozone. The 1986 discovery of a hole in the ozone layer above the Antarctic suggests the possibility of a more rapid depletion than previously suspected.¹⁰ Countrysides are coming under pressure from increasing numbers of farmers and the landless. Cities are filling with people, cars, and factories. Developing countries are operating in a world in which the resources gap between most developing and industrial nations is widening, in which the industrial world dominates in the rule-making of some key international bodies, and in which the industrial world has already used much of the planet's ecological capital. This inequality is the planet's main developmental as well as environmental problem.

Most of the poor countries face enormous economic pressures, both international and domestic, to overexploit their environmental resource base. The recent crisis in Africa best and most tragically illustrates the ways in which economies and ecology can interact destructively and trip into disaster. Their roots extend to a global economic system that takes more out of a poor continent than it puts in. Debts that they cannot pay force African nations relying on commodity sales to overuse their fragile soils, thus turning good land to desert. Aid from donor nations has not only been inadequate in scale, but too often has reflected the priorities of the nations giving the aid, rather than the needs of the recipients. As a consequence of the 'debt crisis' of Latin America, that region's natural resources are now being used not for development but to meet financial obligations to creditors abroad. This approach to the debt problem is short-sighted from an economic, political and environmental standpoints. *"During the 1970s, twice as many people suffered*

each year from 'natural' disasters as during the 1960s. The disasters most directly associated with environment/development mismanagement - droughts and floods - affected the most people and increased most sharply in terms of numbers affected. Some 18.5 million people were affected by drought annually in the 1960s, 24.4 million in the 1970s, and we have seen 35 million afflicted by drought in Africa alone during the 1980s. There were 5.2 million flood victims yearly in the 1960s, 15.4 million in the 1970s. Numbers of victims of cyclones and earthquakes also shot up as growing numbers of poor people built unsafe houses on dangerous ground. Floods have poured off the deforested Andes and Himalayas with increasing force. The 1980s seem destined to sweep this dire trend on into a crisis-filled 1990s."¹¹ Overexploitation of the natural resources coupled with the negative public spending impel the countries concerned to re-evaluate their strategies for development, if any. A majority of developing countries now have lower per capita incomes than when the 1980 decade began. Yet most of the affected governments still spend far more to protect their people from invading armies than from the invading desert. Globally, military expenditures total about \$1 trillion a year and continue to grow. In many countries, military spending consumes such a high proportion of gross national product that it itself does great damage to these societies' development efforts. Studies suggest that the cold and dark nuclear winter following even a limited nuclear war could destroy plant and animal ecosystems and leave any human survivors occupying a devastated planet very different from the one they inherited.

The composition of place of growth economics in a global framework brings before us a reality as well as a conviction that the security, well-being, and very survival of the planet would depend on a conscious action. Over the course of this century, the relationship between the human world and the planet that sustains it has undergone a profound change. When the twentieth century began, neither human numbers nor technology had the power radically to alter planetary systems. As the century closes, not only do vastly increased human numbers and their activities have that power, but major unintended changes are occurring in the atmosphere, in soils, in waters, among plants and animals, and in relationships among all of these. The rate of change is outstripping the ability of scientific disciplines and our current capabilities to assess and advise. It is frustrating the attempts of

political and economic institutions, which evolved in a different, more fragmented world, to adapt and cope. It deeply worries many people who are seeking ways to place those concerns on the political agendas. The onus lies with no one group of nations. All nations will have a role to play in changing trends, and in righting an international economic system that increases rather than decreases inequality, that increases rather than decreases numbers of poor and hungry. The time has come to break out of past patterns. The changes in human attitudes that we call for depend on a vast campaign of education, debate, and public participation.¹²

I.1.v. **Poverty as a Result of Prosperity**

The failures that we need to correct arise both from poverty and from the short-sighted way in which we have often pursued prosperity. The prosperity attained in some parts of the world is often precarious, as it has been secured through farming, forestry, and industrial practices that bring profit and progress only over the short term. Our hope is grounded on the fact that people can cooperate to build a future that is more prosperous, more just, and more secure; that a new era of economic growth can be attained, one based on policies that sustain and expand the Earth's resource base. But for this to happen, we must understand better the symptoms of stress that confront us, we must identify the causes, and we must design new approaches to managing environmental resources and to sustaining human development.¹³ Environmental stress has often been seen as the result of the growing demand on scarce resources and the pollution generated by the rising living standards of the relatively affluent. But poverty itself pollutes the environment, creating environmental stress in a different way. Those who are poor and hungry will often destroy their immediate environment in order to survive: They will cut down forests; their livestock will overgraze grasslands; they will overuse marginal land; and in growing numbers they will crowd into congested cities. The cumulative effect of these changes is so far-reaching as to make poverty itself a major global scourge. There are more hungry people in the world today than ever before in human history, and their numbers are growing. In 1980, there were 340 million people in 87 developing countries not getting

enough calories to prevent stunted growth and serious health risks. The World Bank predicts that these numbers are likely to go on growing.¹⁴ The number of people living in slums and shanty towns is rising, not falling. A growing number lack access to clean water and sanitation and hence are prey to the diseases that arise from this lack. There is some progress, impressive in places. But, on balance, poverty persists and its victims multiply, as shown in UNDP reports. The comparative indicators of economic development based on 1994 UNDP Report is given in Appendix 1.1.1. The pressure of poverty has to be seen in a broader context. At the international level there are large differences in per capita income, which ranged in 1984 from \$190 in low-income countries (other than China and India) to \$11,430 in the industrial market economies, as shown in Table 1.1.1. The global disparity in economic development remains the same in 1994.

TABLE 1.1.1
Population Size and Per Capita GNP by Groups of Countries

Country Group	Population (million)	Per Capita GNP (1984 dollars)	Average Annual Growth Rate of Per Capita GNP, 1965-84(per cent)
Low-income Economies (excl. China, India)	611	190	0.9
China and India	1,778	290	3.3
Lower Middle-income Economies	691	740	3.0
Upper Middle-income Economies	497	1,950	3.3
High-income Oil Exporters	19	11,250	3.2
Industrial Market Economies	733	11,430	2.4

Source: Based on data in World Bank, World Development Report 1986 (New York: Oxford University Press, 1986). (See also, Appendix 1.1.1.)

Such inequalities represent great differences not merely in the quality of life today, but also in the capacity of societies to improve their quality of life in the future. Most of the world's poorest countries depend for increasing export earnings on tropical agricultural

products that are vulnerable to fluctuating or declining terms of trade. Within countries, poverty has been exacerbated by the unequal distribution of land and other assets. The rapid rise in population has compromised the ability to raise living standards.

I.1.vi. **Improvements in Living Standards**

In some parts of the world, particularly since the mid-1950s, growth and development have vastly improved living standards and the quality of life. Many of the products and technologies that have gone into this improvement are raw material- and energy-intensive and entail a substantial amount of pollution. Where economic growth has led to improvements in living standards, it has sometimes been achieved in ways that are globally damaging in the longer term. Much of the improvement in the past has been based on the use of increasing amounts of raw materials, energy, chemicals, and synthetics and on the creation of pollution that is not adequately accounted for in figuring the costs of production processes. *“If people destroy vegetation in order to get land, food, fodder, fuel, or timber, the soil is no longer protected. Rain creates surface runoff, and the soil erodes. When the soil is gone, no water is retained and the land can no longer produce food, fodder, fuel, or timber, so people need to turn to new land and start the process all over again. All major disaster problems in the Third World are essentially unsolved development problems. Disaster prevention is thus primarily an aspect of development, and this must be a development that takes place within the sustainable limits.”*¹⁵

TABLE 1.1.2

Distribution of World Consumption, Averages for 1980-82.

		Developed countries (26 percent of population)		Developing countries (74 per cent of population)	
Commodity	Units of Per Capita Consumption	Share in World Consumption (per cent)	Per Capita	Share in World Consumption (per cent)	Per Capita

Food:					
Calories	Kcal/day	34	3,395	66	2,389
Protein	gms/day	38	99	62	58
Fat	gms/day	53	127	47	40
Paper	kg/year	85	123	15	8
Steel	kg/year	79	455	21	43
Other Metals	kg/year	86	26	14	2
Commercial Energy	mtce/year	80	5.8	20	0.5

Source: WCED estimates based on country-level data from FAO, UN Statistical Office, UNCTAD, and American Metal Association.

Over the past century, the use of fossil fuels has grown nearly thirtyfold, and industrial production has increased more than fiftyfold. The bulk of this increase, about three-quarters in the case of fossil fuels and a little over four-fifths in the case of industrial production, has taken place since 1950. The annual increase in industrial production today is perhaps as large as the total production in Europe around the end of 1930s.¹⁶ The impact of growth and rising income levels can be seen in the distribution of world consumption of a variety of resource-intensive products. The more affluent industrialized countries use most of the world’s metals and fossil fuels. Even in the case of food products a sharp difference exists, particularly in the products that are more resource-intensive, as shown in Table 1.1.2. The Human Development Report of the UNDP 1994 also points to the same trend as it is in 1980-82.

In recent years, industrial countries have been able to achieve economic growth using less energy and raw materials per unit of output. This, along with the efforts to reduce the emission of pollutants, will help to contain the pressure on the biosphere. But with the increase in population and the rise in incomes, per capita consumption of energy and materials will go up in the developing countries, as it has to if essential needs are to be met. Sustainable development seeks to meet the needs and aspirations of the present without compromising the ability to meet those of the future. Far from requiring the cessation of economic growth, it recognizes that the problems of poverty and

underdevelopment cannot be solved unless we have a new era of growth in which developing countries play a role and reap large benefits.

The composition of place of growth economics in its global framework raises certain inevitable questions. Which were the economic growth models that the developed and developing economies followed thus far? What are the determinants on which these models were grounded? Before we answer these questions, we shall clarify certain basic concepts of this study.

NOTES

1. Pomfret, Richard, *Diverse Paths of Economic Development*, Harvester Wheatsheaf, London, 1992, p. 15.
2. Ibid., pp. 14-15.
3. Ibid., pp. 14-16.
4. Sen, Amartya, *Growth Economics*, Penguin Books, England, 1970, p. 9.
5. The World Commission on Environment and Development 1987, *Our Common Future*, Oxford University Press, Oxford, 1987, p. x.
6. Ibid., p. 1.
7. Ibid.
8. Ibid., pp. 1-4.
9. Ibid., p. 33.
10. National Science Foundation, *Scientists Closer to Identifying Cause of Antarctic Ozone Layer Depletion*, news release, Washington, DC, 20 October 1986, in *Our Common Future*, op. cit., p. 33.
11. *Our Common Future*, op. cit., p. 7.
12. *Our Common Future*, pp. 22-23.
13. *Our Common Future*, op. cit., p. 28.
14. World Bank, *Poverty and Hunger: Issues and Options for Food Security in Developing Countries*, Washington, DC, 1986.
15. *Our Common Future*, op. cit., p. 32.
16. Bases on data from W. W. Rostow, *The World Economy: History and Prospect* (Austin: University of Texas Press, 1978); UN, *World Energy Supplies in Selected Years 1929-1950* (New York: 1952); UN, *Statistical Yearbook 1982* (New York: 1985); UNCTAD, *Handbook of International Trade and Development Statistics 1985 Supplement* (New York: 1985); W. S. and E. S. Woytinsky, *World Population and Production Trends and Outlook* (New York: Twentieth Century Fund, 1953), in *Our Common Future*, op. cit., p. 31.

CHAPTER TWO

DESCRIPTION OF BASIC CONCEPTS

Only in designing a world economic order to follow the Second World War and in considering the situation of countries which would be making their own economic policies for the first time, did expressions like the under-developed countries and the Third World come into use. Once the subject was identified, there arose a separate field of economics known as 'development economics'. The ideas of the first development economists were tremendously influential and are crucial to understanding actual policies adopted by LDCs in the 1950s, many of which remain in place today.¹ Their main concern was to understand the economies of the less-developed countries and to stimulate the process of economic development by which these countries could be transformed from LDCs into 'developed' countries. Semantics aside, there remains a real definitional problem of the various concepts, which we shall try to assimilate.

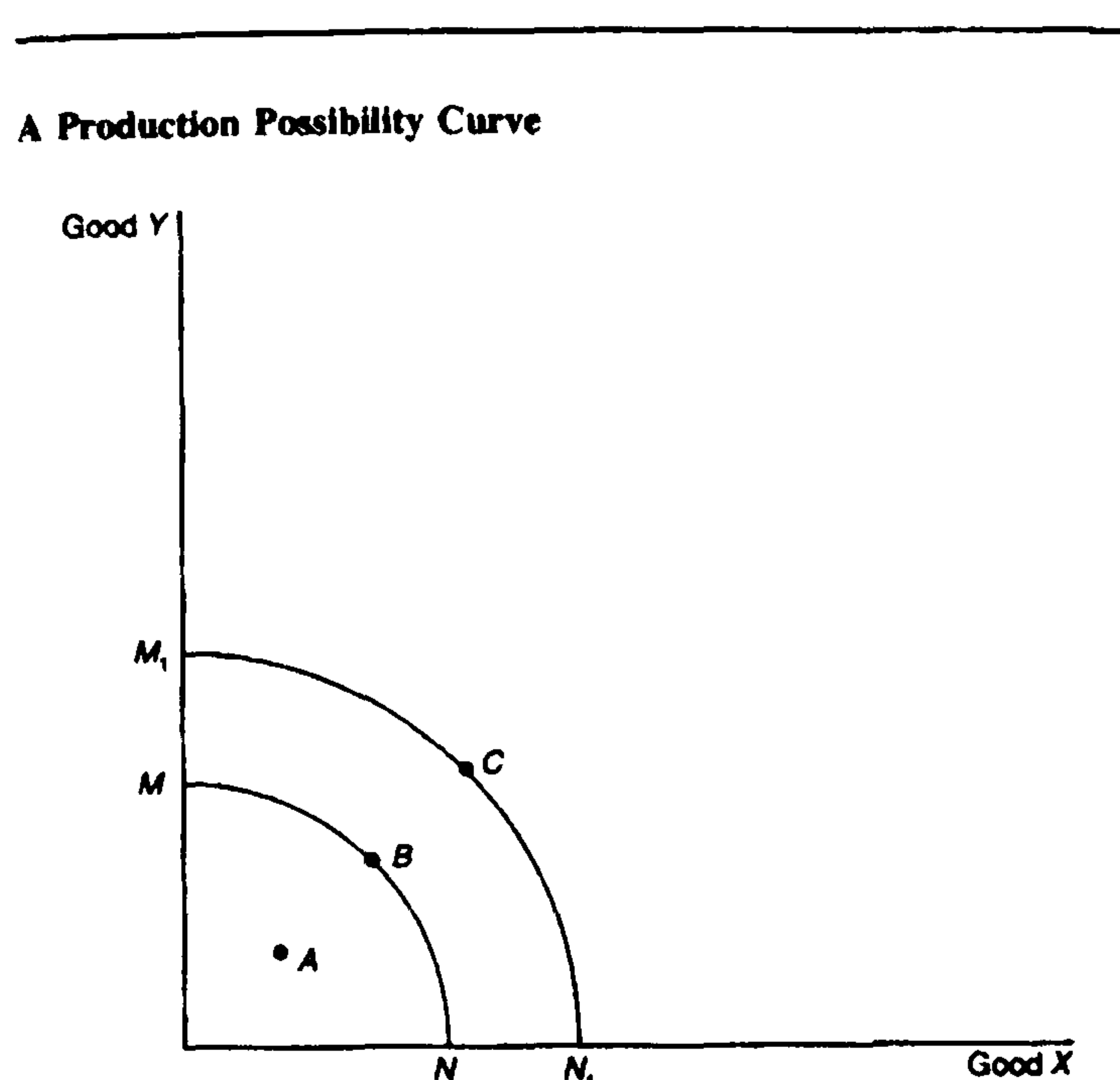
I.2.i. Economic Growth and Development

Economics is about 'What? How? and For Whom?' Development economics is especially about for whom. What is the relationship between growth and development? Economic growth takes place when there is either an increase in the national income of a country, or in the country's productive capacity, (this productive capacity being a country's ability to generate national income). Economists have a theoretical tool known as a production possibility curve (PPC) which can be used to analyse these concepts of growth.² (See Appendix I.2.1).

A country which chooses a higher level of investment in the short run can expect, if the new capital is effective and productive, to experience a more rapid shift of the PPC than a country which prefers immediate consumption. This leads us to one definition of economic growth, which is sometimes described as the process of increasing the productive capacity of a country. This type of growth would be shown by a rightward shift of the PPC, and is

sometimes called *potential growth*.³ Potential growth is the rate at which a country's economy could grow, if all its resources (workers, machines, factories, etc.) were fully employed. Potential economic growth can be increased by such methods as increasing or discovering new resources: by increasing population, or by mining for newly discovered minerals, for instance. It can also be increased by improving the productivity of existing resources: by training workers, inventing new technology, improving organization, or adopting better production methods.

Figure: 1.2.1: A Production Possibility Curve



Potential growth can be distinguished from *actual growth*. This is the annual rate of change of national output; that is, the growth of goods and services actually produced. This depends on the degree of utilisation of productive capacity. Statistics referring to growth rates refer to actual growth; when statistics are produced showing a recession or unemployment, then these indicate a gap between actual and potential growth. If growth in the short run is to be sustained in the long run, then both actual and potential growth are necessary. Actual growth tends to fluctuate in a cyclical fashion. Market economies go through periodic phases of 'boom' and 'recession', often referred to as the 'trade cycle'. Keynesian economists stress the importance of short-run influences on aggregate demand

and suggests ways in which governments can attempt to achieve steady actual growth while also attempting to achieve other macro-economic objectives such as full employment, stable prices and equilibrium in the balance of payments. These are known as 'demand management' policies. The growth of potential output tends to be less cyclical and more stable, and it is this type of growth which is specially relevant to development economics. Attempts to achieve potential growth focus less on demand management and more on the 'supply side' of the economy.⁴

After distinguishing between actual and potential growth, we shall define 'development': is it the same thing as growth? The word 'development' signifies changes which are permanent. It is true that actual growth can sometimes lead to a 'ratchet' effect, where a country continues to achieve a progressively higher level of welfare. However, it is quite possible for actual growth to be short-lived: during a war, for example, a country might achieve remarkably high growth rates; but its physical output would be turned to dust immediately as bombs and missiles are exploded, and at the end of this growth period the country as a whole could well be worse off than before.

'Development' signifies that growth in one sector has substantial effects on other sectors as well. As far as potential growth is concerned, however, a country's productive capacity might be expanded by growth in just a single sector - for example, an oil-producing country which expands its oil-related industries and discovers new reserves will experience potential growth. *Growth*, whether actual or potential, is a concept which centres on 'quantity', whereas *development* also considers 'quality'.⁵ Growth takes place when there is an increase in the per capita income or output of a country; development occurs when the costs of growth are minimised, and when the benefits of growth are distributed among the whole population. Development cannot be said to have taken place unless there have been improvements in the quality of life; improvements such as better living conditions, health care, improved diets, increased literacy and lower infant mortality rates. Cultural, recreational, and social amenities are also widely regarded as essential components of the quality of life.

Many development economists today agree that in the past too much attention has been paid to economic growth, and not enough attention has been paid to the reasons for encouraging development: reducing poverty, increasing life expectancy, improving health, allowing people the freedom to take part in decision-making, feeding the people. The Indian economist, Amartya Sen, for example, has argued that starvation arises out of a lack of income with which to buy food, rather than a lack of availability of food, and that raising the incomes of the poor is the most efficient way of reducing undernourishment. Sen refers to development as the 'expansion of people's capabilities',⁶ and has encouraged economists to broaden their view of development, to include value judgements about what ought to be (i.e. *normative economics* as well as *positive economics*) and to argue that development policies should be 'capabilities-orientated' as well as 'goods-orientated'. We will consider two views of development; they are not incompatible with each other, but one is broader than the other, and we shall refer to them as economic development and human development.

Economic development can be regarded as a process of growth and change aimed at raising people's living standards. It involves growth in total and in per capita income; and is accompanied by fundamental changes in the structure of an economy. This corresponds closely to the view of development adopted by the World Bank, which charts development progress each year in the annual World Development Report, which puts nations in order of rank according to their economic success. The order is based on GNP per head, and its rate of change. Within this ranking it is possible to place a fairly arbitrary dividing line between countries which can be regarded as more developed countries (MDCs) and those which are less developed countries (LDCs); and economists following the World Bank view would generally accept that this line occurs at a level of about \$5000 of GNP per capita. But, not only there remains disputes over where exactly to draw the line between rich and poor nations, but also there is widespread scepticism over whether average income adequately captures the level of economic development.⁷ (Ref. Appendix I.2.2) Yet, the commonest, the most convenient, measuring rod of economic development is per capita income.

I.2.ii. Three Perceptions of Economic Development

Three types of approaches to this conflict between observed per capita income levels and perceptions of economic development can be identified with the writings of Seers,⁸ Kuznets⁹ and Lewis¹⁰. For Seers, development 'means creating the conditions for the realization of human personality' (1972), which has three interrelated criteria: reducing poverty, reducing unemployment and reducing inequality. High income levels indicate *potential* for development, but if it is not shared by all then development has not occurred - the Kuwait and South Africa inconsistencies could be explained by this reservation. A related approach is to define economic development in terms of the satisfaction of universal basic needs for food, shelter, health care, education and so forth just to start a list suggests the huge measurement problem.

For Kuznets, LDCs are countries which have not experienced modern economic growth (MEG), which he defined in terms of observed regularities in the economic history of more-developed countries. One component of MEG is accelerated growth in per capita income, but there are also structural transformations, such as the shift or production from agriculture to other activities and changes in the scale and technology of production. Thus, oil or other resource-dominated economies may be rich but are not necessarily economically developed. These contributions are important because income distribution and structural change are both part of the common understanding of economic development.

Lewis has provided the most cogent positive defence of the use of per capita gross national product. He recognizes the limitations of any single policy objective, but the case for putting increased output as the prime goal is that 'it gives man greater control over his environment and thereby increases his freedom' (Lewis, 1955, p.421). Lewis emphasizes the social and environmental costs incurred if growth is too fast for society to cope with or if it is accompanied by greater inequality.

In spite of the fact that every country's national accounts statistics contain weaknesses and biases, GNP data represent the best available (approximate) measures of the level of economic activity and, using the $GNP \equiv GNI$ identity, of per capita income levels.

Generally, the data quality has been improving significantly over the last five decades, and using United Nations or World Bank sources gives the added advantage that the best available figures have been selected for each country and any obvious adjustments to ensure better international comparability have been made.

In 1990, the United Nations Development Programme (UNDP) launched a new Human Development Index (HDI) which is published each year in the Human Development Report (HDR) with information about each of 160 countries. The Human Development Index represents a new attempt to assimilate into a single measure Seer's contention that there is more to development than GNP alone. It is based on the three measures in columns 3-5 of (Appendix I.2.2) but the specific weights used, by giving little weight to purchasing-power-parity adjusted gross domestic product per capita above a poverty cut-off (around \$5,000), produce some counter-intuitive results.

The UNDP defines human development as a 'process of enlarging people's choices'. Three choices are deemed to be critical: access to resources (purchasing power, which is calculated from GNP per capita and a calculation of the cost of living); a long and healthy life (as reflected by figures for life expectancy); and education (measured by the adult literacy rate). Figures are available for each of these, and they are combined to give a number which varies between 0 and 1: the closer to 1, the higher the level of human development.¹¹ The UNDP intends to refine the way in which it calculates HDI in the years ahead. (Ref. Appendix 1.2.2). An ambitious aim is that of finding ways to quantify other social achievements which the UNDP sees as important for the quality of life: such things as political freedom and human rights.

I.2.iii. The Concept of Sustainable Development

The old understanding of achieving economic welfare through the process of growth and development has taken us to a new challenge of opting for sustainable development. Sustainable development is development that meets the needs of the present without

compromising the ability of future generations to meet their own needs. It contains within it two key concepts:

- the concept of 'needs', in particular the essential needs of the world's poor, to which overriding priority should be given; and
- the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs.

Thus the goals of economic and social development must be defined in terms of sustainability in all countries - developed or developing, market-oriented or centrally planned. Development involves a progressive transformation of economy and society. A development path that is sustainable in a physical sense could theoretically be pursued even in a rigid social and political setting. But physical sustainability cannot be secured unless development policies pay attention to such considerations as changes in access to resources and in the distribution of costs and benefits. Even the narrow notion of physical sustainability implies a concern for social equity between generations, a concern that must logically be extended to equity within each generation. In a long term perspective, this is the essence of the concept of sustainable development. The satisfaction of human needs and aspirations is the major objective of development. The essential needs of vast numbers of people in developing countries - for food, clothing, shelter, jobs - are not being met, and beyond their basic needs these people have legitimate aspirations for an improved quality of life. A world in which poverty and inequality are endemic will always be prone to ecological and other crises. Sustainable development requires meeting the basic needs of all and extending to all the opportunity to satisfy their aspirations for a better life. Living standards that go beyond the basic minimum are sustainable only if consumption standards everywhere have regard for long-term sustainability. Yet many of us live beyond the world's ecological means, for instance in our patterns of energy use. Perceived needs are socially and culturally determined, and sustainable development requires the promotion of values that encourage consumption standards that are within the bounds of the ecological possible and to which all can reasonably aspire.¹²

Meeting essential needs depends in part on achieving full growth potential, and sustainable development clearly requires economic growth in places where such needs are not being met. Hence sustainable development requires that societies meet human needs both by increasing productive potential and by ensuring equitable opportunities for all. *“We now know that what unites us is vastly more important than what divides us. We recognize that poverty, environmental degradation and population growth are inextricably related and that none of these fundamental problems can be successfully addressed in isolation. We will succeed or fail together. Arriving at a commonly accepted definition of ‘sustainable development’ remains a challenge for all the actors in the development process.”*¹³ In essence, sustainable development is a process of change in which the exploitation of resources, the direction of investments, the orientation of technological development, and institutional change are all in harmony and enhance both current and future potential to meet human needs and aspirations. How are individuals in the real world to be persuaded or made to act in the common interest? The answer lies partly in education, institutional development, and law enforcement.¹⁴

I.2.iv. **Reviving Growth as a Strategic Imperative**

The above analysis points to the fact that the world must quickly design strategies that will allow nations to move from their present, often destructive, processes of growth and development onto sustainable development paths. This will require policy changes in all countries, with respect both to their own development and to their impacts on other nation's development possibilities. As indicated earlier, development that is sustainable has to address the problem of the large number of people who live in absolute poverty - that is, who are unable to satisfy even the most basic of their needs. Poverty reduces people's capacity to use resources in a sustainable manner, it intensifies pressure on the environment. Most such absolute poverty is in developing countries; in many, it has been aggravated by the economic stagnation of the 1980s. A necessary but a sufficient condition for the elimination of absolute poverty is a relatively rapid rise in per capita incomes in the Third World. It is therefore essential that the stagnant or declining growth

trends of this decade be reversed. While attainable growth rates will vary, a certain minimum is needed to have any impact on absolute poverty. It seems unlikely that, taking developing countries as a whole, these objectives can be accomplished with per capita income growth of under 3 per cent.

The poverty line is that level of income below which an individual or household cannot afford on a regular basis the necessities of life. The percentage of the population below that line will depend on per capita national income and the manner in which it is distributed. How quickly can a developing country expect to eliminate absolute poverty? The answer will vary from country to country, but much can be learned from a typical case.

Consider a nation in which half the population lives below the poverty line and where the distribution of household incomes is as follows: The top one-fifth of households have 50 per cent of total income, the next fifth have 20 per cent, the next fifth have 14 per cent, the next fifth have 9 per cent, and the bottom fifth have just 7 per cent. This is a fair representation of the situation in many low-income developing countries.

In this case, if the income distribution remains unchanged, per capita national income would have to double before the poverty ratio drops from 50 to 10 per cent. If income is redistributed in favour of the poor, this reduction can occur sooner. Consider the case in which 25 per cent of the incremental income of the richest one-fifth of the population is redistributed equally to the others.

The assumptions here about redistribution reflect three judgements. First, in most situations redistributive policies can only operate on increases in income. Second, in low-income developing countries the surplus that can be skimmed off for redistribution is available only from the wealthier groups. Third, redistributive policies cannot be so precisely targeted that they deliver benefits only to those who are below the poverty line, so some of the benefits will accrue to those who are just a little above it.

The number of years required to bring the poverty ratio down from 50 to 10 per cent ranges from:

18-24 years if per capita income grows at 3 per cent,

26-36 years if it grows at 2 per cent, and

51-70 years if it grows only at 1 per cent.

In each case, the shorter time is associated with the redistribution of 25 per cent of the incremental income of the richest fifth of the population and the longer period with no redistribution.

So with per capita national income growing only at 1 per cent a year, the time required to eliminate absolute poverty would stretch well into the next century. If, however, the aim is to ensure that the world is well on its way towards sustainable development by the beginning of the next century, it is necessary to aim at a minimum of 3 per cent per capita national income growth and to pursue vigorous redistributive policies.¹⁵

Given current population growth rates, this would require overall national income growth of around 5 per cent a year in the developing economies of Asia, 5.5 per cent in Latin America, and 6 per cent in Africa and West Asia. Are these orders of magnitude attainable? The record in South and East Asia over the past quarter-century and especially over the last few years suggests that 5 per cent annual growth can be attained in most countries, including the two largest, India and China. In Latin America, average growth rates on the order of 5 per cent were achieved during the 1960s and 1970s, but fell well below that during the 1980s, mainly because of the debt crisis.¹⁶ A revival of Latin American growth depends on the resolution of this crisis. In Africa, growth rates during the 1960s and 1970s were around 4-4.5 per cent, which at current rates of population growth would mean per capita income growth of only a little over 1 per cent.¹⁷ Moreover, during the 1980s, growth nearly halted and in two-thirds of the countries per capita income declined.¹⁸ Attaining a minimum level of growth in Africa requires the correction of short-term imbalances, and also the removal of deep-rooted constraints on the growth process.

Growth must be revived in developing countries because that is where the links between economic growth, the alleviation of poverty, and environmental conditions operate most

directly. Yet developing countries are part of an interdependent world economy; their prospects also depend on the levels and patterns of growth in industrialized nations. The medium term prospects for industrial countries are for growth of 3-4 per cent, the minimum that international financial institutions consider necessary if these countries are going to play a part in expanding the world economy. Sustainable development requires a change in the content of growth, to make it less material-and energy-intensive and more equitable in its impact. These changes are required in all countries as part of a package of measures to maintain the stock of ecological capital, to improve the distribution of income, and to reduce the degree of vulnerability to economic crises. *“People have acquired, often for the first time in history, both an idea of their relative poverty and a desire to emerge from it and improve the quality of their lives. As people advance materially, and eat and live better, what were once luxuries tend to be regarded as necessities. The net result is that the demand for food, raw materials, and power increases to an even greater degree than the population. As demand increases, a greater and greater strain is put on the finite area of the world’s land to produce the products needed.”*¹⁹ All the nations of the world need to take responsibility for redesigning the growth strategies. The growth strategies followed by the market-oriented economies, both developed and developing, resulted in certain growth and development. Our definitions of the relevant terminologies of this section allow us to proceed to analyse the determinants of those growth models which have brought about uneven results on a global scale.

NOTES

1. Pomfret, Richard, *Diverse Paths of Economic Development*, Harvester Wheatsheaf, London, 1992, p. 14.
2. Smith, Charles, *Economic Development, Growth And Welfare*, Macmillan, 1994, p. 5.
3. Ibid., p. 8
4. Ibid., p. 8-9.
5. Ibid., p. 14.
6. Ibid., p. 15. See also, the following articles by Amartya K. Sen., 'The Welfare basis of real income comparisons', *Journal of Economic Literature*, (1979), 17, 1-45; 'Poverty and Famines: An essay on entitlement and deprivation', (1981), Oxford: Clarendon Press.; 'Development: which way now?', (1983), *Economic Journal*, 93, 745-62.
7. Pomfret, R., *Diverse Paths of Economic Development*, op.cit., p.2.
8. Seers, Dudley, *What are we trying to measure?*, *Journal of Development Studies*, 1972, 8, 21-36.
9. Kuznets, Simon, *Modern Economic Growth*, New Haven, CT: Yale University Press, 1966.
10. Lewis, W. Arthur, *The Theory of Economic Growth*, London: Allen and Unwin, 1955, p. 421.
11. Smith, C., *Economic Development, Growth And Welfare*, op. cit., pp.16-17.
12. The World Commission on Environment and Development 1987, *Our Common Future*, Oxford University Press, Oxford, 1987, p. 43-44.
13. 'Making Common Cause', U. S.-Based Development, Environment, Population NGOs, WCED Public Hearing, Ottawa, 26-27 May 1986, cited in *Our Common Future*, op. cit., p. 45.
14. *Our Common Future*, op. cit., p. 46.
15. *Our Common Future*, op. cit., pp. 50-51.
16. UNCTAD, *Handbook of International Trade and Development Statistics 1985 Supplement*, New York, 1985.
17. Ibid.
18. Department of International Economic and Social Affairs (DIESA), *Doubling Development Finance: Meeting a Global Challenge, Views and Recommendations of the Committee for Development Planning*, New York, UN, 1986.
19. *Our Common Future*, op. cit., p. 53.

CHAPTER THREE

DETERMINANTS OR ENGINES OF ECONOMIC GROWTH AND THEIR MOTIVATING FORCES

Each of the following chapters in this section is designed within a particular framework to determine the engines of economic growth. Macroeconomics theories of economic growth explain the determinants of the wealth of nations and try to analyse why the fortunes of nations change over time. Classical economists, such as Smith, Malthus, and Ricardo, treated the problem of development as part of a general inquiry into the causes and consequences of economic growth. They sought to explain the basic forces that could account for an economy's dynamic as well as static performance and thus explain the observed pattern of wealth accumulation and productivity growth across nations. The neo-classical theory of economic growth has been mostly concerned with capital accumulation. Recent research has shown that increases in the stock of labour and capital could explain only a relatively small fraction of observed economic growth in industrial countries. This finding stimulated much research into the factors determining the unexplained sources of growth. It produced the conventional wisdom that technological progress and human capital are the main factors which account for the historic gains in the productivity of labour and physical capital. Neo-classical growth theory allowed for technological change, but did not make it an endogenous outcome of profit-maximizing behaviour of agents who invest in knowledge creation. Extensions of the neo-classical growth theory made technological progress endogenous. The New Growth Theory builds on and changes these existing theories, giving new orientations in areas of research and revealing wider horizons of the growth economics. The major objective of this section is to discuss the determinants or engines of growth and their motivating forces. Therefore, the following chapters focus on one important class of mechanisms that sustain long-run growth, a small number of models that employ them, and a limited number of issues that demonstrate the usefulness of viewing economic growth in this particular way.

I.3.i Stages of Growth

The birth of new nations, as an aftermath of a global war, was heralded with joy. But the joy did not long last because the new born could not make it to an infancy stage due to the economic malnutrition into which it was born. The new realization of a divided world of South and North or of developing and developed or of poor and rich had a shattering economic effect. Effective ways of integrating the world economy has become the concern of economists. Interest in growth revived as a result of an immense practical concern with development after the Second World War. The war-damaged economies were trying hard to reconstruct fast, the underdeveloped countries were attempting to initiate economic development, the advanced capitalist countries being relatively free from periodic slumps were trying to concentrate on raising the long-run rate of growth, and the socialist countries were determined to overtake the richer capitalist economies by fast economic expansion.¹ The central idea that evolved at this juncture of discussion about post-war development policies was to stimulate transfers of capital goods from rich to poor countries. The basic model that has shed some light into this way of thinking is that of Harrod and Domar.

The economic historian, Walt Rostow [1960] suggests that all of the more developed countries have passed through the following five stages of economic growth. In *traditional society* land is the basis of wealth, most of the population works in agriculture, investment is low. In the *preconditions period* increased agricultural productivity permits some economic diversification, and social and political changes occur. The *take off* is a 20-30 year period of accelerated growth characterized by an increase in I/Y from 5% to 10% and the development of one or more leading sectors. In the *drive to maturity*, the new political and social framework and the higher I/Y make growth self-sustaining and new sectors emerge to complement the leading sector. This culminates in the *age of mass consumption* when a diversified economy supports ever increasing per capita income.² Rostow's concept of unidirectional economic growth proceeding in stages had a widespread appeal, but also encountered criticism. Lewis [1954,1958], Rostow [1960] and Fei and Ranis [1964] had pinpointed the raising of the savings ratio as the key to

understanding the process of development and the 'take-off' into sustained growth. Development economists needed a more dynamic approach, which would also take into account the longer-term effects of increases in investment, which add to the capital stock and hence accelerate economic growth. This was provided by the Harrod-Domar growth model.³ In response to the basic question of what determines the rate of growth of an economy's output, Harrod and Domar came up with a clear two-part answer: the savings rate and the incremental capital/output ratio. Harrod-Domar growth theory sanctioned the overriding importance of capital accumulation in the quest for enhanced growth.

I.3.ii.

THE ECONOMIC GROWTH MODEL WITH AN EMPHASIS ON PHYSICAL CAPITAL AND HUMAN LABOUR

Growth Formula One: $G_1 = f(PK_1, HL_1)$

Harrod-Domar Model

While analysing growth economics, Harrod raised the following issues. First, the possibility of steady growth in a model of a fixed capital-output ratio C and a fixed savings-output ratio s is noted. A unit of capital will produce unit of output, which in its turn will generate s/C units of net savings (i.e. addition to capital stock), so that the rate of growth of the capital stock will equal s/C . Since output is proportional to capital, that will be the rate of growth of output as well. This highly simple version of the so-called 'Harrod-Domar model' has provided the theoretical underpinning of an enormous volume of literature including some practical growth plans of developed and under-developed countries. Harrod's second point is concerned with showing the instability of this path of steady growth. In the simple Harrod-Domar model, it is assumed that investment is determined entirely by planned savings and there is no independent investment function based on the expectations of the future. Expectations of additional effective demand determines the level of investment in the Harrod model and that investment, through the

`multiplier', generates a certain level of effective demand in a Keynesian manner.⁴ Harrod's questions in this field are the following:

- a) when will the investor's expectations be realized? and
- b) what will happen if they are not realized?

Given the capital-output ratio C which is treated as an 'accelerator', investment I_t in period t will equal C times the expected additional flow of output. The latter equals the difference between the expected demand for output X_t and the actual output in the last period Y_{t-1} . And through the multiplier process the actual demand in year t will equal the investment level I_t times the multiplier, i.e. the reciprocal of the savings ratio s .

$$I_t = (X_t - Y_{t-1})C \quad (1)$$

$$Y_t = (1/s)I_t \quad (2)$$

It is easy to check from 1 and 2 that the ratio of actual demand to expected demand in period t will be given by the following:

$$Y_t/X_t = C/s(X_t - Y_{t-1} / X_t) \quad (3)$$

The expression within the brackets in the right-hand side is really the expected rate of growth, which we may denote as \hat{g}_t (cap) , as a proportion of X_t . So that we can also write this as: $Y_t/X_t = (C/s) \hat{g}_t$ (4)

From 4 it is obvious that expectations will be realized, i.e. X_t will equal Y_t , *if and only if* the expected growth rate \hat{g}_t equals the s/C . This rate of growth s/C , which is realized if expected Harrod called the 'warranted' rate of growth. What if the expectation is for some rate of growth other than s/C ? Defining the actual rate of growth g_t as $(Y_t - Y_{t-1})/Y_t$, analogously to \hat{g}_t , a little manipulation yields the following functional relationship between actual growth and expected growth.

$$g_t = 1 - (1 - \hat{g}_t)s/C \quad (5)$$

$$\text{It is clear that } g_t \geq \hat{g}_t \text{ according as } \hat{g}_t \geq s/C \quad (6)$$

This is the beginning of Harrod's instability problem.

I.3.iii Harrod's Instability Problem

Harrod's instability problem can be explained as follows. If the investors anticipate more than the warranted rate of growth s/C then the actual growth rate of demand will exceed even the high expected growth rate, so that instead of feeling that they expected too much they are likely to feel that they expected too little. Similarly, if they anticipate a growth rate lower than the warranted growth rate, then the actual growth rate will fall short of even the expected growth rate and the investors may decide that they expected too much rather than too little. The market thus seems to give a perverse signal to the investor, and this is the source of Harrod's problem.⁵

From the growth equation 5, a model of instability can be generated by making the assumption that the expectation of growth in this period be raised or lowered from last period's expectation depending on whether growth in the last period was respectively over-fulfilled or under-fulfilled.

$$\hat{g}_t = \hat{g}_{t-1} + \lambda (g_{t-1} - \hat{g}_{t-1}), \text{ with } \lambda > 0 \quad (7)$$

The combination of 5 and 7 is a highly unstable system. If actual demand Y_t falls short of expected demand X_t , there may not be much problem, since capacity may be under-used, but should Y_t exceed the expected demand for which just enough capacity was created, how would this actual demand be met? One idea is to assume that this is done by dehoarding some existing inventory, but that raises the question as to what happens when the existing stock is exhausted as it surely will if Harrod's cumulative divergence from the warranted growth path continues indefinitely. The model will then need supplementation in some way. An alternative is to assume that any excess of Y_t over X_t is met by an unforeseen rise in the price level. Then the expected sales will always be eventually realized except that the price level will be different from the one anticipated unless the growth expectation was warranted. Then Harrod's model will be one of a knife-edge balance between cumulative inflation and cumulative deflation, and the adjustment equation will have to be interpreted as raising or lowering growth expectations in response to prices being, respectively, larger or smaller than anticipated.⁶

I.3.iv. Harrod's Knife-edge Problem

The problem of a 'knife-edge' balance between 'warranted' and 'natural' rates of growth that was introduced by Harrod and Domar, has attracted a number of comments in the recent years. Harrod's 'warranted' rate was given by:

$G_w = s/C$, where s stood for the saving propensity and C the relevant capital-output ratio. The 'natural' rate of growth (G_n) was given by population growth and the progress of technological knowledge. What if the two rates do not coincide? Briefly, the adjustment mechanism suggests that if $G_w > G_n$, an economy will experience diminishing returns to capital, a relative rise in the wage rate and a relative fall in the profit rate, which will make the most profitable technique a more capital-intensive one. This rise in C will reduce G_w , and this process will continue until $G_w = G_n$. A similar argument holds in the case where G_w is less than G_n , to start with. 'At any other point [other than one where the warranted and natural rates of growth are equal] the wage rate and the profit rate are moving in such a way as to induce entrepreneurs to adjust the capital-output ratio in the direction which will bring the warranted and natural rates of growth together.'⁷

I.3.v. Accumulation and the Labour Force

The story told so far has been totally concerned with capital accumulation. But there are other factors of production as well, in particular labour. Labour is recognized to be an integral requirement of production. Either one can use a full-fledged multifactor production relation with specific substitutability assumptions, or else one can discuss the process as one given by the accumulation of capital subject to a constraint related to the supply of labour. While most of the modern works on growth have favoured the former approach, Harrod's analysis was expressed in terms of the latter. Growth proceeds *pari passu* with capital accumulation with a given capital-output ratio as long as the labour requirement at the current level of productivity does not exceed the size of the potential labour force. This imposes a long run ceiling on the rate of growth which could be exceeded for a while, but sooner or later the economy would run into the full employment

barrier. Harrod's 'natural' rate of growth is the maximum sustainable rate of growth in the long run given by the rate of growth of the labour force n and the rate of labour-saving technical progress m ⁸ {The labour-saving technical progress as visualized by Harrod (sometimes referred to in the literature as 'Harrod-neutral technical progress') is much like an expansion of the labour force. When Y is output, K capital and L the labour force, the production relation takes the form of $Y = f(K, A(t)L)$, where $A(t)$ is an increasing function of time. For Harrod-neutral technical progress to be steady, $A(t)$ must take the form B_e^{mt} , where B and m are constants and e is the base of natural logarithm.)

Here, we encounter another problem. If the warranted rate of growth given by s/C and the natural rate of growth given by $n+m$ equal each other, people live happily ever after; but what if rates don't? If the economy is having steady growth at the warranted rate and if that rate exceeds the natural rate, the full-employment barrier will be encountered once the initial slack is absorbed and the economy would no longer be able to grow at the warranted rate, and this may trigger off a cumulative departure of the kind that we discussed earlier. On the other hand, if the warranted growth rate falls short of the natural rate, then a growing proportion of unemployment will emerge. Is the world really like this or is there something missing in this picture? Are there any adjustment mechanisms that can bring the 'natural' rate closer to the 'warranted' so that the economy can grow at full employment (or at a constant proportion of unemployment)?⁹ The required condition being $s/C = n+m$, any of the four variables can individually or jointly serve the cause of adjustment. Many of the later models concentrated on this issue and developed the adjustment mechanisms. An increase in the growth rate can be achieved either by saving (and investing) a higher proportion of GNP or by using the additions to the capital stock more efficiently.

I.3.vi. Critique of the Model

The Harrod-Domar growth model, although underlying much thinking on economic development during the 1950s, had some shortcomings.¹⁰ If capital and labour have to be combined in technologically given fixed proportions, then the equilibrium growth rate $\Delta Y/Y = s/C$ is a 'knife-edge' solution; if the labour force grows faster than the capital stock, then there will be more and more unemployed workers, and if the capital stock grows faster than the labour force, there will be labour shortages and cost-push inflation. Also, there is no place in the model for technical change. The Harrod-Domar model did not fit the actual data in the 1950's when LDCs' growth rates were more rapid than those implied by their savings rates and incremental capital-output ratios. The difficulty with this-classical model of growth is the absence of an investment function and the consequent failure to assign a major role to entrepreneurial expectations about the future. Harrod was concerned with the instability problem in equilibrium growth precisely in this context.

The emphasis on the role of capital in determining the rate of economic growth dominated the thinking on economic development in the late 1940s and 1950s. The differences that this neo-classical approach makes to how one views economic growth were spelt out by Robert Solow in a simple macroeconomics growth model, which contrasts sharply with the Harrod-Domar model in its conclusions and in its policy implications, to which we shall proceed.

NOTES

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CHAPTER FOUR

THE ECONOMIC GROWTH MODEL WITH AN EMPHASIS ON TECHNOLOGICAL PROGRESS

GROWTH FORMULA TWO: $G_2 = f(PK_2, HL_2, TP_2)$

I.4.i. The Solow Growth Model

In the previous chapter, we noted that the neo-classical theory of economic growth has been mostly concerned with capital accumulation. Here, we shall discuss how technology has become a crucial determinant in the economic growth model. The introduction of the neo-classical growth model, especially in the contributions of Solow [1956] and Swan [1956] provided the necessary antidote to the excessive claims made for capital accumulation. What the early Harrod-Domar and neo-classical formulations of growth theory possessed in common was the belief that the third ingredient in growth, namely technical progress, was an exogenously determined, fortuitous and costless occurrence—descending like manna from the heavens. The findings of Robert Solow [1957] showed that increases in the stock of labour and capital could explain only a relatively small fraction of observed economic growth.¹ This finding led to further research into factors determining the unexplained sources of growth and resulted in basing on technological progress as the new pillar that spurs economic growth. Solow devised a framework for distinguishing the contributions of labour, capital and technical change to economic growth. The Solow growth formula focused attention firmly upon the role of technical progress. Advocates of technical progress pointed to the possible role of education and training where government policy might be expected to exert a major impact.

I.4.ii. Mathematical Exposition

We shall begin with a simple mathematical exposition of Solow's model.² If Q represents output and K and L represent capital and labour inputs in 'physical' units, then the aggregate production function can be written as:

$$Q = F(K, L; t) \quad (1)$$

The variable t for time appears in F to allow for technical change. Solow uses 'technical change' as an expression for *any kind of shift* in the production function. Thus slowdowns, speed-ups, improvements in the education of the labour force, and all sorts of things will appear as *technical change*. It is convenient to begin with the special case of *neutral* technical change. Shifts in the production function are defined as neutral if they leave marginal rates of substitution untouched but simply increase or decrease the output attainable from given inputs. In that case the production function takes the special form:

$$Q = A(t)f(K, L) \quad (1a)$$

and the multiplicative factor $A(t)$ measures the cumulated effect of shifts over time. Differentiate (1a) totally with respect to time and divide by Q and one obtains: $Q^*/Q = A^*/A + A(\partial f/\partial K)(K^*/K) + A(\partial f/\partial L)(L^*/L)$ where dots indicate time derivatives. Now define $w_K = (\partial Q/\partial K)(K/Q)$ and $w_L = (\partial Q/\partial L)(L/Q)$, the relative shares of capital and labour, and substitute in the above equation (note that $(\partial Q/\partial K) = A(\partial f/\partial K)$, etc.) and there results:

$$Q^*/Q = A^*/A + w_K (K^*/K) + w_L (L^*/L) \quad (2)$$

If all factor inputs are classified either as K or L , then the available figures always show w_K and w_L adding up to one. Assume that F is homogenous of degree one. This has the advantage of making everything come out neatly in terms of intensive magnitudes.

Let $Q/L = q$, $K/L = k$, $w_L = 1 - w_K$;

note that $(q^*/q) = (Q^*/Q) - (L^*/L)$ etc., and (2) becomes:

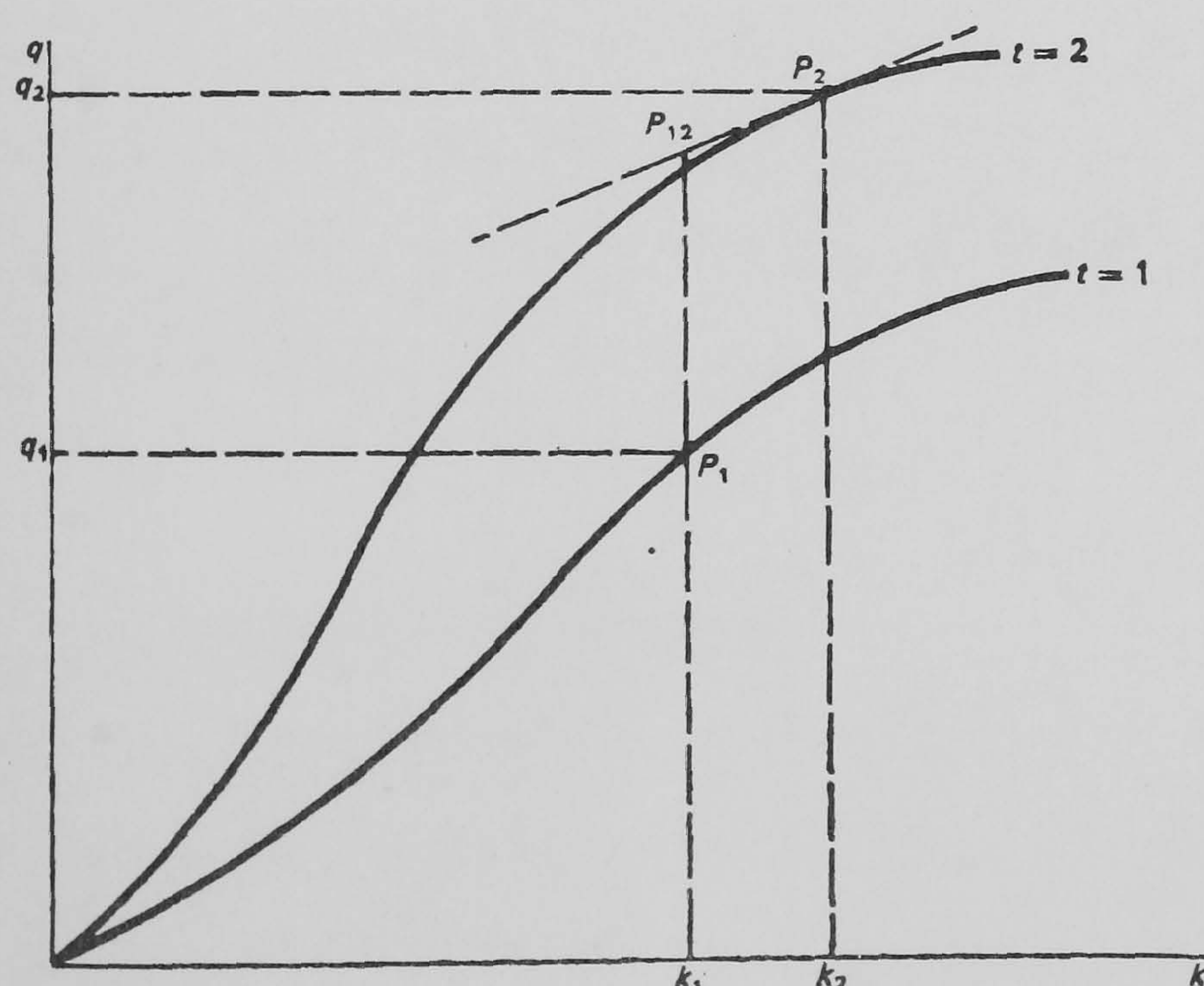
$$(q^*/q) = (A^*/A) + w_K (K^*/K) \quad (2a)$$

We need to disentangle the technical change index $A(t)$ as series for output per man hour, capital per man hour and the share of capital. It can be shown, by integrating a partial

differential equation, that if (F^*/F) is independent of K and L (actually under constant returns to scale only (K/L) matters), then (1) has the special form (1a) and shifts in the production function are neutral. If in addition (F^*/F) is constant in time, say equal to a , then $A(t) = e^{at}$ or in discrete approximation $A(t) = (1+a)^t$

The case of neutral shifts and constant returns to scale can be graphically presented.³ The production function is completely represented by a graph of q against k . In the figure below, we note that every ordinate on the curve for $t = 1$ has been multiplied by the same factor to give a neutral upward shift of the production function for period 2. The problem is to estimate this shift from knowledge of points P_1 and P_2 . Obviously it would be misleading to fit a curve through raw observed points like P_1 and P_2 and others. But if the shift factor for each point of time can be estimated, the observed points can be corrected for technical change, and a production function can then be found.

Figure: 1.4.1: The Production Function



The natural thing to do, for small changes, is to approximate the period 2 curve by its tangent at P_2 (or the period 1 curve by its tangent at P_1). This yields an approximately corrected point P_{12} and an estimate for $\Delta A/A$, namely $P_{12}P_1/q_1$. But $k_1P_{12} = q_2 - (\partial q/\partial k)\Delta k$, and hence

$$P_{12}P_1 = q_2 - q_1 - (\partial q/\partial k)\Delta k = \Delta q - (\partial q/\partial k)\Delta k, \text{ and}$$

$$\Delta A/A = P_{12}P_1/q_1 = \Delta q/q - (\partial q/\partial k)(k/q)\Delta k/k = \Delta q/q - w_k\Delta k/k$$

which is exactly the content of (2a).⁴

If output growth is constrained to be at the same rate as labour force growth, can per capita output ever be increased in the long run? The way out of this dilemma is to change the production function. As long as the functional relationship between inputs and output remains unchanged, then the economy is in a steady state with zero growth in per capita income, but if the relationship changes so that more output results from the same quantity of inputs, then the growth rate of output will exceed n , the labour force. Defining technical change as such a shift in the production function, then the rate of growth of per capita output will be determined by the pace of technical change. In this formulation, technical change is totally responsible for long run growth in per capita output. Capital formation plays no role.⁵ Salter [1960] modified this extreme conclusion by allowing that technical change may need to be embodied in new machines; the gross investment rate determines the speed with which the capital stock is modernized, and capital formation can thus be associated with a shift in the production function as well as a movement along it. The embodiment hypothesis reinstates capital formation as a source of long-run growth, but in a less dominant manner.

I.4.iii. Exogenous Technical Progress

Leaving aside the case of overlapping generations, recall the role that technical progress can play in the neo-classical theory. With labour augmenting technical progress the production function takes the form:

$Y = F(K, AL)$, where A represents the state of technology. Technical progress raises A and thereby the marginal product of capital. Higher marginal productivity of capital leads to a higher real interest rate. In steady state the rate of capital accumulation equals the rate of technical progress and the real interest rate remains constant. This describes the case of exogenous technical progress that leads to exogenous long-run growth.⁶

The economic growth model associated with Solow, Swan and Denison [1961] has its basic features, a closed economy with competitive markets, identical rational individuals, and a production technology exhibiting diminishing returns to capital and labour separately and constant returns to both inputs jointly. Population and labour growth are exogenous to the model, as is disembodied technological change, and no distinct productive role is assigned to human capital or to government policy. Under these assumptions, the model give rise to a “balanced” growth path in which capital per capita is accumulated at the same rate as output or consumption per capita, and in which the savings rate and the real rate of interest are constant along the equilibrium path. In this regime, the rate of growth of per capita income and consumption is strictly proportional to the rate of technological change. Put differently, technology, although exogenously given, is the only force that accounts for growth in per capita income. The determinants of the propensity to save have no bearing on the equilibrium growth *rate*, although they do affect the per capita *level* of income and consumption.⁷ The same holds, implicitly, for government policies that affect the propensity to save. Indeed, as Lucas (1988) points out, by assigning a predominant role to an *exogenously* determined technology as an engine of growth, the theory assigns a comparatively little role to any other factor. Accordingly, one is well justified to expect that growth rates across different countries would tend to converge on a common steady-state value and that the actually observed rates would differ mainly by virtue of transitory differences in capital accumulation relative to its balanced growth path (“transitional dynamics”).⁸ Furthermore, because of the treatment of population growth as exogenous to the economy, the neo-classical model cannot address the interaction between economic and population growth in the *process* of development, although the stylized facts of the demographic transition that characterizes that process indicate a systematic association between declining mortality and fertility rates and per capita income growth during an

economy's takeoff from a state of stagnant, low-level income to a regime of persistent growth.⁹

Again, the most well known basic neo-classical model of adjustment in response to the Harrod problem of the divergence between 'natural' and 'warranted' growth is that of Solow and Swan (1956). The burden of adjustment falls here on the capital-output ratio, and as such this is the polar opposite of the Kaldor model, where the burden falls entirely on the savings side of the picture. If the warranted growth rate given by s/C exceeds the natural rate given by $n+m$, the economy tries to break through the full employment barrier, thereby making the labour more expensive *vis a vis* capital, inducing shifts to labour-saving techniques. This raises the capital-output ratio and pulls down the value of s/C , until it coincides with $n+m$. This is, of course, the same as Joan Robinson's 'creeping platinum age',¹⁰ but instead of being just one possibility, as in Robinson model, this is the *only* possibility in the neo-classical model. This result follows from the assumption of substitutability, coupled with perfect foresight and the absence of constraints on the real wage rate and the interest rate.

The major contribution of the Solow-Swan growth model is to establish the stability of neo-classical growth equilibrium in terms of an extremely simple adjustment mechanism. The inevitability of equilibrium growth is demonstrated in this model with the aid of an adjustment process that has been used before for neo-classical analysis of non-growth problems.

I.4.iv. Endogenous Technical Progress

One of the first attempts to render technical progress endogenous in growth models was the seminal paper by Kenneth Arrow (1962) incorporating the concept of learning by doing and was generalised and extended by Levhari (1966) and Sheshinski (1967). In this framework, the level of knowledge is itself a productive factor which depends upon past levels of investment. Each firm within the economy is assumed to operate with constant returns to scale. A doubling of labour and capital inputs with a given state of knowledge (assumed constant by the firm) will double output. However, the very act of increasing the

capital stock through investment by the firm raises the level of knowledge elsewhere. The economy as a whole, therefore, is operating subject to increasing returns. The concept of knowledge being a factor in the production function renders increasing returns inevitable. This follows because a doubling of all tangible factor inputs and productive processes should double output *in an environment with a constant level of knowledge*. When knowledge is permitted to vary as well in consequence of enlarging the capital input, increasing returns follows automatically. Although the Arrow-Levhari-Sheshinski models rendered technical progress endogenous and explained economic growth in the context of aggregate increasing returns being consistent with competitive equilibrium, the steady state solution remains, growth of the economy being equated with the autonomously determined rate of growth of the labour force. In other words, within these models endogenous technological change is reflected in a *level* effect (via an upward raising of the production function) as opposed to a *growth* effect-to adopt the terminology of Lucas [1988].¹¹ King and Robson [1989] invoke a technical progress function which emphasises 'learning by watching'. The significance of their analysis lies in its conclusion that multiple steady state growth path exists, even for economies which have similar initial endowments, and that tax policy can influence the ultimate growth path attained by the economy. Tax policy can accordingly have real and permanent effects upon the level and growth rate of income.

Following Arrow's analysis of learning-by-doing, however, some growth theorists have linked the state of technology to cumulative investment experience. With this view the state of technology parameter A becomes a function of the economy's capital stock $A(k)$ (Sheshinski [1967]).¹² The effect of capital on productivity is assumed to be external to an individual investor. For this reason the real interest rate equals the private marginal product of capital $F_K P[K, A(K)L]$. It follows that with this form of endogenous technical progress an economy can sustain long-run growth as long as the state of technology is sufficiently responsive to capital accumulation. Now that we have identified the mechanisms of long-run growth in the neo-classical theory, we may turn to the more recent innovation-based theories of economic growth.

I.4.v. Innovation-based Models of Growth

Innovation-based theories of economic growth can be seen as an off-shoot of technological progress. These models of Grossman and Helpman [1991b] show that the rate of investment increases with the rate of output growth while the latter increases with the rate of innovation. Combined with the results concerning the determinants of the rate of innovation, these relationships imply, for example, that countries with low rates of time preference innovate faster, experience faster output growth, and have a higher rate of investment. Importantly, however, investment is *not* a primary source of growth in these economies.¹³ Rather, the primary sources of growth are a variety of factors (such as the rate of time preference and the degree of monopoly power) that affect the incentive for industrial research, while the rate of investment adjusts so as to keep the rate of expansion of conventional capital in line with the growth rate of output. In terms of causality, the investment rate and the rate of growth are simultaneously determined by technological progress that affects them in essentially the same direction, while the pace of technological progress is endogenously determined by more primitive factors. We have seen that in the neo-classical model technical progress raises the marginal product of capital, thereby raising the profitability of investment in plant and equipment. In the event capital deepening, that *ceteris paribus* depresses the marginal product of capital, can nevertheless continue indefinitely. The same applies here, except that now “technical progress is driven by profit seeking entrepreneurs.”¹⁴ In other words, the invention of new brands generates the incentive to install more plant and equipment.

The new wave of research on economic growth was stimulated by Romer [1986] and Lucas [1988]. Their work relies on Arrow’s [1962a] mechanism of learning -by-doing. In an important paper, Arrow [1962] formalizes the problem of learning in a somewhat different manner, making learning a function of the sum of past gross investments. Under these assumptions Arrow shows the possibility of steady growth at a rate that is a multiple of the rate of growth of population, the size of the multiplier depending on the precise form of the learning parameter. But following Uzawa [1965], Romer and Lucas have

redirected its application to the accumulation of knowledge and human capital rather than the accumulation of plant and equipment. They have changed the focus towards explanations of sustained long-run growth and cross country variations in growth rates. Following Arrow they have taken the view that aggregate production exhibits increasing returns to scale. But the returns to scale are external to single economic agents and internal to a sector or larger parts of the economy. Consequently competition can prevail. The integration of imperfect competition with innovation-based growth was first achieved by Judd [1985].¹⁵ His main interest was in issues of industrial organization . Romer [1990a] combined Judd's approach with learning-by-doing in *innovation* and thereby developed a model that sustains long-run growth at an *endogenous rate*.¹⁶ This was an important achievement, because it opened the door to a new research line with attractive realistic features.

NOTES

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CHAPTER FIVE

THE ECONOMIC GROWTH MODEL WITH AN EMPHASIS ON HUMAN CAPITAL

GROWTH FORMULA THREE: $G_3 = f(PK_3, HL_3, TP_3, HC_3)$

I.5.i. Human Capital as Productivity Augmenting Factor

All the endogenous growth models share with the neo-classical model the view that physical capital accumulation, by itself, is insufficient to produce growth since all production, including investment in physical capital, is subject to diminishing returns in the capital input alone. Consequently, the catalyst of growth is traced to other productivity-augmenting factors. The endogenous growth models identify that catalyst as knowledge in either its embodied form (human capital) or its disembodied manifestations (technological innovations). Even when innovations are identified as the engine of growth, as we have seen in the previous chapter, innovative activity is assumed to be influenced directly by the economy's endowment of human capital. The shift of emphasis from exogenous technical innovation to human capital accumulation as the key source of growth and development [cf. Schultz 1961] is one of the major themes of the new economic development literature.¹

The models of endogenous growth generally rely on either a privately controlled engine of growth or a combination of such factors and some external economies in production. For Becker et al., King and Rebelo, and, implicitly, Rosenzweig as well, the engine of growth is human capital. Its distinct role is justified generally by the assumption that knowledge is valuable not just in the production of goods, but even more so in the production of new knowledge [cf. Lucas 1988]. Becker et al. specify the latter as a linear function of the human capital accumulated by previous generations, which augments the productivity of parental time inputs devoted to children's education. King and Rebelo

postulate a similar mechanism for the production of human capital, except that both human and physical capital participate in its production.

The shift of emphasis from accumulation of physical capital to investment in human capital has brought in a new revolutionary understanding of the engine of economic growth. Although it is obvious that people acquire useful skills and knowledge, it is not obvious that these skills and knowledge are a form of capital. Recent research has shown that increase in human capital is in substantial part a product of deliberate investment. It has grown in industrialized societies at a much faster rate than conventional (nonhuman) capital and this has become a distinctive feature and a major explanation of the fact of faster economic development. Investment in human capital can be understood as direct expenditures on education, health, and internal migration to take advantage of better job opportunities; earnings foregone by mature students attending school and by workers acquiring on-the-job training; the use of leisure time to improve skills and knowledge.² In this sense, much of what we call consumption constitutes investment in human capital. By this, the quality of human effort can be greatly improved and its productivity enhanced.

I.5.ii. Human Beings as Capital Goods?

According to J. S. Mill, the people of a country should not be looked upon as wealth because wealth existed only for the sake of people.³ The notion of treating a human person as a commercial good or a marketable asset is something that we abhor due to our own moral and philosophical understanding of a free being. Therefore, the mere thought of investment in human beings is offensive to some and in this sense economists too have shied away from analysing this form of investment. Hence, economists did not stress the simple truth that people invest in themselves and that these investments are very large though they knew all along that people are an important part of the wealth of nations. Measured by what labour contributes to output, the productive capacity of human beings is now vastly larger than all other forms of wealth taken together. By investing in themselves, people can enlarge the range of choice available to them. It is one way free economic agent can enhance their welfare.

The philosopher-economist Adam Smith boldly included all of the acquired and useful abilities of all of the inhabitants of a country as a part of capital. So did H. von Thunen, who then went on to argue that the concept of capital applied to man did not degrade him or impair his freedom and dignity, but on the contrary that the failure to apply the concept was especially pernicious in wars.⁴ Irving Fisher also clearly and cogently presented an all-inclusive concept of capital.⁵ Yet the main stream of thought has held that it is neither appropriate nor practical to apply the concept of capital to human beings. Marshall⁶ held that while human beings are incontestably capital from an abstract and mathematical point of view, it would be out of touch with the market place to treat them as capital in practical analyses. "The failure to treat human resources explicitly as a form of capital, as a produced means of production, as the product of investment, has fostered the retention of the classical notion of labour as a capacity to do manual work requiring little knowledge and skill, a capacity with which, according to this notion, labourers are endowed about equally."⁷ This classical notion of labour is proved wrong. Labourers have become capitalists not from a diffusion of the ownership of corporation stocks, but from the acquisition of knowledge and skill that have economic value.⁸ This knowledge and skill are in great part the product of investment and, combined with other human investment, predominantly account for the productive superiority of the technically advanced countries. The observed growth in productivity per unit of labour is simply a consequence of holding the unit of labour constant over time although in fact this unit of labour has been increasing as a result of a steadily growing amount of human capital per worker.

The rapid post-war recovery of countries that had suffered severe destruction of plant and equipment during the war, demands that we take account of *all* capital and in particular *human capital* and the important part that it plays in production in a modern economy. The expressed judgements in making capital available to developing economies and their ability to absorb the additional capital "slowly and gradually" are to be re-evaluated.⁹ The widely held impression that countries are poor fundamentally because they are starved for capital and that additional capital is truly the key to their more rapid economic growth is at variance with experience and the reconciliation is to be found in emphasis on particular forms of capital. The new capital available to these countries from

outside as a rule goes into the formation of structures, equipment and sometimes also into inventories. But it is generally not available for additional investment in people. Consequently, human capabilities do not stay abreast of physical capital, and they do become limiting factors in economic growth. It should come as no surprise, therefore, that the absorption rate of capital to augment only particular nonhuman resources is necessarily low. The Horvat¹⁰ formulation of the optimum rate of investment which treats knowledge and skill as a critical investment variable in determining the rate of economic growth is both relevant and important.

I.5.iii. Scope and Substance of These Investments

Human resources obviously have both quantitative and qualitative dimensions. The number of people, the proportion who enter upon useful work, and hours worked are essentially quantitative characteristics while skill, knowledge, and similar attributes that affect particular human capabilities to do productive work are considered as quality components. How can we estimate the magnitude of human investment? While any capability produced by human investment becomes a part of the human agent and hence cannot be sold; it is nevertheless “in touch with the market place”¹¹ by affecting the wages and salaries the human agent can earn. The resulting increase in earnings is the yield on the investment. In principle, the value of the investment can be determined by discounting the additional future earnings it yields just as the value of a physical capital good can be determined by discounting its income stream. According to Schultz, there are five major categories that improve human capabilities: (1) health facilities and services, broadly conceived to include all expenditures that affect the life expectancy, strength and stamina, and the vigour and vitality of a people; (2) on-the-job training, including old-style apprenticeship organized by firms; (3) formally organized education at the elementary, secondary, and higher levels; (4) study programmes for adults that are not organized by firms, including extension programmes notably in agriculture; (5) migration of individuals and families to adjust to changing job opportunities.¹² Both the magnitude and the rate of

increase of this form of human capital could be an important key to the riddle of economic growth.

King and Rebelo¹³ developed a model with particular emphasis on human capital. Their model belongs to an important class of endogenous growth models based on work by Uzawa [1965] and retains the following key properties on the basic neo-classical model of Solow [1956], Swan [1964], Cass [1965], and Koopmans [1965]: (i) the existence of a constant asymptotic growth rate and (ii) the coincidence of competitive and optimal allocations in the absence of public interventions. The crucial attribute of this class of models is that there is a “core” of capital goods that can be produced without the direct or indirect contribution of nonreproducible factors. (This class of models is very large, including structures with many capital stocks in the growth “core” and with nonreproducible factors outside the growth “core” [Rebelo 1987], or with steady states that are only asymptotically obtained (Jones and Manuelli 1990).

I.5.iv. Economic Growth through Human Capital Accumulation

We are interested in models of endogenous growth that accord with the major facts of economic development. We require that the production of both physical and human capital goods be governed by constant-returns-to-scale technologies so that there are feasible steady-state growth paths. The model economy [cf. Uzawa (1965), Rebelo (1987), and Lucas (1988)] highlights the societal allocation of resources between current consumption and comprehensive accumulation (physical and human capital) under constant returns to scale. (An important assumption in our approach is that the changes in productivity summarized by the evolution of the composite human capital good are embodied in the representative worker.)

The Core Elements: To study the accumulation of physical and human capital, King and Rebelo use a two-sector endogenous growth model. As in the neo-classical model, there is a single consumption/physical investment good. This good is produced in sector 1

according to a constant returns-to-scale production technology with physical and human capital as its inputs. Hence, one technical constraint for the economy is :

$C_t + I_t = Y_{1t} = F_1(K_{1t}, N_{1t}H_t)$; C_t and I_t denote consumption and physical investment. Output of this commodity is Y_{1t} , and physical capital and labour (human capital) inputs into this sector are denoted, respectively, by K_{1t} and $N_{1t}H_t$. The human capital investment good, which we call I_{Ht} , is produced in the second sector with another production technology that is constant returns to scale in the two inputs, that is, $I_{Ht} = Y_{2t} = F_2(K_{2t}, N_{2t}H_t)$.

The physical capital goods are taken to obey standard neo-classical accumulation equations, that is, $K_{j,t+1} - K_{j,t} = I_{jt} - \partial_{Kj}K_{jt}$,

where ∂_{Kj} is the depreciation rate in sector j . Aggregate physical capital investment is then the sum of the sectoral investments, that is, $I_t = I_{1t} + I_{2t}$.

Our specification of the evolution of human capital embodies diminishing point-in-time capacity to grow, as in Rosen [1976]:

$$H_{t+1} - H_t = \Theta(I_{Ht}/H_t)H_t - \delta_H H_t, \text{ with } D\Theta > 0 \text{ and } D^2\Theta < 0.$$

(By $D_{g(x)}$, we mean the derivative of the function g with respect to x ; correspondingly, $D^2_{g(x)}$ denotes the second derivative.)

This specification of “adjustment costs” permits steady-state growth if I_{Ht} and H_t grow at the same rate. Further, combined with $I_{Ht} = Y_{2t} = F_2(K_{2t}, N_{2t}H_t)$, our set-up is consistent with the view that growth in human capital combines labour and other inputs according to a production function as in Heckman [1976]. We assume that both physical and human capital investment are irreversible. Finally, the sectoral allocations of labour must sum to the available stock, N : $N_{1t} + N_{2t} \leq N$. Since human capital is embodied in workers’ time, this allocation also determines the sectoral allocation of human capital.

With this specification of intertemporal technology, our model has a range of feasible balanced growth equilibria in which consumption, physical investment, sectoral outputs,

and capital stocks all grow at the same rate; this rate, which we denote by γ_H , is the human capital growth rate.¹⁴

[Model Component:

Sector 1: consumption/physical investment: $F_1 = A_1 K_1^{(1-a_1)} (N_1 H)^{a_1}$

Sector 2: human capital investment: $F_2 = A_2 K_2^{(1-a_2)} (N_2 H)^{a_2}$

Evolution of physical capital stocks: $K_{j,t+1} - K_{j,t} = I_{jt} \delta_{Kj} K_{jt}$

Evolution of human capital stocks: $H_{t+1} - H_t = \Theta(I_{Ht}/H_t; \theta) H_t - \delta_H H_t$

Preferences : $U = \sum_{t=0}^{\infty} \beta^t u(c_t; \sigma)$

Initial rates: After-tax real interest rate $R(\tau)$; real growth rate γ_H , and sectoral tax rates (τ_I) .]

I.5.v. Cross-Country Experience

The role of human capital in the process of economic growth has been emphatically proved by cross-country studies. Robert J. Barrow (1989,1990,1991), while researching on human capital and economic growth, analysed 98 countries in the period 1960-1985, in order to show that the growth rate of real per capita GDP is positively related to initial human capital (proxied by 1960 school-enrolment rates) and negatively related to the initial (1960) level of real per capita GDP. The study reveals the following. Countries with higher human capital also have lower fertility rates and higher ratios of physical investment to GDP. Growth is inversely related to the share of government consumption in GDP, but insignificantly related to the share of public investment. Growth rates are positively related to measures of political stability and inversely related to a proxy for market distortions. These findings are presented in his article titled “Economic growth in a Cross Section of Countries.”¹⁵ There is a force that promotes convergence in levels of per capita income across countries. Barro and Sala i Martin (1990) show that the tendency for poor countries to grow faster than rich countries, termed β -convergence, need not imply a reduction in the dispersion of income levels, termed σ -convergence, if each country’s level

of income is continually subject to random disturbances. The main element behind the convergence result in neo-classical growth models is diminishing returns to reproducible capital. Poor countries, with low ratios of capital to labour, have high marginal products of capital and thereby tend to grow at high rates. This is reinforced in extensions of the neo-classical models that allow for international mobility of capital and technology. The hypothesis that poor countries tend to grow faster than rich countries seems to be inconsistent with the cross-country evidence, which indicates that per capita growth rates have little correlation with the starting level of per capita product. Human capital plays a special role in a number of models of endogenous economic growth. Barro also shows that human capital is the key input to the research sector, which generates the new products or ideas that underlie technological progress. Thus, countries with greater initial stocks of human capital experience a more rapid rate of introduction of new goods and thereby tend to grow faster. In multicountry models of technological change, the spread of new ideas across countries (or firms or industries) is also important. A larger stock of human capital makes it easier for a country to absorb the new products or ideas that have been discovered elsewhere. Therefore, a follower country with more human capital tends to grow faster because it catches up more rapidly to the technological leader. In this setting, increases in the quantity of human capital per person tend to lead to higher rates of investment in human and physical capital, and hence, to higher per capita growth. Using recent theories of economic growth as a guide, Barro's study brings out some empirical regularities about growth and investment.

I.5.vi. **Note on Policy**

Human capital deteriorates when it is idle because unemployment impairs the skills that workers have acquired. Losses in earnings can be cushioned by appropriate payments but these do not keep idleness from taking its toll from human capital. There are many hindrances from the free choice of professions. Tax laws everywhere discriminate against human capital. Human capital depreciates. Racial and religious discrimination are widespread. It is indeed elementary to stress the greater imperfections of the capital

market in providing funds for investment in human beings than for investment in physical goods. Long-term private and public loans to students are warranted. Internal migration, notably the movement of farm people into industry, made necessary by the dynamics of our economic progress, requires substantial investments. The low earnings of particular people have long been a matter of public concern.

Is there a substantial underinvestment in human beings other than in these depressed groups?¹⁶ This is an important question for economists. Underinvestment in knowledge and skill, relative to the amounts invested in nonhuman capital would appear to be the rule and not the exception for a number of reasons. The strong and increasing demands for this knowledge and skill in labourers are of fairly recent origin and it takes time to respond to them. In responding to these demands, we are heavily dependent upon cultural and political processes, and these are slow and the lags are long compared to the behaviour of markets serving the formation of nonhuman capital. Where the capital market does serve human investments, it is subject to more imperfections than in financing physical capital. Should the returns from public investment in human capital accrue to the individuals in whom it is made? The policy issues implicit in this question run deep and they are full of perplexities pertaining both to resource allocation and to welfare. Physical capital that is formed by public investment is not transferred as a rule to particular individuals as a gift. It would greatly simplify the allocative process if public investment in human capital were placed on the same footing. When transfer of resources is made available to developing nations, measures have been taken to pave the way for the investment of more private (nonhuman) capital. This one-sided effort is under way in spite of the fact that the knowledge and skills required to take on and use efficiently the superior techniques of production, the most valuable resource that we could make available to them, is in very short supply in these underdeveloped countries. Some growth can be had from the increase in more conventional capital even though the labour that is available is lacking both in skill and knowledge. But the rate of growth will be seriously limited. It simply is not possible to have the fruits of a modern agriculture and the abundance of modern industry without making large investments in human beings. Truly, the most distinctive feature of our economic system is the growth in human capital. Without it there would be

only hard, manual work and poverty except for those who have income from property.¹⁷ Economists have long suspected that there is a link between national policies and long-term rates of economic growth. Schultz [1981] suggests that many public policies contain disincentives for growth because they reduce the rewards to accumulation of a comprehensive concept of capital encompassing human as well as physical capital. King and Rebelo proposed a model of economic growth in which a comprehensive measure of “technical progress” is made endogenous along the lines suggested by Uzawa [1965], Rebelo [1987], and Lucas [1988]. Barro’s study concretely shows the role of human capital in the process of development. By interpreting this comprehensive measure as social investment in “human capital”,¹⁸ our analysis provides a potentially valuable formalization of the ideas of Schultz [1961,1981] on economic development. We find new promise for the hypotheses of Schultz [1981] that incentive effects of policy can influence economic activity: taxation can readily lead to development traps and growth miracles. Models of endogenous economic growth thus provide new analytical paths for studying old problems in the economics of development. There is an early morning scene in Faulkner’s *Intruder in the Dust*, of a poor, solitary cultivator at work in a field . We shall conclude this section by paraphrasing that line, “The man without skills and knowledge leaning terrifically against nothing.”

NOTES

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CHAPTER SIX

THE ECONOMIC GROWTH MODEL WITH AN EMPHASIS ON THE RESEARCH SECTOR

GROWTH FORMULA FOUR: $G_4 = f(PK_4, HL_4, TP_4, HC_4, RS_4)$

I.6.i. The New Growth Theory

While considering the *research sector* as a determinant or engine of economic growth, we can formulate a hypothesis with reference to the recent Romer-Barro type models of endogenous growth which states explicitly that “though the rate of technological change is sensitive to the rate of interest, a subsidy to physical capital accumulation may be a very poor substitute for direct subsidies that increase the incentive to undertake research, in order to promote economic growth.” The New Growth Theory (NGT)¹⁻⁷ distinguishes between physical capital (K), labour (L), human capital (H), and knowledge or technology (A). These four factors are inputs in the aggregate production function $Y = F(K, L, H, A)$, where Y is national output. The crucial point in the NGT is its treatment of knowledge as an input that is different from the three others.

I.6.ii. Key Elements and Premises

Paul M. Romer [1986, 1989, 1990, 1991, 1993] while exploring and analyzing the problem of economic development, presented a new vision of growth through endogenous technological change. Again, knowledge is taken as an input in the production function and competitive equilibrium is rendered consistent with increasing aggregate returns owing to externalities. Romer demonstrates that the three key elements of his model namely externalities, increasing returns in the production of output and decreasing returns in the production of new knowledge are consistent with competitive equilibrium. Thus, endogenous technical change is explained in terms of the acquisition of knowledge by rational profit maximizing economic agents. The argument presented by Romer is based on three premises. The first is that technological change - improvement in the instructions for mixing together raw materials - lies at the heart of economic growth. The second

premise is that technological change arises in large part because of intentional actions taken by people who respond to market incentives. Thus the model is one of endogenous rather than exogenous technological change. The third and most fundamental premise is that instructions for working with raw materials are inherently different from other economic goods. Once the cost of creating a new set of instructions has been incurred, the instructions can be used over and over again at no additional cost. Developing new and better instructions is equivalent to incurring a fixed cost. This property is taken to be the defining characteristic of technology. Once these premises are granted, it follows directly that an equilibrium with price taking cannot be supported.

I.6.iii. **Features of Knowledge in NGT**

Economists studying public finance have identified two fundamental attributes of any economic good: the degree to which it is rivalrous and the degree to which it is excludable [Cornes and Sandler 1986]. Rivalry is a purely technological attribute. A purely rival good has the property that its use by one firm or person precludes its use by another; a purely nonrival good has the property that its use by one firm or person in no way limits its use by another. Excludability is a function of both the technology and the legal system. A good is excludable if the owner can prevent others from using it. Conventional economic goods are both rivalrous and excludable. They are privately provided and can be traded in competitive markets. By definition, public goods are both nonrival and nonexcludable. The distinguishing feature of the technology as an input is that it is neither a conventional good nor a public good; it is a non-rival, partially excludable good. Two features of knowledge - unbounded growth and incomplete appropriability - are generally recognized as being relevant for the theory of growth.

In the New Growth Theory developed by Romer, knowledge is considered to be a “partially excludable” and “nonrival” input factor. *Partial excludability* describes the property of knowledge which permits its creators to appropriate only a fraction of its total economic value. What is crucial to the model is the assumption that patents exclude only partially the use of some aspect of the knowledge in other economic activities. In other words, the R & D activities are assumed to involve a positive externality. *Nonrivalry*

characterizes an idea or insight which can be used by someone in an economic activity without reducing the usefulness of the idea or insight used by someone else. Knowledge can be used by an infinite number of firms and in an infinite number of periods without additional costs and without reducing the value of this factor. Marginal costs of using a new product design or a new idea are assumed to be or near zero. NGT assumes in addition that the low cost of using existing knowledge also lowers the cost of producing new knowledge. As a result, knowledge capital formation is subject to dynamic scale economies, which earlier models did not consider. To the extent that these dynamic economies accrue to others than the investors in the original R & D, nonrivalry implies the existence of *intertemporal positive externalities* from private R & D.⁸

I.6.iv. Description of the Model

The model presented here is essentially the one-sector neo-classical model with technological change, augmented to give an endogenous explanation of the source of the technological change. The four basic inputs in this model are capital, labour, human capital, and an index of the level of the technology (K, L, H , and A). The formal model of the economy has three sectors. The research sector which uses human capital and the existing stock of knowledge to produce new knowledge, an intermediate goods-sector which uses the designs from the research sector together with forgone output to produce the large number of producer durables that are available for use in final-goods production at any time, and a final goods sector which uses labour, human capital, and the set of producer durables that are available to produce final output. Output can be either consumed or saved as new capital.

Final output Y in this model is expressed as a function of physical labour L , human capital devoted to final output H_Y , and physical capital.

Let, $x = \{x_i\}_{i=1}^{\infty}$, is the list of inputs used by a firm that produces final output. A simple functional form for output is the following extension of the Cobb-Douglas production function:

$$Y(H_Y, L, x) = H_Y^{\alpha} L^{\beta} \sum_{i=1}^{\infty} x_i^{1-\alpha-\beta} \quad (1)$$

But in this model, henceforth, the index i for the different types of goods is treated as a continuous variable, and the sum in equation (1) is replaced by an integral:

$$Y(H_Y, L, x) = H_Y^\alpha L^\beta \int_0^\infty x(i)^{1-\alpha-\beta} \quad (1')$$

This production function differs from the usual production function only in its assumption about the degree to which different types of capital goods are substitutes for each other. Thus $K(t)$ evolves according to the rule:

$$\dot{K}(t) = Y(t) - C(t) \quad (2),$$

where $C(t)$ denotes aggregate consumption at time t .

Because it takes η units of forgone consumption to create one unit of any type of durable, this accounting measure K is related to the durable goods that are actually used in production by the rule $K = \eta \sum_{i=1}^\infty x_i = \eta \sum_{i=1}^A x_i$

H and L are fixed, and K grows by the amount of forgone consumption. It remains to specify the process for the accumulation of new designs, that is, for the growth of $A(t)$. As noted above, research output depends on the amount of human capital devoted to research. If the researcher j possesses an amount of human capital H^j and has access to a portion A^j of the total stock of knowledge implicit in previous designs, the rate of production of new designs by researcher j will be $\delta H^j A^j$, where δ is a productivity parameter. Growth in A by itself increases the productivity of human capital in the research sector. The output of researcher j is therefore $\delta H^j A$. If we sum across all people engaged in research, the aggregate stock of designs evolves according to

$$\dot{A} = \delta H_A A, \quad (3)$$

where H_A has the obvious interpretation of total human capital employed in research.

Equation (3) contains two substantive assumptions and two functional form assumptions. The first substantive assumption is that devoting more human capital to research leads to a higher rate of production of new designs. The second is that the larger the total stock of designs and knowledge is, the higher the productivity, for instance, of an engineer working in the research sector will be. The two functional form assumptions are

that the output of designs is linear in each of H_A and A when the other is held constant. The crucial feature of the specification used here is that knowledge enters into production in two distinct ways. A new design enables the production of a new good that can be used to produce output. A new design also increases the total stock of knowledge and thereby increases the productivity of human capital in the research sector. The owner of a design has property rights over its use in the production of a new producer durable but not over its use in research. If an inventor has a patented design for widgets, no one can make or sell widgets without the agreement of the inventor. On the other hand, other inventors are free to spend time studying the patent application for the widget and learn knowledge that helps in the design of a widget. The inventor of the widget has no ability to stop the inventor of a widget from learning from the design of a widget. This means that the benefits from the first productive role for a design are completely excludable, whereas the benefits from the second are completely non-excludable. In an overall sense, this means that the nonrival design inputs are partially excludable. What matters is that the knowledge is a nonrival good that is partially excludable and privately provided. At the aggregate level, H_A and H_Y are related by the constraint $H_Y + H_A = H$. According to these equations, any person can devote human capital to either the final-output sector or the research sector.⁹

Let r denote the interest rate on loans denominated in goods. Let P_A denote the price of new designs, and let w_H denote the rental rate per unit of human capital. Because of the assumption that anyone engaged in research can freely take advantage of the entire existing stock of designs in doing research to produce new designs, it follows from equation (3) that P_A and w_H are related by $w_H = P_A \delta A$.

Once a design has been produced, a large number of potential suppliers of the new good bid for the right to do so. Each of these firms takes the price P_A for designs, the price of one for capital goods, and the interest rate as given, but if it begins production it sets prices to maximize profits. Let L and H_Y be the total amounts of labour and human capital that are used in the production of final-output goods. Given values for H_Y , Y and L , it is

possible to derive the aggregate demand for the durables from a maximization problem that is conditional on them: $\max_x \int_0^\infty [H_Y^\alpha L^\beta x(i)^{1-\alpha-\beta} p(i)x(i)] di$.

Differentiating under the integral sign leads to an inverse demand function

$$p(i) = (1-\alpha-\beta)H_Y^\alpha L^\beta x(i)^{-\alpha-\beta} \quad (4)$$

The demand curve in equation (4) is what the producer of each specialized durable takes as given in choosing the profit-maximizing price to set. Faced with given values of H_Y , L and r a firm that has already incurred the fixed-cost investment in a design will choose a level of output x to maximize its revenue minus variable cost at every date:

$$\pi = \max_x p(x)x - r\eta x = \max_x (1-\alpha-\beta)H_Y^\alpha L^\beta x(i)^{1-\alpha-\beta} - r\eta x. \quad (5)$$

The flow of rental income is $p(x)$ times x . The cost is the interest cost on the ηx units of output needed to produce x durables. The monopoly pricing problem specified in equation (5) is that of a firm with constant marginal cost that faces a constant elasticity demand curve. The resulting monopoly price is a simple mark-up over marginal cost, where the mark-up is determined by the elasticity of demand, $p = r\eta / (1-\alpha-\beta)$. The flow of monopoly profit is $\pi = (\alpha+\beta)p^{bar}x^{bar}$, where $x(bar)$ is the quantity on the demand curve (4) implied by the price $p(bar)$.

The decision to produce a new specialized input depends on a comparison of the discounted stream of net revenue and the cost P_A of the initial investment in a design. Because the market for designs is competitive, the price for designs will be bid up until it is equal to the present value of the net revenue that a monopolist can extract. At every date t , it must therefore be true that

$$\int_t^\infty e^{-\int_t^\tau r(s)ds} \pi(\tau) d\tau = P_A(t). \quad (6)$$

If P_A is constant, this condition can be put in a more intuitive form. Differentiating with respect to time (t) yields $\pi(t) - r(t) \int_t^\infty e^{-\int_t^\tau r(s)ds} \pi(\tau) d\tau = 0$.

Substituting in the expression for P_A from equation (6) yields $\pi(t) = r(t)P_A$.

This equation says that at every point in time, the instantaneous excess of revenue over marginal cost must be just sufficient to cover the interest cost on the initial investment in a design.¹⁰

I.6.v. Incentive to Undertake Research in a Model of Growth

Since A determines the range of durables that can be produced and since η of capital are required per unit of durable goods, $x(\bar{x})$, it is possible to solve for $x(\bar{x})$ from the equation $K = \eta Ax(\bar{x})$. Then output Y can be written as: $Y(H_A, L, x) = H_Y^\alpha L^\beta \int_0^\infty x(i)^{1-\alpha-\beta} di$

$$\begin{aligned} &= H_Y^\alpha L^\beta A x^{\bar{x}1-\alpha-\beta} \\ &= H_Y^\alpha L^\beta A (K/\eta A)^{1-\alpha-\beta} \\ &= (H_Y A)^\alpha (L A)^\beta (K)^{1-\alpha-\beta} \eta^{\alpha+\beta-1} \end{aligned} \quad (7)$$

The last line of this equation shows that the model behaves just like the neo-classical model with labour and human capital augmenting technological change. An examination of the expression for final output:

$$Y = H_Y^\alpha L^\beta \int_0^\infty x^{\bar{x}1-\alpha-\beta} di = H_Y^\alpha L^\beta A x^{\bar{x}1-\alpha-\beta} \quad (8)$$

from equation (7) shows, that output grows at the same rate as A if L, H_Y , and $x^{\bar{x}}$ are fixed. If $x^{\bar{x}}$ is fixed, then K must grow at the same rate as A because total usage of capital is $A x^{\bar{x}} \eta$. Let g denote the growth rate of A , Y , and K . Since K/Y is a constant, the ratio:

$$C/Y = 1 - (K^\circ/Y) = 1 - (K^\circ/K)(K/Y) \quad (9)$$

must also be constant. The common growth rate g for all these variables is therefore:

$$g = C^\circ/C = Y^\circ/Y = K^\circ/K = A^\circ/A = \delta H_A. \quad (\delta H_A \text{ is to be understood as follows:})$$

$$H_Y = 1/\delta[(\alpha/(1-\alpha-\beta)(\alpha+\beta)]r. \quad (10)$$

For a fixed value of $H_A = H - H_Y$, the implied exponential growth rate for A is δH_A

Together with equation (10), the constraint $H_Y = H - H_A$ implies a relation between the growth rate g and the interest rate r :

$$g = \delta H_A = \delta H - [(\alpha/(1-\alpha-\beta)(\alpha+\beta)]r \quad (11)$$

which can be simplified as $g = \delta H_A = \delta H - \Lambda r$, where Λ is a constant that depends on the technology parameters α and β ,

$$\Lambda = [(\alpha/(1-\alpha-\beta)(\alpha+\beta))]. \quad (12)$$

Implicitly, the allocation of H between the two sectors is constrained by the requirement that H_A must be nonnegative and that H_Y can be no larger than H . This implies that g is nonnegative. To close the model, it remains to impose the relation between the growth rate g and the interest rate r implied by the preference side of the model, $g = C^o/C = (r - \rho)/\sigma$. Combined with equation (11), this gives an expression for g in terms of the fundamentals of the model, $g = (\delta H - \Lambda \rho)/(\sigma \Lambda + 1)$, where Λ is as defined in equation (12).

Almost all the content of the model is contained in equation (11), which summarizes the effects of the technological side of the model, including the effects of imperfect competition in the market for producer durables. The opportunity cost of human capital is the wage income that can be earned instantaneously in the manufacturing sector. The return to investing human capital in research is a stream of net revenue that a design generates in the future. The benefits of research come largely in the future and that the costs are incurred immediately. If the interest rate is larger, the present discounted value of the stream of net revenue will be lower. Less human capital will be allocated to research, and the rate of growth will be lower. From a policy point of view, the difference between a reduction in η and a reduction in the equilibrium interest rate is very important. A direct subsidy to investment in physical capital financed by a lump-sum tax is mathematically equivalent to a reduction in η . The intuition that subsidies to physical capital accumulation will also speed up growth in A was reinforced by the first generation of endogenous growth models.¹¹

The present model of Romer shows that when the decision to invest in physical capital is uncoupled from the decision to invest in research, the effects of a subsidy to physical capital are quite different from the effects of a reduction in the market interest rate. If the fundamental policy problem is that we have too many lawyers and MBAs and not enough engineers, a subsidy to physical capital accumulation is a weak, and possibly

counterproductive, policy response. An increase in scale as measured by total human capital H has the effect of speeding up the rate of growth. Human capital is the relevant scale variable in this model because it is the input that is used most intensively in research. The effects of a subsidy to capital can be contrasted with a policy designed to encourage research. But we notice that too little human capital is devoted to research due to the externalities and monopoly pricing. Both of these effects cause human capital to be undercompensated. From equation (11) it follows that an increase in total human capital would lead to an increase in the amount of human capital employed in the research sector. As a result, a second-best policy for a government that cannot affect the allocation of human capital between different sectors would be to subsidize the production of human capital. Within the confines of the model, the social optimum can be achieved by subsidizing the accumulation of A . The model here suggests that what is important for growth is integration not into an economy with a large number of people but rather into one with a large amount of human capital. Since growth seems to be correlated with the degree of integration into world-wide markets but not closely related to population size or density, the results from this model seem promising.

As we have discussed in the previous chapter, Robert J. Barrow [1989,1990,1991] also shows that human capital is the key input to the research sector, which generates the new products or ideas that underlie technological progress. The above analyses of economic model of endogenous growth developed by Paul Romer allows us to conclude that “though the rate of technological change is sensitive to the rate of interest, a subsidy to physical capital accumulation may be a very poor substitute for direct subsidies that increase the incentive to undertake research, in order to promote economic growth.” This model incorporates the various determinants of economic growth in its process of integration of knowledge.

NOTES

1. The New Growth Theory (NGT) is associated with the following authors and their research papers, published recently, in various Economic Journals. This chapter is based on these research papers, notably of Paul M. Romer.
2. Romer, Paul M., *Increasing Returns and Long-Run Growth*, The Journal of Political Economy, vol. 94, 1986, pp. 1002-1037.
3. *Endogenous Technological Change*, The Journal of Political Economy, vol. 98, 1990, pp. S71-S102.
4. *Increasing Returns and New Developments in the Theory of Growth*, In: W. Barnett (Ed.), Proceedings of the 6th International Symposium in Economic Theory and Econometrics, Cambridge 1991, pp. 83-110.
5. *Two Strategies for Economic Development: Using Ideas and Producing Ideas*, Proceedings of the World Bank Annual Conference on Development Economics 1992, Washington, D. C., 1993.
6. Helpman, Elhanan, *Endogenous Macroeconomic Growth Theory*, European Economic Review, vol. 36, 1992, pp. 237-267.
7. Barro, Robert J., *Economic Growth in a Cross Section of Countries*, Quarterly Journal of Economics, vol. 106, 1991, pp. 407-444.
8. Weder, Rolf, and Grubel, Herbert G., *The New Growth Theory and Coasean Economics: Institutions to Capture Externalities*, Weltwirtschaftliches Archiv, 1993, p. 490.
9. Romer, Paul M., *Endogenous Technological Change*, op. cit., pp. 80-85.
10. Ibid., pp. 86-87.
11. Ibid., pp. 88-92.

CHAPTER SEVEN

IDENTIFICATION OF A GROWTH INFLUENCING KNOWLEDGE SECTOR

I.7.i. The New Direction

The economic growth is a dynamic process. The various determinants of economic growth determines the pace and effectiveness of this process. The objective of our analysis was to see the development of each of the determinant, (physical capital, human labour, technological progress, human capital and research sector), and their integration into the growth process. Our understanding of each determinant as an engine of growth broadens as we move from one functional factor to another. Though we have focused on each of the determinants through a particular model, our analyzis show that all the determinants together bring about the desired growth. They are not competing against each other, rather they are complementing each other in the process. This has been clearly brought out by Romer's endogenous growth model. Though the explicit question in our analysis was to determine the determinants of economic growth, the implicit question was to determine the motivating forces in this process of determining the determinants. In our discussion we have also noted some of the motivating forces like the profit motive. The new direction given by the endogenous growth models enables us to understand better the 'unexplained growth' by endogenizing the determinants of economic growth. Following this path of direction, we shall try to introduce a noval factor into the mechanisms of economic growth

I.7.ii. The Role of Basic Research

The New Growth Theory demands a further leap into the knowledge sector. It is important to note that the economics literature and public policies have long recognized the existence of externalities arising from "basic research". Such research has the characteristics that its findings have no expected commercial applications but that it can in turn stimulate and raise the return to *R&D* aimed at the development of commercially valuable products. When we consider basic research in social sciences to further economic

development, one area that we need to integrate into this research is that of the cultural-philosophical orientation of a nation. Many of the developmental policies do not seem to succeed due to a lack of integration of a way of thinking of a nation into its framework. Basic research of this area is a must and this will give birth to another crucial determinant of economic growth. The relevance of the research sector as we have outlined in the Romer's model of economic growth is of vital importance in our study.

I.7.iii. **The Micro-Knowledge**

The recent development in the growth models focus on knowledge or research sector as an endogenous factor in growth. The identification of growth influencing knowledge sectors have raised difficulty and this section deals specifically with that aspect of growth economics. Our survey of the various models clearly brings out the relevance of investing in human capital which results in various micro-forms of knowledge. This micro knowledge can be developed or moulded or given shape to according to the existing research knowledge which produces designs or enables a person with various skills. Micro knowledge thus has the characteristic of an 'acquired knowledge'. As the person imbibes this micro knowledge, s/he becomes progressively dynamic.

I.7.iv. **The Macro-Knowledge**

But, there exists another form of knowledge which economists tend to by-pass for fear of trespassing the discipline. If economics is to deal with economic policies, neither can we justify this approach nor can we pretend of not being able to give a theoretical base; especially, when we try to identify growth influencing knowledge sectors for long-term development. We have familiarized ourselves with micro knowledge and its dynamic role in growth, while analyzing the various models of economic growth formulae. *There exists the other sector of knowledge known as macro knowledge.* Macro knowledge has the characteristic of an 'inherent-natural knowledge' which one inherits by being born into a particular culture or philosophical system. This is the a-priori micro knowledge (in the sense that all forms of micro knowledge is introduced into the macro knowledge). It is the

inherent knowledge due to the particular way of thinking one moulds. In a sense, macro knowledge is static-conservative and hard-inner-core. An analysis of the macro knowledge would enable us to understand the different pace of growth of various developed and developing nations. Hence, British growth rate is different from Japanese or Japanese growth rate is different from Indian and so on...Macro knowledge is peculiar to each nation.

A nation as an entity has a unique culture and philosophy of its own, even though at times it seems derived. But even a derived or dependent cultural-philosophical knowledge is integrated, interpreted and assimilated soon into the already existing macro knowledge. The interpretation-integration process is done primarily through the national (patriotic) institutions, such as government (political), judiciary (legal), church (religious), schools (educational), press (media) and so on. Macro knowledge is a positive embodiment of knowledge and therefore the institutions that convey this knowledge have to be positively related to the national well-being of all its people. Institutions need to develop a self-critique approach or a praxis approach in this regard. Otherwise, an institutionalized negative knowledge could be communicated, and thereby defeat the original purpose of the creation of institution itself. An analysis of the existing institutions (original purpose and its current mechanism) could provide the institutionalized negative knowledge (if any) against the positive macro knowledge. During the formational stage of a person, one assimilates macro knowledge (it would be misleading to use the terminology of 'taught' in this context, particularly in comparison with micro knowledge). Here, a distinction can be drawn between macro knowledge and its implicit variables (generalization: concepts like capitalism, socialism, etc.) and micro knowledge and its explicit variables (specific: market mechanism, planning, etc.). Every explicit micro knowledge variable is tested in the crucible of implicit macro knowledge variable. While micro knowledge can be taught or imported and therefore broadened, macro knowledge tends to remain the same and seek depth. This is so because even when we import a 'pure-macro knowledge' of another nation, it becomes a micro knowledge when it crosses the boundary of its origin. Often, macro knowledge challenges the validity of micro knowledge. This would become more clear when we analyze the transitional economies later. Micro knowledge can blossom

only in the bosom of macro knowledge. Here, let us limit our search to understand the relationship between micro knowledge and macro knowledge in relation to economic growth.

I.7.v. The Relevance of Micro-Macro Knowledge in Economic Growth

There exists a relationship between micro knowledge and economic growth as well as macro knowledge and economic growth. It is the existing national macro knowledge which determines the use of micro knowledge while formulating the economic policies. Everybody knows about the need and importance of economic growth (macro knowledge) but only a few knows about the means (micro knowledge) that would bring about growth and development. Before adapting the means or implementing the micro knowledge, we should test it within the framework of macro knowledge and verify its acceptability. How much aware are policy makers in this respect is debatable. The more policy makers are aware of the macro knowledge, the probability of the success of the economic policy is higher and vice versa. Thus, merely determining the determinants of growth (micro knowledge) alone would not necessarily lead to economic development. Also, macro knowledge alone cannot account for economic growth. Here lies the necessity for the integration of the knowledge sector. As long as there exists a contrast, i.e., micro knowledge versus macro knowledge, the result would be stagnation or slow growth. Only an integration of the knowledge sector, i.e., micro knowledge plus macro knowledge, would lead to short-run growth and permanent development.

While formulating economic policies, the thinking that should govern is to be that of macro knowledge. Macro knowledge is, thus, a system which supports a nation. It is the breath that gives life to the economic policies. Macro knowledge exists in all or at least in the majority of the people of a nation without any inherent contradiction. The contradiction exists only between nations and this we note only in their viewpoints. This need not be a problem for national policy makers. Their main pre-occupation should be to know how much a nation and its people desire progress. No nation wants to make progress by any means. For each nation, the determination of this means to achieve

economic progress is of vital importance. Here, the primary role of macro knowledge in economic growth is to be acknowledged. As we have noted already, macro knowledge is the hard-core and therefore static. The dynamism depends on the application of micro knowledge. Yet, we should acknowledge that micro knowledge plays only a secondary role in economic growth and development.

This explains why, inspite of , applying the same economic growth models in various market economies (both developed and developing), we are not able to derive the same result. This explains why, inspite of, investing in physical capital formation, physical labour, technology, human capital and research and development, (as the engines of growth), we are not achieving the economic growth targets. This explains why there exists policy conflicts: between government and people; policy makers and implementers. The contradiction lies not in the formulation of economic policies but at the heart of ignoring the relevance of macro knowledge. Only after understanding the local, regional and national ethos of existing macro knowledge, we can possibly start contemplating the formulation of economic policies for the development of peoples. Without this venture, policy collapses, system stagnates, and a nation breaks down. In this scenario, as we note in many developing countries, economic growth is slow and development is impossible within this framework of performance. Recently, many developed countries try particularly through the media to evoke and understand the existing macro knowledge before they launch an application of a particular micro knowledge in the framework of a policy for growth and development. In order to have a deeper and better understanding of the super-success of macro knowledge over micro knowledge, we shall proceed to analyse the socialist system in the following section.

SECTION TWO

THE APPLIED GROWTH PATH

THE planned economies as well as the market economies have a single objective as they pursue differing economic growth models, namely, economic development. In section one of our study, we were following the capitalist-market economy growth models with a view to determine the engines of growth and their motivating forces. We have seen the prospects and limitations of those models within a global framework. We have tried to identify and endogenize a growth influencing knowledge sector as an extension to such models. In this section, we limit our objective to the socialist framework. The socialist economic system was a new venture with lot of fears and hopes. The socialist-planned economies developed their own growth economic models for their countries' economic development. (Appendix II.8.1 gives a short description of the concept of model which we apply in this research). The socialist scenario enable us to familiarize ourselves with an applied growth path. The socialist ideological structure and dynamism have been endogenized in these applied growth models. A critique of the socialist system by means of the dual knowledge sector, which we have developed, can have a normative effect on the economic development policies. We shall analyse only certain basic socialist growth models with a view to generalize the socialist application criteria. But before we delve into the models proper, let us compose the place of the application criteria.

CHAPTER EIGHT

THE COMPOSITION OF PLACE OF THE APPLICATION CRITERIA

FOR any in depth study, it is of immense value to compose the area of research. Once we specify the area of research, it is easy to apply the analytical tools in order to understand the existing mechanism of the area of study. Since our present concern is that of the socialist system, let us compose our spectrum of global socialism.

II.8.i. The Emergence of the Socialist System

The characteristic note that heralded the dawn of a new economic system was the principle of socialism. The idea of socialism was in the offing (horizon) for centuries. The ancient civilizations and cultures while preaching socialism alienated themselves from its lofty ideals and romanticized with the pragmatism of capitalism. Karl Marx, the eminent proponent of socialism of our century, was born into the bosom of market capitalism. Though his writings made him the enemy of capitalism, it could be argued that he is indirectly the 'saviour' of capitalism. It is his writings that put a rein to the wayward capitalistic behaviour, that saved capitalism. It is pointed out that most of Karl Marx's scientific work was concerned with capitalism; he wrote little about the future socialist society. "Marx, as a revolutionary critic of capitalism, invariably spoke very highly of the ability of capitalism to develop the forces of production, eliminate medieval backwardness, promote technical progress, and bring to production better organization and greater concentration. Marx argued that this process takes place amid the exploitation of the proletariat. The accumulation of capital is accompanied by the increasing poverty of the exploited class. In the end the process leads inevitably to a revolution: the power of the capitalists is overthrown and the *expropriators expropriated*."¹

This form of Marxian thought includes the idea that socialism will "supersede" capitalism. Capitalism is seen as a mechanism that would provide the material conditions

necessary for socialism. The replacement will occur once the capitalist system has fully developed and become not just mature but overripe. “It will have made these preparations by causing the bulk of production to be undertaken on a large industrial scale, with modern technology and a high degree of organization within the company. This high degree of organization and concentration of production will leave only a handful of capitalist proprietors, who will be swept aside so that the proletariat can take over the running of production.”² According to this image of socialism, controlling production is a fairly simple matter. There is a close logical connection in this line of thinking between the high standard of the production forces reached under capitalism and the smooth and simple way the socialist form of economic activity will operate. Marx considered it self-evident that the socialist order would take power first in the most highly developed of the capitalist countries. Though history proved his prediction wrong, socialism did emerge on a global stage.

II.8.ii. Socialist Countries

Appendix II.8.2 lists all the countries where the Communist party was in power for a fairly long period (at least several years). The undivided power of the Communist party is the sole criterion for inclusion in the table and henceforth, they will be referred to as ‘socialist countries’. Despite all the individual attributes that distinguish each of these socialist countries from all the others, they resemble one another and exhibit important attributes in common. Even though their actual systems differ in many details, they are all members of a broader, clearly identifiable class of social-political-economic systems that is referred to as ‘socialist system’. Just as the individual members of a biological species differ from one another while remaining members of it, so the various socialist countries differ while remaining members of the same species of systems.³

II.8.iii. Interpretation of the Term “Socialism”

The association of ideas evoked by the expression socialism points in two directions: on the one hand conveying certain ideas, and on the other conjuring up certain formations in existing societies. A term frequently used by politicians and by the press outside the socialist world is ‘communist system’ or simply “communism”. However, Marxism-Leninism, the official ideology of the Communist party, uses the expression “communist” in a quite different sense. It terms communist the unattained Utopian society of the future, in which all will share in social production according to their needs. The adherents of the Communist party in power never referred to their own system as communist. So it would be awkward to attach this name to it “from outside.”⁴ The following are some of the interpretations.

P.Wiles⁵ (1962) calls “socialist” an economy with considerable public ownership, and “communist” a country where the Communist party rules. Others, for instance, R. W. Campbell⁶ (1974; 1981) and J. Winiecki⁷ (1988), use the term “Soviet-type.” From the German “*zentrale Verwaltungswirtschaft*” we get the term “centrally administered economy” used in W. Eucken’s⁸ (1951) discussion of the Nazi economy and often applied to socialist economies. United Nations statistics refer to “centrally planned economies.” The term “command economy” is often used to distinguish the system from a market economy (see, for instance, P. R. Gregory,⁹ 1990). More sociologically oriented writers, such as V. Nee and D. Stark,¹⁰ eds. (1988), often refer to “state socialism.”

II.8.iv. The Socialist Economy

Marx and Engels had no detailed blueprint for the socialist economy. More detailed features of an actual socialist economy emerged in the Soviet practice: the problems of transition to socialism, the organization of planning, accounting and control, money and banking, exchange and distribution were discussed soon after the October Revolution. Lenin,¹¹ Bukharin¹² and Preobrazhensky¹³ led the thinking during this period. Stalin’s¹⁴ later pronouncement is representative of the economic orthodoxy and dogmas of the

Stalinist era. More recent developments in socialist theory and practice are put forward by Liberman¹⁵ and Kosygin.¹⁶

Despite wide differences in the economic institutions of the socialist countries and their respective stages of development, fairly similar patterns of economic organization have emerged. The main common features are: 1. public ownership of the means of production; 2. centralized control of the rate of accumulation and the principles guiding the directions of economic growth; 3. the existence of a market for consumption goods (though not necessarily of 'consumer sovereignty') and for labour; 4. Prices, price limits or price fixing criteria, for all goods sold by the state are decided by the planning authorities and prices cannot change spontaneously. The main economic differences between these countries and between their stages of development depend on the degree of central control over the functioning of the economy, and are concerned with the decision-making agencies and their relations, the use of money and value (as opposed to physical) indicators, the relative scope of plans and markets and the nature of incentives and of methods of plan implementation.¹⁷

The most recent process of economic reform which ended with the collapse of the Soviet bloc could be duly attributed to the *perestroika* and *glasnost* of Gorbachev.¹⁸

II.8.v. **The Historical Setting**

Let us now look at the actual course of history, beginning with a description of the social system preceding the socialist revolution. The first question to ask is how similar the internal conditions in the various socialist countries were when each society embarked on building a socialist system. The following Table II.8.1 lists fourteen of the twenty-six countries featured in Appendix II.8.2 in whose cases scholars largely agree that the part played by external assistance was relatively smaller than the part played by internal forces; the Communist party largely came to power due to internal forces.

TABLE II.8.1

SOCIALIST COUNTRIES: Revolution Largely by Internal Forces

Before Communist Party Attained Power

Serial Number	Country	Year Power was Attained	Level of Economic Development, GDP per Capita ^a (USA=100)	Type of External Dependence	Type of Armed Combat
1.	Soviet Union	1917	21.8 ^b	Independent State	World War I
2.	Albania	1944	-	Independent State, Italian Occupation	World War II, war of liberation
3.	Yugoslavia	1945	14.0 ^c	Independent State, German and Italian Occupation	World War II, war of liberation
4.	China	1949	-	Independent State, Japanese occupation	World War II, revolutionary wars before and after the war of liberation
5.	Vietnam	1954	-	French colony, Japanese occupation	World War II, war of liberation, first against Japanese, then against French
6.	Cuba	1959	-	Independent State	Guerrilla struggles inside the country
7.	Congo	1963	12.8	French colony until 1960	Colonial struggles for independence

Serial Number	Country	Year Power was Attained	Level of Economic Development, GDP per Capita ^a (USA=100)	Type of External Dependence	Type of Armed Combat
					e, military seizure of power
8.	Somalia	1969	5.4	Italian colony	Military seizure of power
9.	South Yemen	1969	6.0	British colony	Colonial struggles for independence
10.	Benin	1972	5.0	French colony until 1960	Military seizure of power
11.	Ethiopia	1974	4.5	Independent state	Military seizure of power
12.	Mozambique	1975	12.4	Portuguese colony	Colonial struggles for independence
13.	Nicaragua	1979	21.4	Independent state	Armed uprising
14.	Zimbabwe	1980	14.7	Former British colony, in practice independent	Seven-year guerrilla war

Source: J. Kornai (1992, pp.24-25) and is based on the following sources: Row 1: S. N. Prokopovich (1918, p. 66). Row 3: E. Ehrlich (1960, table 8). All other rows: I. B. Kravis, A. W. Heston, and R. Summers (1978, table 4).

^a It would be more expressive to describe the level of economic development of each country by giving the corresponding data for the last year of peace before the revolution, but the scarcity of data made that plan hardly feasible. The unmarked data refer to 1970.

^b The European territory of Russia in comparison to England on the basis of national income per capita in 1913.

^c The datum refers to 1937.

For the countries highlighted in the table, the following are a few of the main attributes shared by their social-political-economic systems, which served as antecedents to the socialist system.

First, the countries in the group were poor and economically undeveloped.¹⁹ This is clearly demonstrated by the fact that their per capita production before the revolution was a fraction of the production of the most developed countries at the time. Second, the proportion of industry was low. They were basically agrarian countries in which the peasants and landless agricultural workers formed the bulk of the population. Third, the modern sector of industry consisting of large factories equipped with up-to-date technology and organized in an up-to-date way was relatively small. Fourth, their social relations and property forms contained many precapitalist features. Fifth, there was striking inequality in the distribution of income, which was far less evenly spread than in the developed countries in the same period. The gulf between rich and poor was instrumental in revolutionizing the population. Sixth, in terms of their political systems, it is notable that not one of the countries listed in the table was a consolidated parliamentary democracy. All had systems that to a large extent suppressed political liberties, and more than a few were brutal dictatorships. Quite a number, if not all the countries in the table, were partial or total dependencies of other states: colonies or semicolonies, countries under military occupation, or simply dependent economically and politically on one or another stronger, more highly developed country. Consequently, the attainment of national independence was on the agenda. In most of these countries there were events in the years before the revolution that shook up the institutions of society: war against an outside enemy, civil war, or repeated insurrections.²⁰

The first four of these attributes clearly conflict with what Marx had expected: socialism does not emerge first in countries where capitalism is overripe and has done all it can to

develop the forces of production. Socialism does not inherit developed, well-organized production concentrated into large units, if one discounts the relatively small modern sector. Moreover, it takes control of a society in the stage of upheaval. The noted points constitute a summary of the main attributes common to the social-political-economic system before the socialist revolution. The inherited backwardness and the other characteristics of the initial state left a deep mark on the forms of socialism that struck root in the Soviet Union, China, and other countries that took the socialist road largely as a result of internal forces. But the majority of the Eastern European countries occupied by the Soviet Union after the Second World War had progressed beyond the low level of development that marked the countries in Table 8.1 at the time of the revolution, especially, Czechoslovakia and East Germany.

II.8.vi. The Transition Stage of Socialism

The period that leads from the presocialist system to the institutionalized classical system can be described as the revolutionary transition stage. The transition took place in different ways in each country, but one can discern common features, mainly in the case of the countries that took the socialist road basically by their own efforts. The exponents of revolution are fired with enthusiasm and a feeling of doing a great deed of historical justice. This stage is often seen as the “heroic age” of socialism.²¹ “Expropriation of the expropriators” begins at once. Part of the factories, banks, and other institutions are taken into state or collective ownership. Work starts immediately on centralizing production and distribution. The most important of the measures of redistribution is to confiscate the great estates of the landowners and divide them among the landless and the poor peasants. What takes place is not simply a wave of nationalization and socialization — it is accompanied by a redistribution of property and income. Note the sharp inequality of the pre-Revolutionary system; the new regime tries to eliminate them as fast as possible. The upper classes are deprived of their high incomes, and most of their property is confiscated. In several places poor families actually move into the homes of the rich. Palaces are taken over by schools and workers’ vacation homes. In most countries this initial revolutionary

transformation takes place in time of civil war or war against an external enemy, when the economy is in a state of disruption. However grave the economic problems are, a campaign of education covering the entire population begins, free basic health care for all is promised, rationing is introduced, and vacations for children are organized.²²

The impulse to dispense historical justice is not expressed exclusively in the redistribution of economic goods. The nobility, the wealthy, and the old regime's leading politicians and officials are also subjected to persecution. Many of them are imprisoned, sent to labour camp, or executed. Physical violence and merciless terror are common accompaniments of revolutionary periods. From the outset the country's population is divided. The question often arises as to what would have happened if Marx's expectations had been fulfilled, if socialism had come to power in the most highly developed countries. The historical fact is that no socialist system has ever been installed in power by internal forces in any developed capitalist country. Numerous attributes of the revolutionary period are understandable in the light of prior events and easily explained by them. No less understandable is the fact that this period can be only transitional, since many of the factors that sustain this system are temporary.²³

In very few cases do revolutionary fervour and self-sacrifice last a life-time. The average person, inspired by a great cause and a mass movement and confident of approaching victory, is capable of self-sacrifice for the community, but only for a short time. After that he wants to get back to normal daily life, and sense the connection between his work, the sacrifices he makes, and his own material welfare. It becomes vital for society to encourage people to perform well by dispensing material rewards and penalties. Once all the wealthy have had everything possible confiscated from them, the scope for that kind of redistribution is exhausted. Production has been set back by the events preceding and following the revolution and the confusion of the transition.²⁴ It becomes clear that production, not confiscation, is the way to continue improving the population's material position. Production, of which the bulk is now in public, collective hands, requires organization and effective control.

The pre-Revolutionary system has left the country backward, and before they came to power the revolutionaries promised that once in power they would eliminate this backwardness. As society emerges from the bloody external and internal warfare and the chance comes for peaceful labour, those in power realize they must fulfil these promises by rapidly increasing the economy's forces of production. They would like to achieve swift and spectacular economic successes. Moreover, they feel the system is threatened militarily, and their desire to increase their military power rapidly trains attention on fast economic growth. Attainment of these goals is now hindered by the anarchy, the lack of law and order, and arbitrary local actions. No society of any kind can function without some sort of discipline. There is a growing demand for order to be restored. All these altered circumstances prepare the ground for the country to step beyond the socialist revolutionary-transitional system. The spirit of revolutionary romanticism and heroism gradually fades and then dies, even in those who were enthusiastic about the revolution before; the new system becomes institutionalized and bureaucratic, and life normalizes. The classical socialist system emerges and consolidates.²⁵

At this point it is worth making a short diversion to consider the specific historical development of Eastern Europe.²⁶ Yugoslavia and Albania basically took the socialist road by their own efforts, and accordingly, the validity of the model outlined above as a summary of the main features of the socialist revolutionary transition can be extended to cover them. But, it was the Soviet Army that eliminated the German military occupation in Bulgaria, Czechoslovakia, Hungary, Poland, and Romania, and occupied East Germany after Germany's military defeat; the Soviet military and political presence in these countries represented an extremely strong support to the Communist party, which wanted to institute a socialist system. The Soviet Union imposed on these countries the socialist system, mainly by enforcing a domestic political situation in which the Communist party was able in the end to attain undivided power. Multiparty parliamentary democracy operated in these countries in the years immediately after the war. They had coalition governments in which the Communist party's weight was greater than its share of the vote. The economy that emerged was a curiously mixed one, with a "regular" capitalist sector on the one hand and socialist elements on the other. A steady process of

nationalization took place. Land reform was carried out on a large scale. This period came to an end around 1948-49 with the amalgamation of the Communist and Social Democratic parties and the elimination of the multiparty system. From then on, construction of a socialist system began with full force, starting straight away with classical socialism. The 1945-49 period in these countries had many of the attributes of the revolutionary-transitional system described above, but it also differed from it in many crucial respects. These differences are explained precisely by the fact that instead of an internally induced socialist revolution taking place in 1945, the pre-1945 system was demolished by an outside force, the Soviet Union.³⁰ A new era of socialist economic system began in Soviet and Eastern European arena.

The composition of place of the socialist system within a global framework allows us to delve into our particular form of search, namely, the motives and engines of economic growth process in the socialist economies. Every economic growth model has a specific structure and a dynamism and the application of such a model could either stagnate development or ignite the economy forward.

NOTES

1. Kornai, Janos, *The Socialist System: The Political Economy of Communism*, Clarendon Press, Oxford, 1992, p.18. Please see the following works summarizing Marx's ideas and Marxism: T. Bottomore, ed., 1983, *A Dictionary of Marxist Thought*, Cambridge: Harvard University Press.; L. Kolakowski, 1978, *Main Currents of Marxism*, 3 vols. Oxford: Oxford University Press.; G. Lichtheim, 1961, *Marxism: A Historical and Critical Study*, New York: Praeger.; and D. McLellan, 1973, *Karl Marx: His Life and Thought*, New York, Macmillan.
2. Marx wrote in 1870: "England alone can serve as the lever for a serious economic revolution. It is the only country where the capitalist form, that is to say combined labour on a large scale under capitalist masters, now embraces virtually the whole of production. It is the only country where the great majority of the population consists of wage labourers. It is the only country where the class struggle and the organization of the working class by the trade unions have acquired a certain degree of maturity...If landlordism and capitalism are classical features in England, on the other hand, the material conditions for their destruction are the most mature here." See, K. Marx, [1870] 1975b, "Confidential Talk," in K. Marx and F. Engels, *Collected Works*, Vol. 21, New York: International Publishers, pp. 112-125. Engels also argued in a similar way that "countries which are only just turning over to capitalist production now" might arrive at socialism, but "the indispensable condition for that is the example and active assistance of the hitherto capitalist West." The more backward countries, he argued, could only set out on the road to socialism "if there has been an advance beyond the capitalist economic system in its own native land and in the countries where it has flourished." See, F. Engels, [1894] 1963, "Nachwort (1894) [zu 'Soziales aus Russland']," in Karl Marx, Friedrich Engels Werke. Vol. 22, Berlin: Dietz Verlag, pp. 421-35, in J. Kornai, op. cit. p. 19.
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16. Kosygin, Alexei, [1965] 1969, *On Improving Management of Industry*, in *The Soviet Economy*, edited by Morris Bornstein and Daniel R. Fusfeld, Richard D. Irwin, Inc., Homewood, Illinois, pp. 387-97.
17. Nove, Alec and Nuti, Domenico M., eds., 1972, *Socialist Economics*, Middlesex, England, Penguin Books, pp. 9-10.
18. Sutela, Pekka, 1991, *Economic Thought and Economic Reform in the Soviet Union*, Cambridge, Cambridge University Press, pp. 130ff.
19. See, Mao, Zedong, [1938] 1977, *On the Ten Major Relationships*, in *Selected Works*, Vol. 5, Beijing: Foreign Languages Press, pp. 284-307. In 1956, he said: "Our two weaknesses are also strong points. As I have said elsewhere, we are first 'poor' and second 'blank.' By 'poor' I mean we do not have much industry and our agriculture is underdeveloped. By 'blank' I mean we are like a blank sheet of paper and our cultural and scientific level is not high...This is not bad. The poor want revolution, whereas it is difficult for the rich to want revolution. Countries with a high scientific and technological level are overblown with arrogance. We are like a blank sheet of paper which is good for writing on."
20. Kornai, Janos, *The Socialist System: The Political Economy of Communism*, op. Cit., p.22-23.
21. Kritsman, L. N., 1926, *Geroicheskiei period velikoi russkoi revoliutsii-opyt analiza t. n. voennogo kommunizma*. (The Heroic Period of the Great Russian Revolution: An attempt at analysis of so-called War Communism). Moscow: Gosudarstvennoe Izdatel'stvo. The period of War Communism is one historical realization of the prototype referred to in J. Kornai's book as the "revolutionary-transitional system." See, Kornai, op. cit., pp. 18-30.
22. Kornai, Janos, *The Socialist System: The Political Economy of Communism*, op. Cit., p.27.
23. Ibid., p. 28.

24. In the Soviet Union, for instance, industrial production in 1920 had fallen back to 21 per cent of the 1917 level. See, L. N. Kritsman (1926, p. 80).
25. Kornai, Janos, *The Socialist System: The Political Economy of Communism*, op. Cit., p.29.
26. Of the writings on the political history of the Eastern European countries between 1945 and 1949 and the role played in it by the Soviet Union, mention should be made of the following: I. Bibo, [1945] 1986a, "A magyar demokracia valsaga" (The crisis of Hungarian democracy), in I. Bibo Valogatott tanulmanyok, Masodik kotet, 1945-1949 (Selected studies, Second volume, 1945-1949). Budapest: Magveto, pp. 13-79; also, I. Bibo's, "A magyar demokracia merlege" (An evaluation of Hungarian democracy)[1946] 1986b, pp. 119-83.; Brzezinski, Zbigniew, [1961] 1967, *The Soviet Bloc: Unity and Conflict*, Cambridge, Harvard University Press.; Hammond, Thomas T., ed., 1975, *The Anatomy of Communist Takeovers*, New Haven: Yale University Press.; Gati, Charles, 1984, *The Democratic Interlude in Post-War Hungary*, Survey, Summer, 28 (2), pp. 99-134.
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CHAPTER NINE

THE STRUCTURE AND DYNAMICS OF SOCIALIST ECONOMIC GROWTH MODELS

The socialist principle evolved into a concrete socialist reality through the institution of a nation (Soviet and its satellite nations). New forms of socio-economic and political structures were to be framed to contain this new reality. The already existing non-socialist forms were substantially dismantled to weave a novel design for the structure of the socialist state. The utopian abstraction of a principle dictates the norms of this new phenomenon. The vision of comprehensive equality and self-sufficiency is to be translated into day to day living reality. The agents of socialist state began to frame methods and strategies and models to achieve the socialist objective. This chapter tries to clarify the socialist objective and tries to understand the factors that determine the rate of growth under the classical socialist system, and the social costs of the growth process.¹

II.9.i. Expansion - Investment Motive

As we have noted in the previous chapter, by and large, the advocates of socialist revolution came to power in countries that had been poor and backward. "In every backward country, whether a socialist system is in power or not, the signs can be observed of an impatience typical of the 'late arriver,' an oppressive awareness of having fallen seriously behind the more developed, wealthier countries."² This impatience, manifest in every developing country, is amplified in the case of socialist countries by a promise the socialist revolutionaries made before their victory: they would eliminate the backwardness very quickly once they were in power. This is among the ideas that brought broad strata in society over to their side. This promise rests on a belief that they can catch up with the developed countries quite fast by virtue of the socialist system's superiority. This belief is a major constituent of the official ideology. The leaders insist on fast growth because it will provide further evidence of that superiority. Also, the imperative to catch up faster

with the more developed countries is reinforced by military and defense considerations. Modernization and economic strength are needed to create an army with striking force, as desired by Stalin, Khrushchev and Mao [It is worth quoting a speech of Stalin in 1931.³ Please refer the note for more details]. The top leaders want to impose with an iron hand a policy of the fastest possible growth. This is the leitmotif of the annual and five-year plans. It is expressed in the production plans, which are intended to maximize growth in value and outrank all other instructions, in the quantity drive apparent also in management, and in the highly ambitious plans for investment.

It should be stressed, however, that a forced rate of growth is not a policy the upper leadership need compel the middle-and lower-level leaders to follow against their general will. On the contrary, these people already have a strong inner *expansion drive*. The medium-and lower-level members of the bureaucracy are imbued by the same political conviction as the leaders. Leaders at all levels of the bureaucracy consider that their power and prestige grow in accordance with the expansion of the unit they lead, and so do their financial rewards in many cases.⁴ Under the classical socialist system there is an additional major factor: middle-and lower-level leaders recognize the chronic shortage of the products or services their ministry, branch directorate, or firm provides. The pressure of unmet demand also pushes them to expand. In addition, the difficulties they encounter in obtaining their own inputs may prompt them to produce these within the firm or branch, which again requires investment.

Some of the impulses listed are system-specific, but others apply equally to bureaucratic leaders under capitalism, not just socialism. One might add that expansion drive is very strong not only among appointed, employed bureaucratic leaders but among capitalist entrepreneurs, who expect expansion to bring greater profits, and so greater power and prestige. The main system-specific distinction lies not in the actual effort to expand but in the internally generated self-restraint that runs counter to it. In the eyes of capitalist firms' owners (or managers charged with running them on their behalf), expansion is an attraction, but also a big risk. They have to consider carefully whether the products of the enlarged company will be saleable, and if so, at what price and profitability. Any loss

caused by a faulty investment decision hits them in the pocket. Though they expand in the hope of doing good business, the risk of doing bad business limits unbridled expansion.

This is the curb that the classical socialist system removes. Because of the chronic shortage, the extra production resulting from the expansion can probably be sold. Because of the soft budget constraint, the firm can reckon that liquidation will not follow any faulty investment decisions, however high the costs and financial losses may be. A great many people at all levels of the hierarchy have a part in an investment decision, but no loss incurred will hit any of them in the pocket. Expansion drive is a fact of life for the bureaucracy. This feature of bureaucratic behaviour is seized upon in the models in which the objective function of a bureaucrat is to maximize the budget at his disposal.⁵ “And because this system has only bureaucrats and no real owners, there is an almost total lack of internal, self-imposed restraint that might resist this drive. The investment hunger is ubiquitous.”⁶ Among the basic problems of the capitalism described by Keynesian macroeconomics is that entrepreneurs lack a strong enough desire to invest, precisely because of the self-restraint. The antidote is to stimulate entrepreneurs’ “animal spirits,” that is, expansion efforts.⁷ This problem is entirely absent under classical socialism, where the investment hunger is insatiable. But, there remains a strong and effective curb, and this is set by the process of bureaucratic allocation of investment, which fixes investment quotas and requires permits for investment projects.

II.9.ii. Allocation - Investment Tension

The control of the investment process is far more strictly centralized than day-to-day production. On the one hand, the national economic plan distributes investment funds among the various ministries in the course of the planning and decision-making process. The disaggregation of the funds proceeds from the top downward in the customary way.⁸ On the other hand, the central plan decides case by case which, out of the set of all investment projects, will be the priority projects. It is determined centrally what the installation resulting from each priority investment project will produce, what technology it will use, where it will operate, when it should be ready, and how much it should cost to

establish. As for the execution of the investment plans, there is excess demand for investment goods and services called in economic parlance ‘investment tension.’ Taken together, the investment projects that have been officially approved require more inputs than are physically available. This is a horizontal shortage that appears in the relation between the supplier and the utilizer of investment goods. Normally, no project in progress is halted fully, not least because each has its powerful advocates in the bureaucracy. Instead, the holdups cause a number of different projects to slow down simultaneously. This practice leads to a dissipation of investment, severe lengthening of the approval and completion time,⁹ and a large increase in the costs.

II.9.iii. Structure of the Growth Process

We shall examine the structure of the growth process. The first problem to study here is the breakdown of the expenditure of gross domestic product and the proportion of it used for investment. The investment proportion in most periods is appreciably higher in most socialist countries than in most capitalist countries.¹⁰ This is illustrated in Table II.9.1, which presents some comparative data.

TABLE II.9.1

SHARE OF INVESTMENT IN GDP: International Comparison

Investment as Percentage of GDP

	1980	1988
<i>Socialist Countries</i>		
Bulgaria	28	27
China	24	32
Czechoslovakia	27	26
East Germany	24	27
Hungary	29	21
Poland	25	23
Soviet Union	30	30
<i>Capitalist Countries</i>		

Brazil	23	22
France	23	21
West Germany	23	20
India	19	21
Italy	24	22
Netherlands	21	22
Spain	22	24
United States	17	17

Source: P. Marer et al. (1991).

The proportion of GDP spent under the classical socialist system on maintaining the bureaucratic apparatus and funding the armed forces is no smaller than in capitalist countries. "More can go on investment only if less is spent on consumption, meaning direct, individual consumption by households and collective consumption contributing to public well-being."¹¹ Mention has been made of the country's leaders' impatience to achieve the fastest possible growth. Here one should add that they see as the main means of achieving it as large a scale of investment as possible. "In the language of growth theory, they have dangling before them (even if they never heard of one) a Harrod-Domar model with just a single factor of production: capital. To their extremely simplified reasoning, the larger the proportion for investment, the faster the rate of growth."¹²

Table II.9.2 shows that investment in fixed assets grows appreciably faster in the socialist countries that feature here than it does in the capitalist countries with which they are compared.

TABLE II.9.2

Growth of GDP and Capital Investment: International Comparison

Average Annual Growth Rates, 1950-79

	GDP	Gross Fixed Capital Investment
Socialist Countries		
Bulgaria	5.43	10.89
Czechoslovakia	3.67	6.11
East Germany	3.77	8.52
Hungary	3.64	8.85
Poland	4.12	9.70
Romania	5.81	11.33
Soviet Union	4.95	8.02
Capitalist Countries		
Australia	4.54	4.43
Canada	4.57	4.36
Finland	4.48	4.54
Greece	6.20	7.16
Italy	4.92	4.79
Netherlands	4.58	5.10
Norway	4.15	4.93
Sweden	3.69	4.18
West Germany	4.85	5.69

Source: F. L. Pryor (1985, p. 76)

It is also worth noting that the gap between the growth rates of investment and GDP is far wider than in most of the capitalist countries. This confirms indirectly the observation made above regarding the forced expansion of investment. The table also records the low efficiency of investment: for output to rise over a long period by, say, 4-6 percent a year, investment has to grow by 8-11 percent a year. This is among the factors that impel the leaders of a socialist economy to enforce a high investment proportion. “The country’s leadership not only wants a high investment proportion, it is fully able to impose its will.

Never, under any previous system in history, has so small a group of people kept so tight a hold on the nation-wide investment-consumption ratio.”¹³

Economists argue about the ex ante causal relationship between investment and saving under the capitalist system. What one certainly can say is that both investment and saving are thoroughly decentralized processes in the hands of millions of decision makers. Also, in a high proportion of cases the two kinds of decision are separate, although voluntary saving influences investment and vice versa. This contrasts with the case under classical socialism. There investment decision making is extremely centralized and embraces decisions on saving as well. The saving, that is, nonconsumption, equals the amount the central authorities see fit to withdraw from consumption for investment purposes, whether the households, owners of the personal incomes, like it or not.¹⁴ The economic concept of saving becomes a negative notion in a socialist model of growth.

The puzzle to solve is to find out, what, if anything, limits the growth in the proportion of investment and the concomitant fall in the consumption proportion? As already shown, the classical socialist system lacks an automatic economic mechanism equivalent to the one operating under capitalism, namely, the interactions among individual savings and investment decisions, the capital market, and the commercial banking system. The country's leadership feels at most indirectly the limits to what the public can tolerate. These tolerance limits restrain the cutback in consumption (public's material welfare).¹⁵ Looking at the whole historical tendency of the classical system in the consolidated socialist countries, one sees a significant rise in consumption.¹⁶ But even in these countries, the consumption growth rate lags a good way behind GDP growth. In some, such as China, per capita consumption more or less stagnated for a long period.¹⁷ The micro motives of the bureaucracy and the macro policy of the central authorities coincide: the central leadership's decision in favour of a high investment proportion expresses the desire and purpose of the whole power elite.

II.9.iv. The Ideology of Future Orientation

“The philosophy of historical ‘functionalism’ would suggest that the institutional system of classical socialism and the motivation of the bureaucracy are as they are because that best helps a backward country to catch up. The political-economic-ideological mechanism indispensable to forcing fast growth emerges out of the impatient haste of a poor, undeveloped country.”¹⁸ Given the undivided power and official ideology of the Communist party, coupled with bureaucratic public ownership, the combined effect of all the factors is a forced rate of growth. Establishing the proportions of investment and consumption ties in closest with the problem sphere known in neo-classical economics as decision makers’ time preference. The official ideology of classical socialism sought to proclaim the leadership’s “future orientation,” namely, request of a sacrifice from the present generation for a better life in the future. Mátyás Rákosi,¹⁹ Hungary’s leader in the Stalin period, put it succinctly: “We won’t kill today the hen that will lay golden eggs in the future.” In characterizing the time-preference system in the age of forced growth, three phenomena can be distinguished. These marks of forced growth are extremely grave sacrifices by the public and conspicuous postponement and neglect in several development areas. The policy is not notably far-sighted: maximizing the growth rate attainable in the next decade or two is preferred not only over present and future consumption but over laying the foundation in the present for production in the more distant future.²⁰ [Whereas sacrifice concerns a flow of consumption, postponement concerns the accumulation of stocks serving consumption; and neglect occurs particularly in processes that demand ‘organic’ development (fields such as higher education, health, or environmental protection). If in such cases specific tasks are neglected for decades, there is no way to compensate later by sudden resource reallocation or remedial campaigns of action---e.g. oil spill and pollution).]

II.9.v. The Priorities of the Sectoral Structure

An examination of the priorities of the socialist state reveals the structure and dynamism of the socialist economic growth models more clearly. The discussion of priorities applied in the allocation of investments begins by looking at the ‘sectoral structure.’

1. Priority of investment goods: the sectors developed are primarily those that directly cause an increase in fixed capital, that is, the production of investment goods.
2. Priority of domestic production over imports: The development of the sectoral structure is stamped by the pursuit of autarky.²¹
3. Priority of the production sphere: a distinction is made in Marxian political economy between “productive” and “non-productive” activity. A practical meaning is attached to this in the planning and statistics of the socialist countries: manufacture of tangible material goods is viewed as the “productive sphere” and provision of most services as the “non-productive sphere.”²² The priority: the productive sphere must have an investment advantage over the non-productive, in other words, the production of material goods over services.²³ Under capitalism, as far as the allocation of resources for public services is concerned, this is subject to the democratic political process, at least in a parliamentary democracy. The public service sphere cannot be neglected so long as the parties representing the majority of the public are willing to vote the sums for developing such services. By contrast, the allocators under the classical socialist system are not subject to any democratic control.
4. Priority of class-one production: Marxian political economy makes a further important distinction, between class-one and class-two production. The former makes means of production and the latter consumer goods.²⁴ The priority: class one must enjoy an investment advantage over class two.
5. Priority of industry: Industry is considered to be the engine of growth. The strategy of forced growth primarily means fast industrialization. The priority: industry must have an investment preference over all other branches of the economy. The observation is illustrated in Table II.9.3.

TABLE II.9.3

Industrial^a Investment as a Percentage of Total Investment:
International Comparison

Annual Averages at Constant Prices

	1965-73	1973-83
Socialist Countries		
Bulgaria	44.5	42.3
China ^b	51.5 ^c	54.0 ^d
Czechoslovakia	37.6	38.0
East Germany	50.2	-
Hungary	34.8	34.2
Poland	38.8	38.0
Romania	47.9	49.3
Soviet Union	35.0	35.3
	1965-73	1973-80
Capitalist Countries		
Belgium	28.7	24.9
Denmark	16.1 ^e	16.7
Finland	24.6	27.1
France	24.6	23.9
Ireland	25.9	29.0
United Kingdom	31.3	32.4
West Germany	25.6	24.4

Source: J. Kornai (1992, p. 175), on the basis of United Nations (1986c, tables 13 and 16), and Central Statistical Office, Budapest (1986, p. 28).

^a In the socialist countries industry covers manufacturing, energy and fuel-producing branches. In capitalist countries industry covers manufacturing, energy, and fuel-producing branches, and the electric, gas, and water utilities.

^b State Investment at current prices.

^c 1953-62.

^d 1971-80.

^e 1966-73.

6. Priority of heavy industry: According to the prevalent official view under the classical system, mechanization is the prime means of raising productivity and producing technical development. Large quantities of steel and other metals are used in both machinery and arms manufacturing. The priority: the industrialization preference must be given primarily to heavy industry, and within it to machinery and steelmaking.²⁵

“Rigid adherence to the priorities listed here leads to a disharmonious, deformed sectoral structure. In the early decades of forced growth, the extreme centralization of resources appears to succeed in speeding up the rotation of the internal spiral, as the priority sectors grow very fast. Meanwhile, other sectors fall behind, some of them very seriously. The farther they are from the internal spiral, the less they impede its rotation, at least for a time, and the more they are relegated. Sectors mainly producing consumer goods fall behind, and so do services, with housing construction, communal services, and trade affected particularly seriously. Agriculture and transportation fall behind as well.”²⁶ Accompanying all this are the three phenomena noted earlier, namely: grave sacrifices by the generation living in the period of forced growth; postponement of nonpriority, relegated tasks and accumulation of postponed tasks to the detriment of future generations; and finally, cases of neglect and irreparable damage.²⁷

7. Priority of the arms industry: The investment demands of the armed forces, including both the army and the police, receive unconditional priority over civilian development tasks.²⁸ The establishment of factories for purely military purposes receives particularly close attention when investment funds are allocated. This can only be gathered in part from the published plans, since a high proportion of the investments for military and police purposes are kept secret.

II.9.vi. Development of the Microstructure

While the above mentioned are priorities to do with sectoral proportions, the following priorities apply in the development of the microstructure.

1. Priority of new installations: Those running the economy seek to set up as many new factories as possible while neglecting properly to maintain the old, existing ones. The motivation is mainly political.²⁹ Establishment of a brand new factory makes a far more spectacular example of overcoming backwardness and of achieving fast development than the drudgery of carefully maintaining an old factory's machinery and premises. The policy of forced growth needs this construction fervour, because the worker's enthusiasm is viewed as a production-boosting factor.
2. Priority of big installations: Those in charge of the economy are attracted to the big, and even more to the vast. Often a veritable "cult of scale" and gigantomania emerges.³⁰ Several factors push decision makers in the direction of this priority. The first is the expectation of economies of scale from larger size and output volume.³¹ But in practice, the greater volume is accompanied by extra costs as well as savings. The balance of the two determines the optimum size of a factory from the purely economic point of view.³² The factory size most advantageous at a particular place and time depends on the nature of the sector, technology, ability of the managers, market structure, and many other factors. This explains why organizations of various sizes live side by side in market competition. By contrast, in the forced growth process often giant firms and institutions appear where several medium-sized or even small units would be more efficient. One can certainly say that an indiscriminate preference for establishing larger units does not contribute to the fast rate of growth. Considerations of power play a part equal to economic criteria or even greater.
3. Priority products and investment projects: Among the several thousand priority products, one can discern a smaller set consisting of "most important products of all."³³ These receive special attention not only in the annual plans and the execution of them but in the allocation of investments and the implementation of investment decisions. Everything said about the forcing of growth, about rush, and about

impetuous haste can be experienced tangibly in the sequence of events surrounding a priority investment project. From one point of view the one-sided attention to “priority products” and “priority investments” likewise belongs to the postponement sphere. If output of a priority product grows fast, the fact can be announced in plan reports. If a priority investment project is completed, it immediately supplies a graphic achievement. The relative lag in the production of the other, nonpriority products, the neglect of parallel construction of the ancillary production apparatus, and the half-hearted, less attentive handling of the nonpriority investment projects only make their braking effect felt after some, although the effect comes in the end. This breeds a great many stoppages in production and is one cause of the chronic shortage.³⁴

4. Economic development at the expense of the environment: Production growth takes place at the expense of environment. Damaging the natural environment is not system-specific. All other social systems are susceptible as well; it is among the grave drawbacks of the capitalist system. Many thought environmental damage would be ended precisely by the abolition of the greed and selfishness of private property. But it did not happen. The bureaucracy of a classical socialist system in the midst of forced growth, rush, and importunate haste is even more short-sighted in this respect than the decision makers of other systems. This combines with a system-specific disadvantage: there is no way of organizing in society independent, strong environmental movements capable of confronting the economic decision makers if necessary. We illustrate just one example in the following Table.II.9.4.

TABLE II.9.4

AIR POLLUTION: International Comparison, 1985

Sulfur Oxides

(kg per head of population)

Socialist Countries	
Czechoslovakia	203 ^a
East Germany	300
Hungary	132
Poland	116
Capitalist Countries	
Austria	18 ^a
Finland	73
France	31
Ireland	39
Portugal	32
Spain	75
United Kingdom	65
United States	90
West Germany	42

Source: J. Kornai (1992, p. 179).

Note: Levels of industrial development and car density, on the one hand, and sulfur oxide pollution of the atmosphere, on the other, show a strong positive correlation. It is a sign of acute neglect of environmental protection that air pollution began to build up at a comparatively low level of economic development.

^a Sulfur dioxide only.

Failure to protect the environment is among the instances of postponement (and to a degree irreversible neglect). It cannot go on forever, for it sooner or later starts slowing production too, and its ill effect on the quality of life fuels public discontent.

One can conclude at the end of this survey of priorities that the list is certainly not complete but probably includes the most important of them. For those who like to think in a framework of optimization models, the goal of forced growth can be defined as follows:

The purpose is not maximization of social welfare in the broad sense. The time scale for the maximization task is not infinite, and not even truly “long-term” when measured on a historical scale. The goal is far more limited and short-sighted than that: to maximize the growth rate of aggregate output as recorded in the official statistics, and to do this on a historical scale only in the “medium term,” in other words, for the next decade or two. This is the purpose served by the priorities outlined above, which are capable of promoting a faster growth rate only for a time.³⁵ As a consequence of these priorities, the structure of the economy becomes disharmonious and sets in that disharmonious state.

II.9.vii. Extensive and Intensive Methods

Let us now examine the relations between the production factors and output in the growth process. We can list the factor-output relationships under two main groups. The first group contains the effects caused by the growth of some factor. For instance, the stock of capital or the total labour expended on production grows, and that causes output to grow proportionally. The second group covers the effects caused by the growth of the productivity of some factor. For instance, more efficient use is made of capital or labour, and that causes output to grow. “This distinction and the accompanying terminology are quite widespread among Western writers, but writers in the socialist countries prefer to use another pair of expressions, distinguishing between ‘extensive’ and ‘intensive’ methods. The two pairs of expressions are synonymous: factor growth equals extensive methods, and factor-productivity growth corresponds to intensive methods.”³⁶ In our study, we follow, the “Eastern” terminology. Strict dividing lines between various extensive or intensive methods can only be drawn in the framework of abstract analysis. In practice, they normally appear together. (See Appendix II.9.3.)

The dominance of extensive methods is explained primarily by the fact that the socialist system usually comes to power in backward, slow-growing countries that make poor use of their resources from the extensive point of view. Therefore, there are numerous opportunities for extending the utilization of them. We note the following:

1. Growth in the number of employed.

2. More shifts and lengthening of working hours.
3. Growth in the area farmed.
4. Wider exploitation of mineral wealth.

The situation that results resembles war-time conditions under other systems. Even in peace-time, classical socialism has a ‘mobilization economy’.³⁷ A “war-consciousness” is instilled constantly by the official ideology: building the economy is a battle against backwardness and enemies without and within, from which no one and nothing can withdraw. The struggle demands mobilization of all able-bodied men and all material resources.

Let us now turn to the discussion of various intensive methods, with the advance comment that they appear in combination with each other in the practice of forced growth.

1. Intensity of labour.
2. Technical progress.
3. Development of manpower skills.
4. Organizational improvement.
5. Quantity at the expense of quality.
6. Overintensive use of service capacity.

To sum up, under conditions of forced growth, extensive methods predominate, complemented by intensive methods, which have sometimes harmful effects. This general qualitative conclusion is supported by numerous econometric analyses. Table II.9.5 gives extracts from some calculations as an illustration.

TABLE II.9.5

Share of Factor Productivity in the Growth of Output:

International Comparison

Average Annual
Rate of Change

	Period	Output	Factor Productivity	Share of Factor Productivity in Growth of Output
<i>Socialist Countries</i>				
Czechoslovakia	1960-75	3.0	1.0	0.33
	1976-80	2.2	0.7	0.29
	1981-88	1.4	0.1	0.07
Poland	1960-75	5.1	2.4	0.47
	1976-80	0.7	-0.6	-
	1981-88	0.8	0.2	0.40
Soviet Union	1960-75	4.6	1.2	0.26
	1976-80	2.3	0.5	0.22
	1981-88	1.9	0.5	0.13
<i>Capitalist Countries</i>				
France	1960-73	5.8	3.9	0.67
	1973-79	2.8	1.7	0.65
	1979-88	1.9	1.5	0.75
Japan	1960-73	10.8	6.6	0.61
	1973-79	3.6	1.8	0.43
	1979-88	4.1	1.8	0.43
United Kingdom	1960-73	2.9	2.2	0.76
	1973-79	1.5	0.5	0.60
	1979-88	2.2	1.9	0.95

Source: J. Kornai (1992, p. 187), based on the following sources: Socialist Countries: 1960-75: P. R. Gregory and R. C. Stuart (1980, pp. 378-79); 1976-80 and 1981-88, output: Soviet Union, 1976-80, A. Aslund (1989, p. 15), all other data are from P. Marer et al. (1991); factor productivity: M. Mejstrik (1991, p. 27). Capitalist Countries: 1960-73: J. W. Kendrick (1981, p. 128); 1973-79 and 1979-88, output: OECD (1990, p. 48); factor productivity: M. Mejstrik (1991, table 2a).

Note: The measure of output is GNP, except for capitalist countries in the periods after 1973, where the measure of output is GDP.

From the last column on the right-hand side of the table it is apparent that total factor-productivity growth—that is, application of intensive methods — made a relatively modest contribution in the classical socialist countries to overall growth. The table shows clearly that this is a system-specific characteristic: the growth in factor productivity made a conspicuously bigger contribution to growth under the capitalist system in the same period.

II.9.viii. Phenomenon of Cycles-Fluctuations in Growth

Let us now turn to the considerations of certain dynamic characteristics in growth. Three kinds of fluctuation can be distinguished. (See, Appendix II.9.4.)

1. “Calendar” pulsation. (Annual plans)
2. Endogenous investment fluctuation.
3. Changes in political line.

There are successive stages of sudden braking, slowdown and stagnation, cautious revival, and unbridled expansion, after which the braking and a similar succession of phases return. Then the cycle recommences, repeating itself constantly.³⁸ The entire cycle takes place amid conditions of rush, expansion drive, investment hunger, investment tension, and chronic shortage. Also, a change in the political power relations or the stance taken by the leader can lead to sudden, dramatic turns even during the same person’s period in power. Examples include the transition from War Communism to the NEP under Lenin, from slow development of co-operatives to swift and aggressive collectivization under Stalin, from the liberal policy of “letting a hundred flowers bloom” to the “Great Leap Forward” under Mao. In other cases the sharp change comes when an old leader dies and his successor takes a new policy course. Whatever the case, these sudden changes of line have far-reaching effects on the economy, producing great swings in a whole range of indices.³⁹

The various kinds of fluctuation just described are not mutually exclusive.⁴⁰ One thing can certainly be said: socialist planning has belied the hope that it would produce smooth growth free of the fluctuations, standstills, and setbacks of capitalism. Although the

fluctuations under socialism are induced by different mechanisms and have different consequences than those under capitalism, wave motions exist and cause damage of a great many kinds.

II.9.ix. The System-Specific Growth Type: Forced Growth

We shall conclude this chapter by pointing out the system-specific growth type. The literature has given a variety of names to the classical socialist system's specific type of growth: forced growth, rush, and haste.⁴¹ In our survey we have already noted a few main features of the growth process typical of the classical system, and the sum of these main features defines the type of forced growth. The word "forced" implies that the acceleration of the tempo, rather than arising from an integral, self-propelled movement in society, is compelled from above by the bureaucracy. The word "forced" also implies that the system tries to run faster than its legs can carry it. This typical combination of main features may be summed up as follows:

1. very high investment and low consumption proportions.
2. a specific set of priorities.
3. accelerated utilization of the obvious potentials for extensive development; quantity drive at the expense of quality. One is not justified in calling this combination of main features a definite "growth strategy." "Strategy" implies the kind of plan selected consciously by military commanders, whereas the elements of conscious choice in forced growth are diluted with spontaneous, concomitant phenomena, and even trends that develop in spite of the leadership's wishes. Priorities 1 to 6 (as we have outlined above) are applied consciously, influenced by the ideas of Marx and Lenin and other contributions to the official ideology. But no one adopts a conscious policy of neglecting quality, overstretching utilization of the service sphere, damaging the natural environment, in some periods reducing consumption, and so on. Yet the combination of main features forms an organic whole: the planned and spontaneous priorities, conscious and instinctive methods, and desired and undesired consequences

go together. After all, these features were not chosen according to a particular planner's own preferences. This type of growth and the accompanying behaviour and mutual relations of those taking part are formed largely by their social situation, which circumscribes their scope for decision making. A combination of prevalent power structure, ideology, property relations, and co-ordination mechanisms, together with the system's initial state characterized by poverty and backwardness, sets the process of growth on the system-specific path which we have described.⁴²

Our survey of the structure and dynamics of the socialist state unveils the nature of a veiled economic system. The question that arises at this stage is "how can this happen?" There are various ways of answering this question. Our method would be to follow a set of basic socialist economic growth models which were shaped to bring about the objective of the socialist state. In other words, this would be an examination of the features of forced growth in the light of the diverse theoretical literature on growth.

NOTES

1. Kornai, Janos, *The Socialist System: The Political Economy of Communism*, Clarendon Press, Oxford, 1992, pp.160ff.
2. Gerschenkron, Alexander, 1962, *Economic Backwardness in Historical Perspective: A Book of Essays*, New York, Praeger.
3. Stalin, 1947, p. 356: "One feature of the history of the old Russia was the continual beatings she suffered for falling behind, for her backwardness...We are fifty or one hundred years behind the advanced countries. We must make good this distance in ten years. Either we do it or they crush us."; Stalin's successors repeatedly returned to the same notion. For instance, Khrushchev said at a press conference during his visit to the United States: "Q. It is frequently attributed to you, Mr. Khrushchev, that you told a diplomat at a reception that you would bury us." To which, he replied: "My life would be too short to bury every one of you if this were to happen to me...At the reception, I said that in the course of historical progress and in the historical sense, capitalism would be buried and communism would come to replace capitalism." In N. S. Khrushchev, 1959, *Let Us Live in Peace and Friendship. The Visit of N. S. Khrushchev to the USA*, Moscow, Foreign Languages Publishing House, pp.76-77.; The haste comes across in the name Mao gave to one phase in China's economic history: the "Great Leap Forward." One of the major slogans of the Great Leap Forward was "Surpassing Britain and catching up to the United States (in the economy) within fifteen years." Quoted in Kornai, p. 161
4. Kornai, Janos, *The Socialist System: The Political Economy of Communism*, op. cit. pp. 118-119. In this section Kornai explains the motivation of leaders in the economic bureaucracy.
5. See, Niskanen, Willaim, 1971, *Bureaucracy and Representative Government*, Chicago: Aldine.
6. Kornai, Janos, *The Socialist System: The Political Economy of Communism*, op. cit. p. 163.
7. Keynes, John Maynard, 1936, *The General Theory of Employment, Interest and Money*, London: Macmillan, p.162.
8. Kornai, Janos, *The Socialist System: The Political Economy of Communism*, op. cit. pp. 111ff. Also see, E. A. Hewett, 1988, *Reforming the Soviet Economy. Equality versus Efficiency*, Washington, D. C.: The Brookings Institution., ch.4.; and H. Harding, 1981, *Organizing China: The Problem of Bureaucracy (1949-1976)*, Stanford: Stanford University Press.
9. The process of obtaining permission takes so long that by the time the decision is made, the project is obsolete. In the Soviet Union in the 1980s, 25 percent of the projects had been devised ten to twenty years earlier. See R. Judy and R. Clough, 1989, "Soviet Computer Software and Applications in the 1980s." Bloomington: Hudson Institute, Working Paper HI-4090-P. Also see, T. Bauer, 1981, *Tervgazdasag, beruhazas, ciklusok* (Planned economy, investment, cycles), Budapest:

Kozgazdasagi es Jogi Konyvkiado; A comparison of investment projects in a number of industries shows that in the 1960s it took between twice and five times as long to complete a project in Hungary as it did in Japan. See, Z. Pacsi, 1979, *A megvalosulasi ido szerepe es alakulasa a beruhazasokban* (Construction periods of investment projects), *Penzugyi Szemle*, August/September, 23 (8-9), pp. 628-38. In another study, Y. Qian and C. Xu, demonstrate in a formal model that because of the soft budget constraint, socialist economies rely heavily on bureaucratic procedures for pre-screening investment projects as their optimal organizational response to the problem of investment hunger. As a result of these bureaucratic procedures, projects are delayed and promising projects may be rejected. See their manuscript, "Innovation and Financial Constraints in Centralized and Decentralized Economies", Cambridge: Department of Economics, Harvard University, 1991. Quoted in Kornai, p. 163.

10. Kornai, Janos, *The Socialist System: The Political Economy of Communism*, op. cit. pp. 166.
11. *Ibid.*, p. 167.
12. *Ibid.*
13. *Ibid.*
14. In a planned nonconsumption economy, the role of saving is a thorny issue. Of course, as Kornai points out, an "investment equals saving" formula applies ex post under both capitalism and socialism. But this is a balance-sheet identity that has nothing to do with the ex ante causal problem, that is, with the degree to which the investment decision makers are influenced by past and expected future savings, and in reverse, how the decision makers on saving are influenced by the investment opportunities and the incentives connected with them.
15. In China in the period of the Great Leap Forward, the leadership's position was often characterized by quoting an old Chinese proverb: "Horses are required that gallop fast but don't need feeding." Quoted in Kornai, p. 169.
16. Kornai, Janos, *The Socialist System: The Political Economy of Communism*, op. cit. pp. 302ff.
17. In China, the real wages of workers in state firms declined by 11.6 percent between 1957 and 1978. See, State Statistical Bureau, People's Republic of China, 1985, *Statistical Yearbook of China*, 1985, New York: Oxford University Press.
18. Kornai, Janos, *The Socialist System: The Political Economy of Communism*, op. cit. p. 169. For a discussion of the issues mentioned here, see the following: A. Nove, 1964, *Economic Rationality and Soviet Politics or Was Stalin Really Necessary?* New York: Praeger; For a survey of recent Soviet debates, see A. Nove, 1989, *Glasnost' in Perspective*, Boston: Unwin and Hyman; In their monumental history of Soviet industrialization and collectivization, E. H. Carr and R. W. Davies [1969] 1974, implicitly adhere to the point of view that Stalin was the outgrowth of a particular growth strategy. See their book, *Foundations of a Planned Economy*, New York, Macmillan; For a discussion of the perceived need for coercion through the eyes of the

Soviet economists of the 1920s, see A. Erlich, 1960, *The Soviet Industrialization Debate, 1924-28*, Cambridge: Harvard University Press.

19. Rakosi, Matyas, [1950] 1955, "*Legyen a DISZ partunk biztos tamasza!*" (Let the Democratic Youth Organization be a firm foundation of our party!), in M. Rakosi, *A bekeert es a szocializmus epiteseert*. Budapest: Szikra, pp. 234-46.
20. Kornai, Janos, 1972, *Rush versus Harmonic Growth*, Amsterdam: North-Holland.
21. Kornai, Janos, *The Socialist System: The Political Economy of Communism*, op. cit. p. 171.
22. A clear exception to this is transportation, which according to Marx is productive, as an extension of production beyond the factory gates. The classification of commerce is ambiguous, since it combines both productive and non-productive elements. For the statistical classification problem, see J. Arvay, 1973, *Nemzeti termeles, nemzeti jovedelem, nemzeti vagyon* (National production, national income, and national wealth), Budapest: Kozgazdasagi es Jogi Konyvkiado, in Kornai, p. 172.
23. Another kind of classification appeared in the literature of the socialist countries: contrast of the productive-economy sector in a narrow sense with the "infrastructure." See E. Ehrlich, 1985b, "Infrastructure," in *The Economic History of Eastern Europe 1919-1975*, vol. 1, edited by M. C. Kaser and E. A. Radice, Oxford: Clarendon Press, pp. 323-78.
24. Kornai, Janos, *The Socialist System: The Political Economy of Communism*, op. cit. p. 172.
25. To illustrate this, first a Soviet figure: 84 percent of the industrial investment between 1917 and 1976 went to heavy industry. Statistika (Statistics), 1977, *Narodnoe khoziaistvo SSSR za 60 let* (The Soviet national economy for sixty years), Moscow.; The second illustration is Chinese: the number of heavy hydraulic presses equals the number of equivalent presses operating in all the EEC countries. Meanwhile, China's per capita GNP is only a twentieth of the EECs. According to a Chinese economist, "The structure and scale of heavy industry exceed the dimensions the economy can bear." See S. Zhou, 1981, "*Sanshi nianlai wouguo jingji jiegou de huigu*" (Chinese economic structure in the recent thirty years: A survey), in *Zhonqquo Jinji Jiegou*, vol. 1, edited by Ma Hong and Sun Shangqing, Beijing: People's Press, pp. 30-31.; Finally, in Romania, more than half of the total investment between 1951 and 1981 went to industry. Of this, 77-80 percent went to develop heavy industry. See M. Shafir, 1985, *Romania: Politics, Economics and Society*, London: Frances Pinter, and Boulder: Lynne Rienner, p. 108.
26. Kornai, Janos, *The Socialist System: The Political Economy of Communism*, op. cit. p. 172.
27. Cases of irreversible neglect have occurred in health care and higher education in several socialist countries. A grave situation developed lately in health care in the Soviet Union and several Eastern European countries, contributing to unfavourable demographic trends: low life expectancy and high infant mortality. Between 1960 and

1984, the mortality rate went up from 7.1 to 10.8 percent per thousand of population, and average life expectancy went down from about 70 to 67.7, as compared to 74 to 78 in the West. Infant mortality was 25 per 1,000 in the USSR at that time compared with 6-10 per 1,000 in the Western developed countries. See A. G. Aganbegian, 1989, *Inside Perestroika*, New York: Harper and Row, pp. 228ff.

28. It is worth mentioning here the sector's position in the co-ordination of current production. A sizeable part of production for military purposes is organizationally distinct from civilian production, under the control of a separate ministry or sectoral directorate. But where there is an overlap, fulfilment of the military orders receives priority, even in cases of serious shortage. See C. Davis, 1990, "The High Priority Military Sector in a Shortage Economy," in *The Impoverished Superpower: Perestroika and the Soviet Military Burden*, edited by Henry S. Rowen and Charles Wolf, San Francisco: ICS Press, pp. 155-184.
29. Kornai, Janos, *The Socialist System: The Political Economy of Communism*, op. cit. p. 174. Note that this phenomenon illustrates that a bureaucratic leader does not feel he is a real owner, because no owner tolerates a constant decline in wealth if it can be helped.
30. This preference applies not only to choosing the scale of a new installation but to development of the organizational forms of existing firms. In fact, the process began with nationalization and the collectivization of agriculture and small-scale industry, when large public firms and co-operatives were founded to replace small family undertakings and small capitalist firms. The process was complemented then and continued with successive waves of mergers among state-owned firms or co-operatives. As a consequence, there is a very strong concentration of production under the classical socialist system.
31. The economic concepts of Marx and Lenin, which lay great stress on the tendency to concentration and the large factory's advantage over the small, played a part in implanting this idea.
32. On the theories of transaction costs, and on the relationship between hierarchies and markets: See R. H. Coase, 1937, "The Nature of the Firm," *Economica*, November, 4 (16), pp. 386-405; and O. E. Williamson, 1975, "Markets and Hierarchies: Analysis and Antitrust Implications," New York: Free Press. (on the theories of transaction costs, and on the relationship between hierarchies and markets)
33. Kornai, Janos, *The Socialist System: The Political Economy of Communism*, op. cit. p. 176.
34. Kornai, Janos, *The Socialist System: The Political Economy of Communism*, op. cit. p. 262ff.
35. Kornai, Janos, *The Socialist System: The Political Economy of Communism*, op. cit. p. 180.
36. Ibid. Of the statistical and econometric writings on the relationship between the production factors and output, see the following: A Bergson, 1983, *Technological*

- Progress, in *The Soviet Economy: Toward the Year 2000*, edited by Abraham Bergson and Herbert S. Levine, London: Allen and Unwin, pp. 34-78; P. Desai, 1987, *The Soviet Economy: Problems and Prospects*, Oxford: Basil Blackwell; V. Kontorovich, 1986, "Soviet Growth Slowdown: Econometric vs. Direct Evidence," *American Economic Review*, May, 76 (2), pp. 181-85; M. L. Weitzman, 1970, "Soviet Postwar Economic Growth and Capital-Labour Substitution," *American Economic Review*, September, 60 (4), pp. 676-92; E. A. Hewett, 1988, *Reforming the Soviet Economy: Equality versus Efficiency*, Washington, D. C.: The Brookings Institution.
37. Hanson, Philip, 1971, "East-West Comparisons and Comparative Economic Systems," *Soviet Studies*, January, 22 (3), pp. 327-43.
 38. For the ideas on cycles and fluctuations, see the work of following authors: A. Brody (1969b); J. Gacs and M. Lacko (1973); J. Goldmann and K. Kouba (1969); T. Bauer (1981); K. A. Soos (1975, 1986); P. Mihalyi (1988); B. W. Ickes (1990); Several authors have examined fluctuation of investment in single countries on a statistical basis or possibly with an econometric model. See, on Hungary: M. Lacko (1980, 1984); M. Marrese (1981); on China: B. Chavance (1987), M. Harrison (1985), and C. Hsin (1984); on the Soviet Union: G. Roland (1987), M. Harrison (1985), and V. Kontorovich (1990); on Poland: I Grosfeld (1986); and on Cuba: C. Bettelheim (1987); also refer, A. Simonovits (1991a, 1991b) and V. Zarnovitz (1985).
 39. Kornai, Janos, *The Socialist System: The Political Economy of Communism*, op. cit. p. 192. Also see, A. Ungvarszky (1989), *Gazdasagpolitikai ciklusok Magyarországon, 1948-1988 (Economic policy cycles in Hungary, 1948-1988)* Budapest: Kozgazdasagi es Jogi Konyvkiado.
 40. We note also the existence of other fluctuations. J. C. Brada, for instance, reports that the agricultural production of five Eastern European socialist countries fluctuates to a greater extent than it did when there was a capitalist system in those countries. The fluctuation is mainly connected with the frequent changes in production policy. See, J. C. Brada (1986), "The Variability of Crop Production in Private and Socialized Agriculture: Evidence from Eastern Europe," *Journal of Political Economy*, 94 (3), pp. 545-63.
 41. Kornai coined the term "rush" (1971). For the epithet "haste," see M. Lewin [1968] (1974) and G. Grossman (1983). G. Ofer (1987) uses it as a synonym for "forced growth." On the general theory of growth, see R. M. Solow [1970] (1988). On modern history of growth, see E. F. Denison (1962, 1967), A. Gerschenkron (1962, 1968), and S. Kuznets (1964, 1971). For applications to socialist countries, see A. Bergson and S. Kuznets, eds. (1963) and A. Bergson (1974, 1978a).
 42. Kornai, Janos, *The Socialist System: The Political Economy of Communism*, op. cit. p. 197ff.

CHAPTER TEN

THE SOCIALIST ECONOMIC GROWTH MODEL WITH AN EMPHASIS ON PRIMITIVE ACCUMULATION

The age of historical socialism has dawned in. A new design of socio-economic and political culture was in the making. Any leap forward from the existing system depends on an economic leap. The agents of the socialist state followed a method of primitive socialist accumulation.

II.10.i. The Emergence of Preobrazhensky

A sharp debate on growth policy took place in the Soviet Union in the 1920's,¹ when one of the foremost economists on the "left wing," Preobrazhensky, put forward his notable theory of primitive socialist accumulation. Marx had well-known ideas about primitive capitalist accumulation, which was accompanied by brutal expulsion of the peasants from their land, enforcement of a high rate of saving, and thereby the first "big push" to speed up the growth of capitalism. According to Preobrazhensky, something similar must inevitably occur under the socialist system. Investment must be concentrated on industry, particularly heavy industry, and retardation of light industry and agriculture consciously accepted. Resources needed for investment must be obtained by forced saving. Consumption must be kept on a tight rein, or even forced back. Produce must be bought cheaply from the peasants, whose purchasing power must be cut further by taxes and high industrial prices. There must be accelerated collectivization of agriculture, which among other things will free labour required for industrialization.² By a tragic irony of history, Preobrazhensky and many exponents of his ideas fell victim to the terror of Stalin, who then went on to implement some components of his recommendation in a way even Preobrazhensky probably did not envisage.

II.10.ii. Preobrazhensky Model

When accumulation policy was discussed in the 1920s in the Soviet Union more specific problems had to be tackled. Preobrazhensky considers the problems of an economy in transition to socialism, especially the financing of 'primitive' socialist accumulation, i.e. capital accumulation within the state sector of a mixed economy (as opposed to capital accumulation in the whole economy where public and private sector still coexist under a socialist regime). The methods he suggests for channelling the surplus produced in the private sector to the State sector have all been widely used to finance socialist industrialization in the Soviet Union and the other socialist countries.

II.10.iii. A Systematic Comparison between the Initial Stages of Capitalist and Socialist Mode of Production.

In order to understand the early phase of development of the Soviet economy it is extremely helpful to carry out a systematic comparison between the first steps of socialism and the first steps of the capitalist mode of production. This comparison is most instructive and will greatly assist us in our analysis. Both the similarity and the difference - and the differences are incomparably greater than the similarities - bring out remarkably well the special features of the Soviet system of economy. Let us begin with the most important difference, which conditions a number of others.

Capitalist production arises and develops within the womb of feudal society, or of feudal society which has been half disintegrated by commodity economy, many decades before the bourgeois revolutions. This fully applies to the development of merchant capital, as the necessary preliminary stage of capitalist production. It applies also to the first steps of manufacture in England and to the first steps of capitalist machine industry on the Continent. "Capitalism was able to pass through its period of primitive accumulation in the age of absolutism in politics and of simple commodity production and feudal-serfdom relations in the economic sphere."³

Bourgeois revolutions begin after capitalism has gone far in building up its system in the economic sphere. The bourgeois revolution is only an episode in the process of bourgeois development, which begins long before the revolution and goes on more rapidly after it. The socialist system, on the contrary, begins its chronology with the seizure of power by the proletariat. This follows from the very essence of the socialist economy as a single complex which cannot be built up molecularly within the world of capitalism. "While merchant capital could develop in the pores of feudal society, while the first capitalist enterprises could function without coming into irreconcilable contradiction with the existing political structure and property-forms (rather being nourished by their juices), the complex of state socialist production can appear only as a result of a breaking through of the old system all along the line, only as a result of social revolution."⁴ This fact is of colossal significance for understanding not only the genesis of socialism, but also the entire subsequent process of socialist construction.

II.10.iv. Requisites for Capitalist Accumulation

For capitalist accumulation to begin, according to Preobrazhensky, the following requisites were needed:

1. A preliminary accumulation of capital in particular hands to an extent sufficient for the application of a higher technique or of a higher degree of division of labour with the same technique.
2. The presence of a body of wage-workers.
3. A sufficient development of the system of commodity economy in general to serve as the base for capitalist commodity production and accumulation.

Regarding the first of these conditions Marx says: "The basis of the production of commodities can admit of production on a large scale in the capitalist form alone. A certain accumulation of capital in the hands of individual producers of commodities forms therefore the necessary preliminary of the specifically capitalist mode of production. We had, therefore, to assume that this occurs during the transition from handicraft to capitalist industry. It may be called primitive accumulation - because it is the historic basis instead of the historic result of specifically capitalist production."⁵ The question arises of how

matters stand in this connection with primitive 'socialist' accumulation. Has socialism a pre-history? If so, when does it begin?

II.10.v. Has Socialism a Pre-History?

As we have seen above, primitive capitalist accumulation could take place on the basis of feudalism, whereas socialist accumulation cannot take place on the basis of capitalism. Consequently, if socialism has a pre-history, this can begin only after the conquest of power by the proletariat. The nationalization of large-scale industry is also the first act of socialist accumulation, that is, the act which concentrates in the hands of the state the minimum resources needed for the organization of socialist leadership of industry. In socializing large-scale production the proletarian state by that very act changes from the start the system of ownership of the means of production: it adapts the system of ownership to its future steps in the matter of socialist reconstruction of the whole economy. In other words, the working class acquires by revolution only that which capitalism already possessed in the shape of the institution of private property, without any revolution, on the basis of feudalism. "Primitive socialist accumulation, as a period of the creation of the material prerequisites for socialist production in the true sense of the word could begin only with the seizure of power and nationalization."⁶

Preobrazhensky distinguishes the concepts of socialist accumulation and primitive socialist accumulation in the following words. By 'socialist' accumulation we mean the addition to the functioning means of production of a surplus product which has been created within the constituted socialist economy and which does not find its way into supplementary distribution among the agents of socialist production and the socialist state, but serves for expanded reproduction. 'Primitive socialist' accumulation, on the other hand, means accumulation in the hands of the state of material resources mainly or partly from sources lying outside the complex of state economy. This accumulation must play an extremely important part in a backward peasant country, hastening to a very great extent the arrival of the moment when the technical and scientific reconstruction of the state

economy begins and when this economy at last achieves purely economic superiority over capitalism.

II.10.vi. The Period of Preliminary Accumulation

It is true that in this period accumulation takes place also on the production-base of state economy. In the first place, however, this accumulation also has the character of preliminary accumulation of the means for a really socialist economy, and is subordinated to this purpose. Secondly, accumulation at the expense of the non-state milieu greatly predominates in this period. For this reason, Preobrazhensky called this entire stage the period of primitive or preliminary socialist accumulation; and this is the basic law to which are subordinated all the basic processes of economic life within the range of the state economy. This law, moreover, changes and partly does away with the law of value and all the laws of commodity and capitalist commodity economy, in so far as they appear or can appear in this system of economy. Consequently, not only can we speak of primitive socialist accumulation, we can understand nothing of the essence of Soviet economy if we do not discover the central role which is played in this economy by the law of primitive socialist accumulation, which determines, in conflict with the law of value, both the distribution of means of production in the economy and the distribution of labour power, and also the amount of the country's surplus product which is alienated for expanded socialist reproduction.⁷

II.10.vii. The Methods of Primitive Accumulation

Let us try to analyse how matters were during the period of primitive socialist accumulation, as we examine the methods of primitive accumulation based mainly on plundering of small-scale production and non-economic pressure upon it. As regards colonial plundering, a socialist state, carrying out a policy of equality between nationalities and voluntary entry by them into one kind or another of union of nations, repudiates on principle all the forcible methods of capital in this sphere. This source of primitive accumulation is closed to it from the very start and for ever. According to

Preobrazhensky, it is quite different in the case of the alienation in favour of socialism of part of the surplus product of all the pre-socialist economic forms. Taxation of the non-socialist forms not only must inevitably take place in the period of primitive socialist accumulation, it must inevitably play a very great, a directly decisive role in peasant countries such as the Soviet Union.

Another source of socialist accumulation can be taxation of private capitalist profit, that is, systematic deduction from capitalist accumulation. When the state imposes heavy taxes on private capitalist enterprises it is restoring to the fund of socialist accumulation part of the surplus value which would have been received as surplus product by the state if it had, all other conditions being equal, been conducting these enterprises itself. In so far as the socialist state taxes traders, buyers-up, capitalists, and kulaks who obtain part of their income from the peasantry who carry on 'independent economies' we have here accumulation at the expense of the peasant economy (accumulation at the expense of the semi-proletarian labour of the country side). The persons mentioned constitute both the accumulators of capitalist accumulation and the intermediate stage of one of the processes of socialist accumulation. As regards state loans, which form a very important channel of primitive capitalist accumulation, their role is different in the period of socialist accumulation. In spite of having reservations against external loans, these loans can serve as a powerful stimulus to socialist accumulation, contributing thereby a larger percentage to the socialist accumulation fund than they contribute to the capitalist accumulation fund. When the state is at the same time an organ which rules the country and the master of a huge economic complex, issue of paper money directly serves as a channel for socialist accumulation.⁸

II.10.viii. Economic Channels

The model of Preobrazhensky presents another method of primitive accumulation of capital by way of economic channels. Here we must distinguish between accumulation which is carried out in production itself, at the expense of the surplus value created in enterprises belonging to the proletariat, and, on the other hand the exchange of a smaller

quantity of labour by one system of economy or one country for a larger quantity of labour furnished by another system of economy or another country.

The difference from the period of primitive capitalist accumulation here consists, first, in the fact that socialist accumulation has to take place at the expense not only of the surplus product of petty production but also of the surplus value of capitalist economic forms. Secondly, the difference here is conditioned by the fact that the state economy of the proletariat arises historically on the back of monopoly capitalism and therefore has at its disposal means of regulating the whole economy and of redistributing the national income economically which were not available to capitalism at the dawn of its history. The fundamental law of primitive socialist accumulation is the mainspring of the entire Soviet state economy. "The more backward economically, petty-bourgeois, peasant, a particular country is which has gone over to the socialist organization of production, and the smaller the inheritance received by the socialist accumulation fund of the proletariat of this country when the social revolution takes place, by so much the more, in proportion, will socialist accumulation be obliged to rely on alienating part of the surplus product of pre-socialist forms of economy and the smaller will be the relative weight of accumulation on its own production basis, that is, the less will it be nourished by the surplus product of the workers in socialist industry. Conversely, the more developed economically and industrially a country is, in which the social revolution triumphs, and the greater the material inheritance, in the form of highly developed industry and capitalistically organized agriculture, which the proletariat of this country receives from the bourgeoisie on nationalization, by so much the smaller will be the relative weight of pre-capitalist forms in the particular country; and the greater the need for the proletariat of this country to reduce non-equivalent exchange of its products for the products of the former colonies, by so much the more will the centre of gravity of socialist accumulation shift to the production basis of the socialist forms, that is, the more will it rely on the surplus product of its own industry and its own agriculture."⁹

Preobrazhensky's model is aimed at "the nourishment of the state economy at the expense of the non-socialist milieu" especially at the early stage of socialist formation of a

state in order that it may gain a momentum in its objective of development. If capitalism is motion, socialism is still more rapid motion.¹⁰ And what it loses in speed in the period of primitive accumulation, in the sense of development of its technical economic base, owing to extreme poverty in capital, it is obliged to make up for by intensified accumulation at the expense of the non-socialist milieu. This view of economic growth played an important role during the period of Stalin. Two more views could be associated with this way of promoting the objective of socialist state.

II.10.ix. Lewis Model

One of the main ideas in Arthur Lewis's theory is expressed in the title of a classic article of his: "Economic Development with Unlimited Supplies of Labour".¹¹ Lewis analyzes the growth of capitalist developing countries, where a dual economy operates: a modern, fast-growing, capitalist sector coexists with a declining, backward, traditional sector. The former absorbs successfully the labour released by the latter. The wages of the labour flowing into the capitalist sector are decided by the social norms for living standards, not by endogenous market forces. Our socialist analysis makes clear the similarities and the differences between the situation Lewis describes and the forced growth of classical socialism. In both Lewis's theory and the practice of forced growth, a key part is played by extensive method 1, the fast expansion of employment and practically unlimited supply of labour - until the scope is exhausted. Here only the major differences are mentioned. In our case, the modern sector is socialist, not capitalist. According to Lewis's analysis, the capitalist advance and the profit motive are capable of raising a stagnant developing country's saving proportion of 4-5 percent to 12-15 percent. The motivation described in our analysis, along with the historically unprecedented methods available to the socialist bureaucracy, can even force a saving proportion of 30-40 percent.¹²

II.10.x. Hirschman-Streeten Model

The theory of unbalanced growth is associated with A. O. Hirschman and P. Streeten.¹³ It is a normative theory; those subscribing to it recommend a growth strategy in which a few “driving” sectors pull ahead and their excess demand encourages the other sectors to catch up. It is debatable whether that is really the preferable strategy for a developing country on the capitalist road. But, classical socialism follows this course in practice as we have brought about, among other things, by the combination of priorities described in our analysis. The pull of “backward linkages” recommended by the adherents of unbalanced growth and the chronic shortage of socialist systems overlap as concepts in many respects.

Primitive socialist capital accumulation , as described by Preobrazhensky, simply cannot go on unobstructed for a long period. There is neither unlimited supply of labour nor is it advisable to follow an unbalanced growth path. Therefore, new devices had to be formulated to fulfill the economic objectives. Since the adherents of the socialist state were convinced of the role of capital formation, they decided to follow the model of investment to which we shall proceed.

NOTES

1. For a survey of the debate, see, P. R. Gregory and R. C. Stuart, [1974] 1986, *Soviet Economic Structure and Performance*, New York: Harper and Row; A. Erlich, 1960, *The Soviet Industrialization Debate, 1924-28*, Cambridge: Harvard University Press.
2. Kornai, Janos, *The Socialist System: The Political Economy of Communism*, op. cit. p. 198ff.
3. Excerpts from E. Preobrazhensky, "Socialist Primitive Accumulation," in *The New Economics*, Clarendon Press, Oxford, 1965, pp. 79-124. Originally published in Russian, Moscow, 1926.
4. Alec Nove and D.M.Nuti, eds., *Socialist Economics*, Penguin Books, England, 1973, pp. 130-131.
5. Marx, Karl, *Capital*, vol. 1, part 1, English Edition, London, 1938, p. 638.
6. Alec Nove and D.M.Nuti, eds., *Socialist Economics*, op. cit., p. 132.
7. Ibid., p. 133.
8. Ibid., pp. 134ff.
9. Ibid., p. 148. Preobrazhensky also pointed out that this law must of course, undergo certain modifications when there is a transfer of means of production from an advanced socialist country to a backward one.
10. Alec Nove and D.M.Nuti, eds., *Socialist Economics*, op. cit., p. 146. See, *Capital*, vol. 2, English edition, Moscow, 1957, p. 105.
11. Lewis, Arthur W., 1954, "Economic Development with Unlimited Supplies of Labour," *The Manchester School*, May, 22 (2), pp. 139-91; and, *The Theory of Economic Growth*, Homewood, Ill.: Irwin, 1955.
12. There is an essential difference in wages as well. In the period of forced growth, the wage level is decided neither by "social norms" nor by market forces. Basically, it adjusts to what the bureaucracy decides should be the ratio of accumulation to consumption. This decision subsequently moulds the social norms of consumption as well.
13. Hirschman, Albert O., 1958, *The Strategy of Economic Development*, New Haven: Yale University Press; and, Streeten, Paul, 1959, "Unbalanced Growth," *Oxford Economic Papers*, new series, June, 11 (2), pp. 167-90.

CHAPTER ELEVEN

THE SOCIALIST ECONOMIC GROWTH MODEL WITH AN EMPHASIS ON NON-CONSUMPTION-INVESTMENT MECHANISM

The concept of *accumulation* has become the keyword of the principle of material socialism. In the previous chapter we have described the notion of primitive socialist accumulation and noted its limitation. The following analysis of the socialist economic growth is based on a remarkable article by the Soviet economist Fel'dman¹ (1928a and 1928b). Besides the first five-year plan, the Soviet State Planning Commission was working then on a so-called General Plan extending over a period of some ten to twenty years. Fel'dman was instructed to prepare a theoretical model as a basis for this plan.

II.11.i. Fel'dman Model

Fel'dman, being a Marxist himself, starts with Marx's celebrated division of the total output of an economy (W) into Category 1 - producer goods (raw materials and capital), and Category 2 - consumer goods, the production of each category expressed as the sum of C (constant capital = depreciation plus raw materials broadly defined), V (variable capital = payrolls), and S (surplus value):

$$C_1 + V_1 + S_1 = W_1$$

$$C_2 + V_2 + S_2 = W_2$$

$$C + V + S = W$$

With certain changes, this scheme would approximate our allocation of output by factor costs (depreciation, wages and salaries, and property income).² Fel'dman, however, was not concerned with factor costs; he concentrates all his attention on the distribution of currently produced capital goods (a part of the output of Category 1) between the two categories. But first he had to modify Marx's scheme once more by redefining the

categories. So in his final version, Category 1 produces all capital goods for both categories, while all consumer goods, including the corresponding raw materials, are produced in Category 2, the output of each category consisting of its respective final products only.³ As a result, the economy is literally split from top to bottom into these two categories. Of course any division of an economy by industries, or even of output between consumption and investment, is difficult and arbitrary, but it is clear that Fel'dman's method creates special difficulties.⁴ Pigou's⁵ wage-goods industries, Hayek's⁶ stages of production, Marx's⁷ standard scheme, Hicks's⁸ induced versus autonomous investment, all give rise to models with an elusive empirical content and yet not devoid of interest. The empirical content of his model worried Fel'dman less than its deviation from the standard Marxist scheme. Yet, this is a growth model constructed on a Marxist foundation⁹ and it may be of use in unravelling a few puzzles in Soviet economic development and in achieving a better understanding of Soviet economic thinking. It also raises some questions regarding economic development in general.

II.11.ii. Assumptions of the Model

Like other growth models, Fel'dman's model is based on a number of simplifying assumptions, such as: constant prices; capital as the only limiting factor; absence of lags; a closed economy; production independent of consumption;¹⁰ absence of government expenditures as a separate category distinct from consumption and investment; absence of bottlenecks; and several others. The division of the economy between the two categories is complete, in the sense that no existing capital can be transferred from one to another (there being no other limitations on production). Thus the rate of investment is rigidly determined by the capital coefficient and the stock of capital in Category 1. Similarly, the output of consumer goods is determined by the stock of capital and the capital coefficient of Category 2.¹¹ Hence the division of total output between consumption and investment at any given moment depends on the relative productive capacities of the two categories, and not on the propensity to save, though the latter can reassert itself by causing an underutilization of the capital stock in one category or another, a waste ruled

out in the model. The division of total investment (that is, of output of Category 1) between the two categories is, however, completely flexible. Indeed, the fraction of total investment allocated to Category 1 is the key variable of the model.¹²

II.11.iii. Mathematical Derivation of the Model

Let us derive Fel'dman's results by considering the case of permanent assets. (and assets subject to wear.also could be considerd.)

Permanent Assets¹³

List of Symbols. (In order of their appearance).

γ = fraction of total investment allocated to Category 1.

I = annual rate of net investment (output of Category 1.

I_1 and I_2 indicate annual rates of net investment allocated to the respective categories, so that $I_1 + I_2 = I$.

t = time measured in years.

V = marginal capital coefficient for the whole economy.

V_1 and V_2 indicate the marginal capital coefficients of the respective categories (not to be confused with Marx's V).

C = annual rate of output of consumer goods (not to be confused with Marx's C).

Y = annual net rate of output of the whole economy (national income).

α = average propensity to save (ratio of total investment to national income).

α' = marginal propensity to save (ratio of the increment in total investment to the increment in national income).

I_0 , C_0 , and Y_0 indicate the respective initial magnitudes of these variables (when $t = 0$).

By definition of γ ,

$$I_1 = \gamma I, \tag{1}$$

and since only I_1 increases the capacity of Category 1,

$$dI/dt = I_1 / V_1. \quad (2)$$

Substituting 1 into 2, we obtain

$$dI = \gamma I / V_1, \quad (3)$$

the solution of which is

$$I = I_0 \cdot e^{(\gamma/V_1)t} \quad (4)$$

To simplify all derivations, we set $I_0 = 1$; then

$$I = e^{(\gamma/V_1)t}; \quad (5)$$

in other words, total investment will grow at a constant exponential rate of γ/V_1 .

Again, by definition of γ ,

$$I_2 = (1-\gamma)I = (1-\gamma)e^{(\gamma/V_1)t} \quad (6)$$

I_2 being the only source of increased capacity in Category 2,

$$dC/dt = I_2 / V_2 = (1-\gamma/V_2) e^{(\gamma/V_1)t} \text{ and} \quad (7)$$

$$C = C_0 + (1-\gamma/\gamma) V_1 / V_2 [e^{(\gamma/V_1)t} - 1], \quad (8)$$

$$dY/dt = dC/dt + dI/dt = e^{(\gamma/V_1)t} / V_1 V_2 \{V_1 - \gamma(V_1 - V_2)\}, \quad (9)$$

$$Y = I + C = Y_0 + [(1-\gamma/\gamma) V_1 / V_2 + 1] [e^{(\gamma/V_1)t} - 1]. \quad (10)$$

Thus C and Y each represent a sum of a constant and an exponential in t .

Their rates of growth will therefore differ from γ/V_1 . As time goes on, the exponential will dominate the scene and the rates of growth of C and Y will gradually approach γ/V_1 . But this may take quite a long time, unless of course it so happens that: $C_0 = (1-\gamma/\gamma) V_1 / V_2$, in which case the constants will vanish and C and Y will grow at the rate of γ/V_1 from the very beginning, but this is not an interesting case from the point of view of this model.¹⁴

II.11.iv. The Rate of Growth of Investment

Why the rate of growth of investment here differs from the one derived in the earlier growth models (cf. Harrod-Domar). The latter was equal to α/V where α indicated both the marginal and the average propensities to save and V was the over-all capital coefficient. To compare the earlier models with Fel'dman's it is necessary to rework their results without the assumption that the average propensity to save, α , equals the marginal one, α' . We shall continue to treat α' as a constant, but since $\alpha \neq \alpha'$, α has now become a variable. It can be easily shown that the rate of growth of investment will now be α'/V .¹⁵ The expression α'/V is of course the ratio of the marginal propensity to save to the over-all capital coefficient. In Fel'dman's model, however, we have obtained γ/V_1 as the rate of growth of investment, where γ is the fraction of investment allocated to Category 1, and V_1 is the capital coefficient of this category only.

Let us find α' of the present model. From 5 and 9 we obtain

$$\alpha' = \gamma V_2 / V_1 - \gamma(V_1 - V_2) = \gamma / (V_1 / V_2) - \gamma\{V_1 / V_2 - 1\} \quad (11)$$

In the special case when $V_1 = V_2$ we obtain the not-quite-expected result that

$$\alpha' = \gamma, \quad (12)$$

that is, Fel'dman's fraction of investment allocated to Category 1 and Keynes's marginal propensity to save become identical.¹⁶ If $V_1 > V_2$ then of course $\gamma > \alpha'$. That Fel'dman's γ and Keynes's α' should be so closely related, and even identical when $V_1 = V_2$, may be surprising, but it is merely a reflection of the fact that if a certain fraction of the increment in national income (α') is to be devoted to investment, a corresponding fraction of investment (γ) must be allocated to capital goods industries to make the production of this increment in investment possible.¹⁷ In other words, in a growing economy some capital is used to make more capital. The explicit recognition, of this fact is, one of the virtues of Fel'dman's model, though ironically enough Fel'dman kept insisting that the final purpose of all production is consumption. In a growing economy this is simply not true.

The relationship between V_1 and V_2 on the one hand and V (the over-all coefficient for the whole economy) on the other is also simple. The rate of growth of investment being independent of the manner in which it is expressed,

$$\gamma/V_1 = \alpha'/V. \quad (13)$$

Solving 11 for γ in terms of α' , we have

$$\gamma = \alpha'V_1/V_2 + \alpha'(V_1 - V_2), \quad (14)$$

and inserting 14 into 13, we obtain

$$V = \alpha'V_1 + (1 - \alpha')V_2, \quad (15)$$

that is, V is a weighted average of V_1 and V_2 .¹⁸

II.11.v. The Development Decisions

The development decisions made in terms of α or α' imply corresponding decisions regarding the magnitude of γ , and vice versa. The average propensity to save (ratio of investment to income) α plays a minor role in Fel'dman's model. It can be computed and it is relevant to many policy decisions (the level of taxation, for instance), but it has no life of its own, so to speak, and is completely determined by the relative productive capacities of the two categories, because the underutilization of capital in either category is excluded by the assumed absence of any limits to production other than capital. According to Fel'dman's model, a closed economy without well-developed metal, machinery, and subsidiary industries (the complex of the so-called heavy industries) is unable to produce a sizeable quantity of capital goods and thus to invest a high fraction of its income, however high its 'potential' saving propensity may be. In Soviet economic thinking the former consideration has been predominant; in our recent literature the ability to save has been emphasized. Perhaps a synthesis, or more correctly, a return to a synthesis, is in order.¹⁹

A country's investment can grow very rapidly even with a low average propensity to save for some time. The latter does, however, determine the rate of growth of income, and a low α will of course result in a slowly growing income. But a low α is not incompatible with a high rate of growth of investment for a period of time. Here may be found at least a partial explanation of their simultaneous existence in Soviet Russia, as found by Norman Kaplan, a phenomenon which has puzzled some economists.²⁰ With capital coefficients

being treated as given, the one and only variable which can be varied as an instrument of planning is our γ , the fraction of total investment allocated to Category 1 (capital goods industries). Since Fel'dman's model allows complete intra-category flexibility, γ can vary all the way from zero to one.²¹ The optimum size of γ (and it need not be constant) chosen by the planning authorities will depend on what they consider to be the purpose of economic development.

II.11.vi. The Purpose of Economic Development

If the purpose of economic development lies in the maximization of investment or of national income (without differentiation between investment and consumption) at a point of time, or of their respective rates of growth, or of integrals over time, γ should be set as high as possible. This is always true for investment, and nearly always for income, the only exception being when V_1 greatly exceeds V_2 , and even then for only a short period of time.²² A high γ does not imply, however, any reduction in consumption. With capital assets assumed to be permanent, even $\gamma=1$ would merely freeze consumption at its original level. If assets were subject to wear, consumption would be slowly reduced by failure to replace them. Finally, a transfer of resources from consumption to investment industries would reduce consumption still further. The latter possibility is, however, excluded from Fel'dman's model.

Such an indifference between consumption and investment irrespective of the magnitude of γ (or of α) must be rare even among Soviet planners: after all, consumption standards affect the ability and the incentive of the populace to work and the willingness to obey. Fel'dman, who did not regard labour as a factor limiting production, had no room for such considerations, but he insisted time and again that consumption was the sole purpose of production, the emphasis given to investment in his model being only temporary.²³ He did not specify whether the variable to be maximized should be consumption at a point of time, or its rate of growth, or its integral over time; whether consumption should be discounted or not; and what value, if any, should be attached to the increasing capital

stock as such, particularly in Category 1, so important during a war. On the whole, he was most concerned with the (relative) rate of growth of consumption, and desired a high γ with that end in mind.

II.11.vii. The Dual Effect of γ on C

The examination of the expression $C = C_0 + (1 - \gamma/\gamma) V_1/V_2 [e^{(\gamma/v_1)t} - 1]$ quickly reveals that γ has a dual effect on C . As the numerator of the exponent of $e^{(\gamma/v_1)t}$, it is related to C directly; as a member of the expression $(1 - \gamma)/\gamma$, inversely. As γ increases, the latter falls very rapidly; thus with $\gamma = 0.1$, $(1 - \gamma)/\gamma = 9$; when $\gamma = 0.2$, $(1 - \gamma)/\gamma = 4$; a γ of 0.5 brings it down to 1. Over short periods of time C is dominated by $(1 - \gamma)/\gamma$ and is therefore depressed by a high γ . As time goes on, the exponential $e^{(\gamma/v_1)t}$ will assert itself, and a high γ will eventually produce a large C .

When one variable (γ) has a dual effect on another (C), it is usually possible to find the magnitude of the former maximizing the latter. It can be shown that γ maximizing C at a given point of time is given by the expression

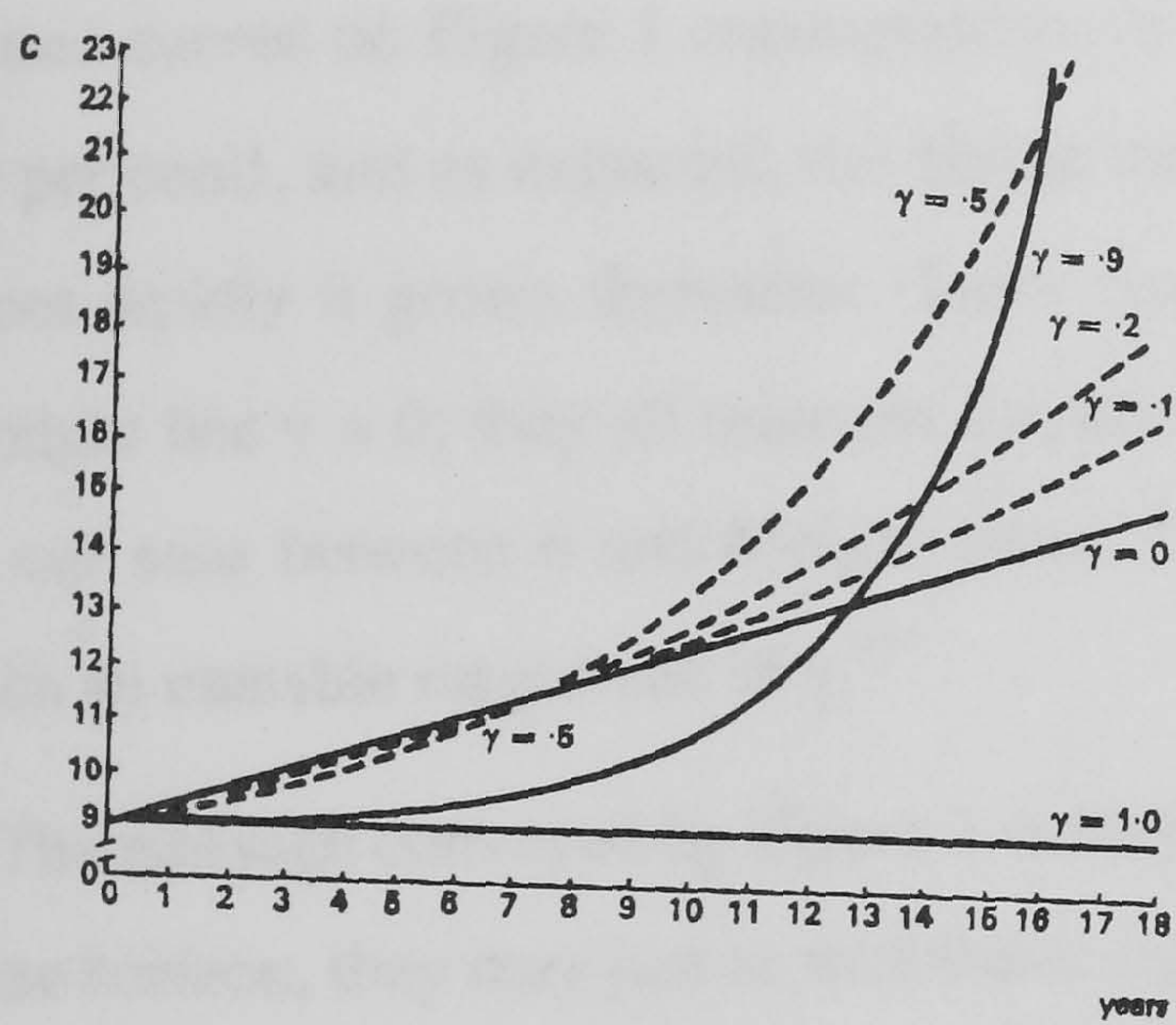
$$\gamma = 1 - (1 - e^{-(\gamma/v_1)t})/(\gamma/V_1) t \quad (16)$$

and that this value of γ , being independent of V_2 , varies inversely with V_1 , and directly with t (it is a direct function of the ratio t/V_1); thus the longer the period in question, the higher the value of γ should be set. All this presupposes a constant γ over time. A variable γ would be a more flexible instrument.²⁴ "Since a planning horizon is a hazy notion at best, even if expressed in terms of one or more five-year plans, the maximization of consumption at some point of time provides no sensible clue to the optimum magnitude of γ ."²⁵ To explain this mathematical puzzle, Figure II 11.1 presents the actual behaviour of C over time.

Figure II.11.1:

The Behaviour of Consumption Over Time for Given Magnitudes γ

$(\gamma_1 = \gamma_2 = 3; C_0 = 9)$



The lower straight line corresponding to $\gamma = 1$ is horizontal: all investment being allocated to Category 1, consumption stays at its original level without any increase. This example is an extreme and misleading one because even a slight reduction in γ (to 90 per cent) results in a rapid growth of C (the solid curve) after a few years. The $\gamma = 0$ straight line is more interesting: here all investment is directed to consumer goods industries (Category 2); hence the capacity of Category 1 remains constant, as does its output, i.e. the total stream of investment. Consequently the capacity of Category 2 increases, but only at a *constant absolute rate*. Its relative rate of growth declines with time.²⁶ The dotted curves on Figure 1 correspond to several reasonable magnitudes of γ (10, 20, and 50 per cent), and as expected, the higher the γ , the smaller C is in the early years, and the more rapidly it grows thereafter. These curves are fairly close to each other and to the straight line $\gamma = 0$; they all intersect the latter within a surprisingly narrow period of time, in our case between 6 and 8 eight years. This explains why the maximization of C gave such an unstable magnitude of γ .²⁷

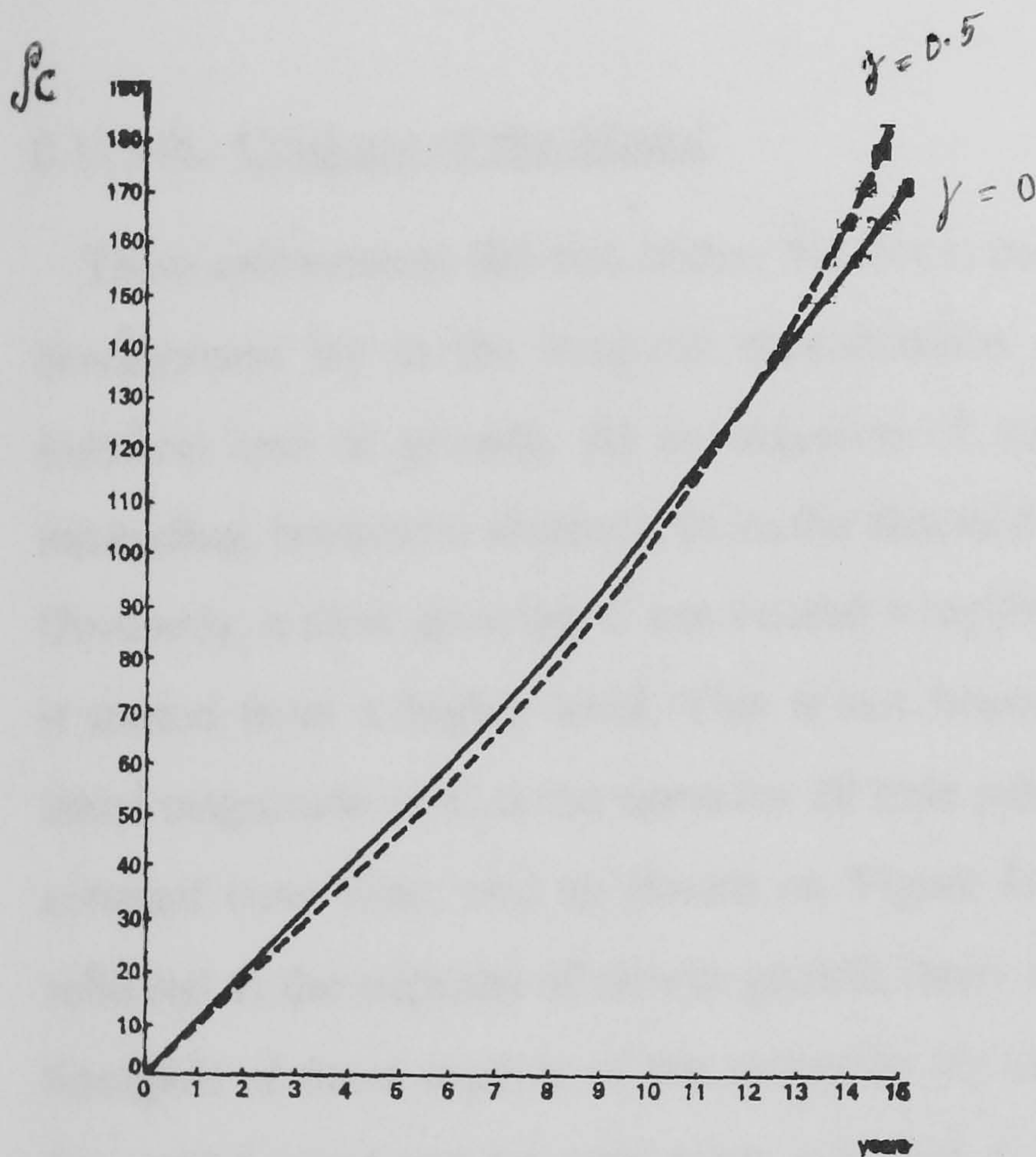
The message conveyed by Figure 1 is fairly clear: if the planning authorities have a short time horizon, they may just as well leave capital goods industries alone and stay on the line $\gamma = 0$. As their horizon expands, a strong effort to develop these industries should be made. Not much is gained by playing with small magnitudes of γ . If reality only corresponded to Fel'dman's model, the presence of so many undeveloped countries would be inexplicable.²⁸

The maximization of consumption at a point of time may not be a satisfactory objective of economic development because it implies an indifference to the behaviour of consumption during the intervening period. To remedy this defect, the integral of C over the whole period should be maximized instead.

Figure II.11.2

The Behaviour of the Integral of Consumption Over Time for Given Magnitudes of γ

$(\gamma_1 = \gamma_2 = 3; C_0 = 9)$



As shown on Figure II.11.2, the dotted ($\gamma = 50$ per cent) curve and the solid ($\gamma = 0$) one are so close together that there is no room for drawing the $\gamma = 10$ and $\gamma = 20$ per cent curves. (Note, however, the difference in scale between the two charts.) If drawn, all these curves would again intersect the $\gamma = 0$ one in a very narrow range, between 9 and 11 years, though the range itself is further away in time than it was on Figure II.11.1 (6 and 8 years). For a country with a reasonably long time horizon, a high magnitude of γ is still worth while. This approach, however, turns out to be no more helpful in determining the optimum magnitude of γ than the preceding one did.²⁹

II.11.viii. Critique of the Model

These refinements did not bother Fel'dman particularly. To him, the aim of economic development lay in the long-run maximization of consumption, and particularly of its (relative) rate of growth. As an objective of economic development, the latter can be misleading, because it abstracts from the absolute magnitude of C at a given point of time. Obviously, a slow growing C can exceed a rapidly growing one, at least for some time, if it started from a higher level. This is not important for Fel'dman's model because the initial magnitude of C is the same for all time patterns. But the rate of growth of C is not constant over time, and as shown on Figure II.11.1, rapid growth at the beginning is achieved at the expense of slower growth later, and vice versa. Fel'dman could justify his disregard of these aspects of the model by his concern for the long run only. In the long run, which need not be very long, a higher γ will, as a rule, result in a more rapidly growing consumption.³⁰ The notions of time preference and the rate of interest do not seem to play any role in this model.

Fel'dman's task was to explain to the Soviet planners the basic principles of economic growth and to furnish them with several alternative patterns of development, depending on the magnitudes of γ and of the capital coefficients. It was up to the planners to choose the optimum path, depending on their own objectives, and on their evaluation of existing economic and political conditions and possibilities.³¹

Our survey of the experience of historical socialism reveals the existence of an investment-consumption tension which had a retardation effect on economic development. Actually, Marx himself, was aware of the problems brought about by the crises of underconsumption under capitalism and wanted to solve this problem under socialism. While providing explanation of why cyclical crises are destined to occur in capitalism, he tried to explain the crises in terms of underconsumption. He noted the effects of insufficient effective demand on the part of workers for the commodities they have produced. Marx writes: "The ultimate reason for all real crises always remains the poverty and restricted consumption of the masses, in the face of the drive of capitalist production to develop the productive forces as if only the absolute consumption of society set a limit to them."³² The same basic idea is again expressed as follows in his *Theories of Surplus Value*. "The greatest part of the producers (the workers) are non-consumers (non-buyers) of a very considerable part of their product, they can only consume an equivalent for their product as long as they produce more than this equivalent-surplus value or surplus product. They must always be *over-producers*, must always produce over and above their needs, in order to be able to be consumers or buyers within the limits of their needs."³³ Essentially, the point which Marx makes is that the forces at work under capitalism inevitably do not produce an equilibrium between supply and demand for consumers' goods, nor an equilibrium between supply and demand for luxuries. The problem of underconsumption has not been seriously addressed by Fel'dman; rather he opted to provide a model of investment, hoping this model would solve the problem of underconsumption in the long-run. Historical socialism proved this fatal to its own foundations. More investment coupled with less consumption raises the issue of savings. The role of savings in a socialist state is a new phenomenon in the theory of economic growth and let us endeavour to examine this aspect in the following chapter.

NOTES

1. Domar, E., "A Soviet Model of Growth," in E. Domar, *Essays in the Theory of Economic Growth*, 1957, Oxford University Press, pp. 223-61. Domar has based this essay on the following articles: Fel'dman, G. A., 1928a, 'K teorii tempov narodnogo dokhoda', *Planovoe Khoziaistvo*, November, pp. 146-70; and, 1928b, 'K teorii tempov narodnogo dokhoda', *Planovoe Khoziaistvo*, December, pp. 151-78.
2. Alec Nove and D.M.Nuti, eds., *Socialist Economics*, Penguin Books, England, 1973, pp.149ff. Note that the major adjustment would consist in eliminating inter-firm purchases within each category from both sides of each equation. On the comparison between Marxist and Keynesian schemes: See, Tsuru, S., 1942, 'On reproduction schemes', in Paul M. Sweezy (ed.), *The Theory of Capitalist Development*, New York, pp. 365-74; and, Tsuru, S., 1954, 'Keynes versus Marx: the methodology of aggregates', in Kenneth K. Kurihara (ed.), *Post-Keynesian Economics*, New Brunswick, pp. 320-344. Also Robinson, J., 1942, *An Essay on Marxian Economics*, London, ch.2.
3. Similar schemes were suggested by the following authors: Burchardt, F., 'Die Schemata des stationaren kreislaufs bei Bohm-Bawerk und Marx,' *Weltwirtschaftliches Archiv*, 1931, vol. 34, part 2, pp. 525-64 and 1932, vol. 35, part 1, pp. 116-76; Nurkse, R., 1934-5, 'The Schematic Representation of the Structure of Production', *The Review of Economic Studies*, vol. 2, pp. 232-44; and Lowe, A., 1952, 'A Structural Model of Production', *Social Research*, vol. 19, pp. 135-76; and Lowe, A., 1955, 'Structural analysis of real capital formation', in *Capital Formation and Economic Growth* (a conference of the Universities National Bureau Committee for Economic research), Princeton, pp. 581-634.
4. This difficulty was recognized by the Soviet economist Ignatov, B., 1932, 'Balans narodnogo khoziaistva,' *Planovoe Khoziaistvo*, June, pp. 112-36.
5. Pigou, A. C., 1933, *The Theory of Unemployment*, London
6. Hayek, F. A., 1935, *Prices and Production*, Routledge & Kegan Paul, 2nd edn.
7. Marx, Karl, 1957, *Capital*, vol. 2, ch. 21, Moscow.
8. Hicks, J. R., 1950, *A Contribution to the Theory of Trade Cycle*, Oxford.
9. Sweezy, P. M., [1950], 1953, *The Present as History*, New York, pp. 352-62.
10. Kovalevskii, N. A., 1930, 'K postroeniia generalnogo plana,' *Plannovoe Khoziaisto*, no. 3, pp. 117-209. He did recognize the dependence of labour productivity on consumption
11. Note the observation made by Domar: If the productive capacity of Category 1 is so small that it is merely sufficient for replacement of wearing-out capital assets in both categories (a possible situation in an underdeveloped country), then in Fel'dman's model growth can be achieved only by a temporary failure to replace wearing-out assets in Category 2. Whether total output of the economy will show growth during this process will depend on the valuation weights assigned to the outputs of the two categories.

12. Alec Nove and D.M.Nuti, eds., *Socialist Economics*, Penguin Books, England, 1973, pp.153-54. See also the similar model developed by: Mahalanobis, P. C., 1953, "Some observations on the process of growth of national income," *Sankhya*, The Indian Journal of Statistics, vol. 12, pp. 307-12.
13. The permanency of assets is assumed merely to avoid questions related to depreciation and replacement, which are considered in cases where assets are subjected to wear. Alternatively, this assumption can be removed, and all variables interpreted net of depreciation which is made good continuously.
14. Alec Nove and D.M.Nuti, eds., *Socialist Economics*, Penguin Books, England, 1973,p.155
15. Ibid. The first proposition: Let $I = b+a'Y$, and hence $dY/dt = (dI/dt)a'$. By definition of V , $dY/dt = I/V$. Substituting this into the previous expression, we obtain $dI/dt = a'I/V$ and $(dI/dt)/I = a'V$. Note also the second proposition: the results just obtained give us $(dY/dt)/Y = (dI/dt)/a'Y = a'I/Va'Y = I/YV = a/V$, since $a = I/Y$.
16. The case where $V_1 = V_2$ may appear rather unrealistic because we usually think of Category 1 as heavy industry with high capital coefficients. But according to a study by Leontief, the highest capital coefficient was in Category 2 and the lowest in Category 1. See, Leontief, W., *et al* 1953, *Studies in the Structure of the American Economy*, Oxford University Press, pp. 191, 220-1.
17. A numerical example will help us to understand the relation between a' and γ . Let us take $a' = 10$ per cent, and let $V_1 = V_2$. Then if the ratio between C and I is to be maintained at 9 to 1, the new investment must be allocated between the consumer and capital goods industries in the same ratio. On the other hand, if $V_1 = 4$, $V_2 = 2$, the corresponding division of investment will be approximately in the ratio of 1.8 to 8.2. This relation between a' and γ (though not in these terms) was also pointed out by Robinson (1952, pp. 92-6). She assumed their identity without explaining, however, that the latter depends on the equality of the capital coefficients. It should be pointed out that this close relation between γ and a' does not of course solve Fel'dman's classification problem.
18. Alec Nove and D.M.Nuti, eds., *Socialist Economics*, Penguin Books, England, 1973,p159
19. The importance of the relationship between the capacity of capital goods industries and the current propensity to save is recognized by the following authors: Abramovitz, M., 1952, "Economics of Growth," in B. F. Haley (ed.), *A Survey of Contemporary Economics*, vol. 2, Homewood, Illinois, pp. 155-6 and Lowe (1955). This relationship was also the cornerstone of the so-called overinvestment business cycle theories, such as Hayek's (1935) and Casel, G., 1924, *The Theory of Social Economy*, New York.
20. See Kaplan, N. M., 1953, "Capital Formation and Allocation," in A. Bergson, (ed.), *Soviet Economic Growth*, Evanston, Illinois; and comments on his paper by Domar, E., Erlich, E., and Millikan, M., 1953, in A. Bergson, (ed.), *Soviet Economic Growth*, op. cit., pp. 37-100.

21. In a model with assets subject to wear, γ , being a fraction of the net investment, can be smaller than zero and larger than one if the wear of the assets in one category or another is not made good. Domar excludes this possibility in his analysis.
22. Alec Nove and D.M.Nuti, eds., *Socialist Economics*, Penguin Books, England, 1973, p. 161.
23. Fel'dman, 1928a, op. cit. pp. 150, 163.
24. It is also fairly obvious that a strict adherence to this objective requires not a constant but a variable γ : it should equal zero in the last few years of the period, and by the same reasoning, it should be set high at the beginning. This is essentially a problem in calculus of variation.
25. Alec Nove and D.M.Nuti, eds., *Socialist Economics*, op. cit., p. 162.
26. A linear, but not constant, C given by $\gamma = 0$ is possible only because of the assumed absence of need for replacements. Otherwise, as the capacity of Category 2 expands, so will its replacement needs (though with a lag), and it will be impossible to satisfy them without allocating some investment to Category 1. These qualifications are outside our present case with permanent assets.
27. Alec Nove and D.M.Nuti, eds., *Socialist Economics*, op. cit., p.165.
28. The introduction of time lags between investment and the resulting output dilutes this message, but not by much, unless unforeseen bottlenecks arise. Thus a lag of 2 or 3 years would reduce a 3 per cent annual rate of growth to some 2.8 per cent; a rate of growth of 10 per cent would be reduced to 8.4 and 7.9 per cent respectively-all this of course after the expiration of the initial lag period. The average lag between the investment of resources into a project and its fruition is about one-half as long as the period between the beginning and the completion of the project.
29. Alec Nove and D.M.Nuti, eds., *Socialist Economics*, Penguin Books, England, 1973, p. 167.
30. Note that the larger V_1 is relative to V_2 , this rule becomes weaker.
31. Note the remark of Fel'dman: 'The politician will have to determine which patterns of growth of consumer goods capital and therefore of consumption are acceptable and desirable, and what magnitudes these rates of growth should reach. Technicians and statisticians should indicate what coefficients of effectiveness (the reciprocal of the capital coefficient) can be achieved in what time. Then the social engineer will be able to construct a plan for the development of the national economy.' (1928b, p. 155, quoted in E. Domar: *A Soviet model of Growth*.)
32. *Capital*, Volume III, p. 615. Quoted in *A Farewell to Marx: An Outline and Appraisal, of his Theories*, David Conway, (1987), England: Penguin Books.
33. *Theories of Surplus Value*, pp. 397-8. Quoted in *Marx and the Orthodox Economists*, Pat Sloan, (1973), Oxford: Basil Blackwell.

CHAPTER TWELVE

A SOCIALIST ECONOMIC GROWTH MODEL WITH AN EMPHASIS ON NON-SAVINGS-INVESTMENT MECHANISM

Modern macroeconomics theories of economic growth outlines the role of savings in economic development. The relationship that exists between savings and investment is clear in a capitalist-market economy system. But it is not so conspicuous in a socialist-planned economy system. The following is an attempt to understand the role of savings and the relationship between savings and investment in a socialist economic growth model.

II.12.i. Accumulation and Economic Growth

There is a widespread belief that Marx confined his vision of the realization of socialism to the most advanced capitalist countries but it is pointed out that he only postulated that a level of capitalist development would have to be reached, sufficient for the creation of an industrial proletariat. “The fact that the ‘weakest link’ of the system turned out to be a relatively underdeveloped country vastly damaged by war put a strong emphasis on accumulation and growth, first to reconstruct the economy, then to engage the economy in a race with the advanced capitalist countries, with an aim to reach and overcome these countries and realize the ‘higher’ stage of communism.”¹ The emphasis on accumulation and growth therefore, as we have seen in the previous chapters, played a crucial role in the shaping of the first instance of a socialist economy. The process of capital accumulation is enhanced by investment and investment is supposed to be enhanced by saving.

M. H. Dobb’s essay “A Note on Saving and Investment in a Socialist Economy”² is an important contribution to the general theory of investment under socialism. He points out the relation between wages, prices and savings-accumulation policy and discusses the use of interest rates in short and long term planning. Hitherto discussion of a socialist economy has been preoccupied with the problem of the allocation of a given quantity of resources between various uses, and little or no attention has been given to problems

noted by Dobb. To solve the problem of ideal allocation a number of writers like Lange,³ Lerner,⁴ and Hall⁵ have agreed in proposing that decisions as to output and investment in a socialist economy should be ruled by the following principles.

II.12.ii. Allocation Principles

In his essay “*On the Economic Theory of Socialism*”, O Lange suggests that all prices, whether in the case of finished goods or of factors of production, shall be fixed by a process of trial and error until an ‘equilibrium price’ is found at which the current supply is equal to the demand. If the commodity or factor in question is in surplus supply (e.g. if unsold stocks are accumulating) the price will be lowered; if it is in deficit-supply, the price will be raised. Secondly, decisions as to output and investment shall be taken by each industry on the basis of carrying the utilization of resources to the point where marginal cost is equated to price: the output of each plant presumably being extended to the point where the short-period (or prime) cost of additional output is equal to the value of that output, and new investment in the industry being undertaken if, and only if, the additional output resulting from the investment, when valued at current prices, equals or exceeds its long-period cost, including the current interest-charge on the capital involved in the construction of the new equipment.⁶ The advantage of this mechanism that its sponsors appear to have in mind is that it would facilitate a considerable decentralization of investment and output decisions. “The central planning authority need decide only the ‘total’ amount to be invested (though how to decide this *total* still remains unknown) in any period: the direction and the form of the investment, and *a fortiori* the output of existing plants, could be left to the managements of the various industries to determine according to the second of the above rules. All that the central planning authority would need to do, having decided the total investment for the system as a whole, would be to adjust the aggregate demand for capital to that supply by appropriate shifts of an interest rate.”⁷

It is pointed out by Dobb that a system controlled in this way may inherit two of the principal vices of capitalism. With a price-mechanism of this kind in operation, the only way of precluding a large measure of chronic unemployment may be to maintain the rate

of investment at a given, 'arbitrary' level, which may be quite different from the level that would be dictated by other considerations. Moreover, it is not difficult to show that, unless some stabilizing mechanism is introduced, in addition to or as a substitute for this pricing-mechanism, a socialist economy may inherit the instability of capitalism in an even more pronounced form. "As soon as it is realized that the 'demand for capital' is a function, *inter alia*, of the current *rate of investment*, and that this demand will vary directly, and not inversely, with the rate of investment, *ceteris paribus*, the existence of a powerful de-stabilizing influence inherent in this relationship becomes apparent."⁸ In other words, the so-called schedule of the marginal efficiency of capital is not independent of the rate of investment. If the rate of investment is increased (or decreased), so will be the inducement to invest; and the situation will be one of unstable equilibrium, where the tendency to a Wicksellian⁹ cumulative movement, with increased investment 'creating its own draught', can hardly be controlled efficiently by a trial-and-error process of searching for an equilibrium-price for capital. If, moreover, an attempt is made to adhere to the rule of equating price and marginal cost, the volume of output from existing plant, and hence employment, will be determined by the relation between the price level of finished goods and money wages, and this relation is also a function of the rate of investment. If, therefore, the rate of investment upon which the State happens to have decided is a relatively low one, unemployment may be impossible to avoid, since to intensify the utilization of existing plant by employing more labour per unit of equipment would cause marginal prime cost to exceed price. (This, of course, is to assume that output is at the level at which short-period costs are 'rising'.) On the other hand, if a condition of full employment has already been attained, it will be *impossible* both to increase the rate of investment and at the same time to maintain an equality between price and cost, even between price and short-period marginal cost.¹⁰

II.12.iii Assumptions

To elucidate the reason for these statements let us examine the working of such a mechanism as is proposed by Lange and Lerner and Hall, in a simplified situation and in

their own terms. To make the task of analysis easier we will start by discussing the assumptions employed in these models. (a) We will assume both that the only form of personal income consists of wages,¹¹ and that wage-earners spend the whole of their income in a given period on consumption goods - that their saving is zero. (b) We will assume that prime costs of current output consist exclusively of wages (this is plausible if we imagine that each industry is vertically integrated, and that production in each plant embraces all processes from extraction from the soil to a finished product). We may further assume that each industry undertakes the repair and maintenance of its own plant, employing permanent repair workers as well as process-workers, and counts the wages of the former in its prime or operating costs. (c) We will assume that land is a free good and is not priced, so that the only element in total cost other than wages consists of the accounting-price of capital, as currently fixed by the State Bank or Investment Board or Central Planning Council. (d) We will assume that there is technical homogeneity between various industries to the extent of making the ratio of capital to labour approximately uniform in the mall. (e) We will assume that the amount of reserve productive-capacity that exists, at the outset, in the industries producing consumption-goods is small (i.e. short-period costs have a rising tendency). It will be obvious that there follows from assumptions (a) and (b) the corollary which can be expressed by saying that: $C = W$ and $P = \varphi W$ where C represents the value of output of consumption goods, W represents the total wage-bill of the country, P represents total profits of industry, and φ the proportion of the total wage-bill which is expended by the State in new constructional work (i.e. φW is the rate of investment).¹²

II.12.iv. Four Classes of Decisions

It will be convenient to distinguish four classes of decisions that the management of industry will have to make.

1. Given a plant of a particular type and size, how much labour to employ in that plant and how much output to obtain from it? This we will call the intensity of utilization of a given plant by labour. If the second of the above rules is observed (controlling output in such a way as to attempt to equate price and marginal cost), this will depend on the price of

output, the level of wages and the extent to which marginal operating cost (MOC) rises as the intensity of utilization of the plant is increased. The difference between the price of output and the average operating cost (AOC) multiplied by the output will represent the profit of that plant.

2. What should be the size of each plant? This will be determined by the average total cost (ATC) of production in plants of different sizes according to the rule that, where the plants in the industry are numerous, that size of plant should be chosen which makes ATC a minimum.¹³ This can be expressed by Lerner's envelope U-curve, where the envelope curve represents the ATC under plants of different sizes, and the smaller curves tangential to it represent the cost of producing with a plant of a given size.

3. What should be the number of plants in an industry? This will generally depend on the profit that each plant is making, as defined under 1. If the profit-rate (i.e. the ratio of profit to the value of the plant when valued at reconstruction-cost) being earned by a typical plant in an industry is greater than the accounting-price of capital, then presumably the number of plants will generally be increased, and vice versa. (Note that the economies and diseconomies may make expansion or contraction desirable even when the profit-rate is equal to the accounting-price of capital.)

4. Which of a variety of technical types of plant (irrespective of their size) to choose to construct? These types will differ, not only in that operating costs under each type of plant will be different, but also in their costs of construction and maintenance. It will follow that if the accounting-price of capital is low, plant-types which have a relatively high cost of construction, compared to the economies of operating costs that they promise, will be preferred to a greater extent than when the accounting-price is high. Changes of this class represent Hawtrey's 'deepening process', as distinct from his 'widening process'.¹⁴

II.12.v. Wages-Prices-Profit-Saving Mechanism

Let us suppose that the State, in order to stimulate an increase of investment, lowers its accounting-price for capital. There will then be a tendency for changes under 3 and 4 to

take place. The increased constructional activity will involve either a transfer of labour from making consumption goods to construction jobs, or else the absorption of previously unemployed labour into construction work. The net effect will be a rise in the price of consumption goods (measured either in money or in wage-units);¹⁵ since, as we have seen above, P , which $= C - (W - \phi W)$, varies with the rate of investment. In other words, if the demand, depending on the total wage-bill, rises relatively to the supply of consumption goods, as will be the consequences of increased investment, the consumption price-level must rise relatively to the wage-level. At a later stage, it is true, as the new plants come into existence, the output of consumption goods will increase and their price will tend to fall again. But for the time being while the investment is taking place, the price level of finished output will inevitably rise, and with it the profits of industry. "This rise will, indeed, measure the community's 'saving'; the profits of industry corresponding to the rate of investment, so that from a budgetary point of view the State investment programme will be self-financing, creating exactly the amount of profit necessary to finance the investment."¹⁶

But this very rise of price, by increasing profits, has increased the 'demand for capital', and hence raised the equilibrium-price of capital *above the level at which it originally stood*. If the State delays the raising of its accounting-price (after the initial lowering of it), the inducement to expand constructional activity will not only persist, but will grow cumulatively greater. If, on the other hand, after initially lowering its rate to stimulate, it is too quick to raise it again as a check on the inflationary tendency, it may find itself heralding an opposite effect. In other words, the difficulty which today exists in influencing long-term investment through changes in the short-term rate may reappear, and reappear in an accentuated form.¹⁷

These results will not appear strange to those familiar with the proposition that 'saving equals investment'. Where the State is the investor, its investment decisions will determine and create the communal 'saving' necessary to finance it, as will be the case when investment is done by private entrepreneurs. But when all (or nearly all) personal incomes are spent, this saving must partake of the nature of so-called 'forced saving': the

significant effect of the investment will be, not to enhance the money incomes of individuals, but the income of the State in the shape of industrial profits. The notion that the State 'creates' its own profits by its own investment is, of course, analogous to the contention of Kalecki (1937)¹⁸ that, on similar assumptions, capitalists' spending 'creates' capitalists' profits (see also van Dorp, 1937).¹⁹ If, therefore, changes in the price of output, and in the profits to which these give rise, are allowed to influence the investment decisions of industry, a cumulative tendency will be latent in any acceleration or deceleration of investment during the short period.

This characteristic of the situation is more marked in a Socialist economy (unless its investment is centrally planned) because, in so far as wages are the only form of personal income and little or nothing is 'saved' out of wages, the demand for finished output is identified with the short-period cost of output unless State expenditure is taking place. In a capitalist society other incomes than wages exist, and to the extent that expenditure from these incomes (measured in real terms) tends to alter inversely with the price of finished output, a stabilizing element is introduced; and it is on some such assumption as this that traditional writers seem to have relied when they have pictured the system as tending towards stable equilibrium, and in particular have treated variations in money wages as an equilibrating influence.²⁰

II.12.vi. Superiority of the Centrally Planned Investment Mechanism

Dobb rendered centrally planned investment superior to a decentralized system operating under the control of an accounting price or interest rate. It is that by the former method investment could be more wisely and consistently planned through time, since investment decisions could be taken in the light of fuller knowledge of the data on which the rightness or wrongness of such decisions must depend. "This would seem to be so crucial an element in the superiority of a socialist over a capitalist economy as to render it an essential keystone of a planning system."²¹ If, on the other hand, questions of plant construction were left to be decided decentrally, according to rule-of-thumb responses to accounting prices, the industrial managers who decided these things would be largely ignorant of future developments, upon which their decisions ought to depend. It follows from the situation in which they are placed that these managers could not have all the relevant data before them; and this is the crucial difficulty.²² Since investment represents a locking up of resources over time, the 'future' price of capital and the future price of products would be relevant to any of the decisions of types 2, 3, and 4 referred to above. The capitalist entrepreneur takes his decision on the basis of 'expectations' as to the future trend of these factors, and because these expectations are necessarily mere guesses, mistakes and subsequent jerks in development and fluctuations develop. On what is the industrial manager in a socialist economy to base his decision? In order to estimate the future trend of interest-rates and the price of his product, he will have to guess not only what the State policy with regard to investment is going to be, but what the current reaction of industrial managements is going to be to the current interest rate - how much current construction work is being undertaken in the economy at large, and its results. In other words, the future trend will itself be affected by his own decision and that of all his fellow industrialists. It seems inconceivable that this guessing-game can be reduced to any simple set of rules. Indeed, it is difficult to see how Lange's accounting price for capital, if it is to be a long-term rate, can be a 'trial and error' rate in any significant sense of the term, since the process of trial and error that is to test it and adjust it necessarily lies in the future, and is itself being influenced by current happenings which, under a regime of decentralized investment decisions, are outside the planning authority's immediate control.

It would seem as though the only accounting price for capital that can properly be said to be subject to trial and error, and hence have any tendency to be a 'true rate', is a short-term rate.²³

Where decisions cannot be quickly revised, as is the case with long-term investment, it would seem to be rational that a series of decisions, each of which affects the others, should be co-ordinated in a unified decision instead of being separated into a number of autonomous decisions. This is possible with a moderate degree of planning with a wider vision. In a planned-socialist economic system where wages, prices, consumption and profits are directed according to the investment motive, the role of savings mechanism is a dubious matter.

Savings in a centrally planned economic system is a non-existent phenomenon. In a literal sense, there is no savings. Since planned investment is the controlling force, the role of savings is irrelevant as far as economic decisions are concerned. The decision of the central planners to reduce the consumption of the households is no alternative mechanism for savings mechanism. It is this misunderstanding among the socialist planners that derailed the investment in the long-run and thereby stagnated the growth of the economy. If the socialist state has to survive, the household consumption has to be improved. The priority to consumption over production goods resulted in a new debate, to which we shall proceed.

NOTES

1. Alec Nove and D.M.Nuti, eds., *Socialist Economics*, Penguin Books, England, 1973, p. 110.
2. Dobb, M. H., 'A Note on Saving and Investment in a Socialist Economy', *Economic Journal*, 1939; reprinted in M. H. Dobb, *On Economic Theory and Socialism*, Routledge & Kegan Paul, 1955, pp. 41-55.
3. Lange, O., 1938, *The Economic Theory of Socialism*, University of Minnesota Press, pp. 72-98.
4. Lerner, A. P., 1936, A note on socialist economies, *Review of Economic Studies*, February; and, 1937, 'Statics and Dynamics in Socialist Economics', *Economic Journal*, vol. XLVII.
5. Hall, R., 1937, *The Economic System in a Socialist State*, London.
6. Lange (1938, pp. 75-6, 78, 79) postulates that all managers of industries and plants must be ordered first to choose 'the combination of factors which minimizes the average cost of production', secondly 'to produce as much of each service or commodity as will equalize marginal cost and the price of the product.' With regard to capital he states that 'a price has to be fixed by the Central Planning Board with the provision that these resources can be directed only to industries which are able to "pay", or rather "account for" this price'. Lerner (1937, p. 257) has suggested that instructions should be issued 'that the use of every factor is to be extended up to the point where the marginal physical product multiplied by its price is equal to the price of the factor....This value, which has to be equated to the price of the product, we shall call the marginal cost....The guiding principle that we seek is none other than the equation of price to marginal cost'. Hall (1937, pp. 92, 119, 129) has written: 'If the rate of interest has been chosen correctly, the total expansions should balance the total contractions...if there is a general tendency to expand, the rate must be raised in order to turn some of the apparent profits into losses, and vice versa.' 'The aim of the Ministry (of Production) is to equate prices and marginal costs, which is done by varying the amounts of the various goods....Every unit, if properly conducted, will extend its operations to the point where the marginal cost equals the price which is received.' Pigou (1937, *Socialism and Capitalism*, Macmillan, pp. 112,115,129) has assumed that an accounting price for capital (as for other factors) can be arrived at that 'will exactly clear the market, without shortage or surplus, of that part of money income that is on offer for net investment', but that each industry is told to adjust its production so that 'aggregate costs are equal to aggregate sales proceeds' and its 'average accounting cost is a minimum'. All these passages are quoted in Alec Nove and D.M.Nuti, eds., *Socialist Economics*, Penguin Books, England, 1973, p. 114.
7. Alec Nove and D.M.Nuti, eds., *Socialist Economics*, Penguin Books, England, 1973, p. 114.
8. *Ibid.*, p. 115.

9. Wicksell, K., 1934, 'Professor Cassel's System of Economics', in L. Robbins (ed.), *Lectures on Political Economy*, vol. 1, Routledge & Kegan Paul.
10. Alec Nove and D.M.Nuti, eds., *Socialist Economics*, Penguin Books, England, 1973, p. 116.
11. This implies that there is no subsidy to consumption in the shape of a money-grant to individuals, i.e. no form of 'social dividend in money'. It is also implied, for the present, that the State levies no taxation, either direct or indirect, on wage earners.
12. Alec Nove and D.M.Nuti, eds., *Socialist Economics*, Penguin Books, England, 1973, p. 116-117.
13. The contradiction between this and Lerner's (1937) principle that the size of plants should be chosen which equates MTC and the demand-price is only apparent. Lerner's principle comes into play where the plants in an industry are sufficiently few to make impossible such a nice adjustment of their number as to enable them all to be of optimum size and at the same time to be operated at 'normal' capacity.
14. Alec Nove and D.M.Nuti, eds., *Socialist Economics*, Penguin Books, England, 1973, p. 118.
15. *Ibid.*, p. 119.
16. The amount by which the 'employment multiplier' exceeds unity will here depend simply on the gradient of the (rising) short-period cost-curves in existing plants; since this gradient determines the 'shift to profit' as demand increases. But whatever this gradient, equilibrium on the above assumptions requires that output in these plants should be increased to the point where marginal cost has risen sufficiently (relatively to average cost) to yield an aggregate of profit that is equal to the amount of investment.
17. It will follow that the 'true' accounting-price for capital will be at its lowest when, for any reason, a zero rate of net investment prevails. Profits in this case will be zero, since with a zero rate of investment equilibrium can only be achieved when the price-level of output = AOC of output; wages being, *ex definitione*, the only source of demand for final output, and operating costs consisting solely of wages. It might seem to follow that, since profits are zero, the 'true' accounting-price must also be zero. But this is not the case; since a zero accounting price for capital might stimulate changes of class 4, i.e., changes in the technical type of plant, owing to the economy of operating costs that the new type of plant could yield; and to maintain a zero rate of net investment the accounting-price would have to be high enough to offset the advantage of any such change. (This argument corresponds to the marginal productivity of the existing stock of capital in traditional capital theory.) It will be only be zero when changes of class 4 have proceeded sufficiently far to reach what has been called the point of 'capital saturation': Dobb (1937) and Lange (1938), in Alec Nove and D.M.Nuti, eds., *Socialist Economics*, Penguin Books, England, 1973, p. 120.
18. Kalecki, M., 1937, 'A Theory of the Business Cycle', *Review of Economic Studies*, vol. 4, pp. 77-97.
19. Van Dorp, E. C., 1937, *A Simple Theory of Capital, Wages, Profit or Loss*, London.

20. Alec Nove and D.M.Nuti, eds., *Socialist Economics*, Penguin Books, England, 1973, p. 120-121.
21. Alec Nove and D.M.Nuti, eds., *Socialist Economics*, Penguin Books, England, 1973, p. 126.
22. That this is a matter of the objective situation and not of subjective factors (the efficiency of managers and their powers of vision, etc.), does not seem always to have been appreciated; e.g. Pigou (1935, pp. 114-15) and Hutchison (1938, *Basic Postulates of Economic Theory*, London, pp. 186-7), where this argument is cited as though it depended on the personal qualities of administrators who take the decisions, and not on their situation.
23. Alec Nove and D.M.Nuti, eds., *Socialist Economics*, Penguin Books, England, 1973, pp. 126-129.

CHAPTER THIRTEEN

THE NEO-SOCIALIST ECONOMIC GROWTH MODEL WITH AN EMPHASIS ON CONSUMPTION

During the stage of transitional socialism, tighten the belt approach was thought to be the right course; where promises of future but imminent prosperity was given. But when this method was continued into the classical socialism, the adherents of socialist principles were shattered. Their dream of more consumption was translated into the bleak reality of shortage and rationing. The socialist mechanism of capital accumulation, investment and production, though gave a new and bright face to socialism, in reality it marred the face of the household. The following analyzis, based on the research by Brus and Laski (inspired by Kalecki's work and by the Polish experience), stresses the conflict between the then rate of consumption and growth, and the factors limiting economic growth, anticipating a new trend of giving priority to consumption rather than to production goods; and therefore this can be considered as a neo-socialist model of economic growth. The model of Kalecki, while emphasizing the necessity of a shift towards consumption, also brings out the problems in the theory of growth under socialism.

II.13.i. Dimensions of the Factors of Growth

'Problems in the theory of growth under socialism', written by W. Brus and K. Laski,¹ outlines a general approach to the factors of growth. According to them realistic models of growth in a socialist economy take as their starting-point the problems of the dimensions of available factors of growth. Rather than the problems of aggregate effective demand, they emphasize 'supply' as limiting the size and the growth rate of production. Factors concerning the 'supply-side' can be dealt with in two ways: first from the point of view of current labour (labour reserves and their increase; level of productivity and its changes). Viewed thus the gross national income (Y) is determined by the product of employment (Z) and productivity (W) defined as gross value added per employee:

$$Y = ZW \quad (1)$$

Secondly, we can approach the same problems from the point of view of stored-up labour (stocks of means of production and their increase; effectiveness of means of production and its changes). Thus the gross national income can be presented as the product of the real productive fixed capital (M) by the effectiveness of this fixed capital (E) defined as gross value added per unit of capital, or

$$Y = ME \quad (2)$$

The model of growth formulated by Kalecki² (p.174,2) forms a suitable starting-point for the following discussion.

II.13.ii. Kalecki Model

On the basis of the methodological assumptions expressed by formula 1, the rate of growth of the national income (r) during the period t is determined in this model as follows:

$$r = \Delta Y/Y = \alpha + \beta \quad (3)$$

where ΔY is the increment of national income during the period t, i.e. the difference between gross national income at the period t and the period t-1;

Y is gross national income at the period t-1;

α is the rate of increase in average productive employment at the period t in relation to period t-1;

β is the rate of increase in average labour-productivity at the period t in relation to period t-1. (The product $\alpha.\beta$ is omitted as negligible).

Thus the rate of income growth is the sum of the rate of increase in employment and of the rate of increase in productivity. But both the increase in employment and the increase in productivity assume at the same time a corresponding increase in real productive fixed

capital and in its effectiveness. Thus the rate of income growth should at the same time be expressed in terms of the methodological assumption resulting from formula 2:

$$r = \Delta Y/Y = i \times (1/m) - \alpha + u \quad (4)$$

where

I: is gross productive investment in fixed capital (the increase in inventories omitted for simplicity) at the period t-1, put into operation at the period t;

i = I/Y is the rate of investment or the share of gross productive investment in the gross national income at the period t-1;

m: is the investment outlay necessary to obtain an increase in national income by one unit or the ratio $I/\Delta Y'$, where $\Delta Y'$ is the increase in national income due to investment;

α : coefficient of the decrease in national income resulting from the actual loss of means of production or the diminution in their effective functioning due to physical depreciation;

u: coefficient of the increase of national income resulting from all kinds of improvements raising the effectiveness of the existing real productive fixed capital.

Kalecki stresses the fact that formula 4 cannot be applied in a capitalist economy, as there the coefficient 'u' is not an independent variable and fluctuates gently (even in terms of + or -) as a result of the business cycle. On the other hand in a socialist economy in normal conditions this coefficient is always positive, reflecting the tendency of continued improvement of the existing productive apparatus. It results therefrom that the magnitude $i \times (1/m)$ becomes a strategic factor determining the rate of economic growth. This argument can be reinforced by emphasizing that in a capitalist economy the rate of investment also is not independent of the magnitude 'm', which really determines the rentability of investments (assuming a given distribution of income between profits and wages). In comparing the formulae 3 and 4 we see that: $\alpha + \beta = i \times (1/m) - \alpha + u$ as is obvious, since the rate of growth in the national income does not change according as we look at it from the point of view of labour or of real productive fixed capital.³

II.13.iii. Full Utilization of the National Growth Potential

The confrontation of these two aspects is important as it enables us to realize some of the interrelations needed to define the optimal rate of growth in given conditions. It is obvious that first of all the key magnitude $I/Y = i$, i.e. the rate of investment must be properly established. The degree of complexity of the problem of properly defining the rate of investment depends on the degree of variability of the remaining factors to which the rate of investment should correspond. "Thus, to obtain the optimal rate of growth, it would be necessary to do two things only: first, to establish satisfactorily the unequivocally determined rate of investment; secondly, to put into operation a mechanism to ensure the actual attainment of such a rate of investment and its maintenance at the same level."⁴ And yet every step toward reality must mean at the same time a progressive relaxation of the assumptions regarding the invariability of the factors present in the model under consideration. In reality the rate of growth of available labour resources, as well as the rate of productivity, are variable. The coefficients m , α and u have different values at different stages, especially when account is taken of different time-horizons. "A full utilization of the growth potential requires in reality a variable rate of growth, and therefore also a rate of investment that varies at least at certain intervals of time."⁵

This means that the criteria for the evaluation of the conditions, within the given social and economic system, for the optimal process of growth, cannot be limited to the possibility of attaining once and for all a definite rate of investment. "These criteria include also the essential factor of flexibility in establishing the rate of investment, a proper relation, that is, of investment to consumption in the national income. And this flexibility must be such that it will not cause a lack of effective aggregate demand in relation to productive capacities and thus will not cause any waste of the real growth potential."⁶ A socialist planned economy creates more favourable conditions for a full utilization of the national growth potential than those created by an economy where the general rate of investments depends on the private 'propensity to invest.'⁷

II.13.iv. Acceleration of Growth with Existing Labour Reserves

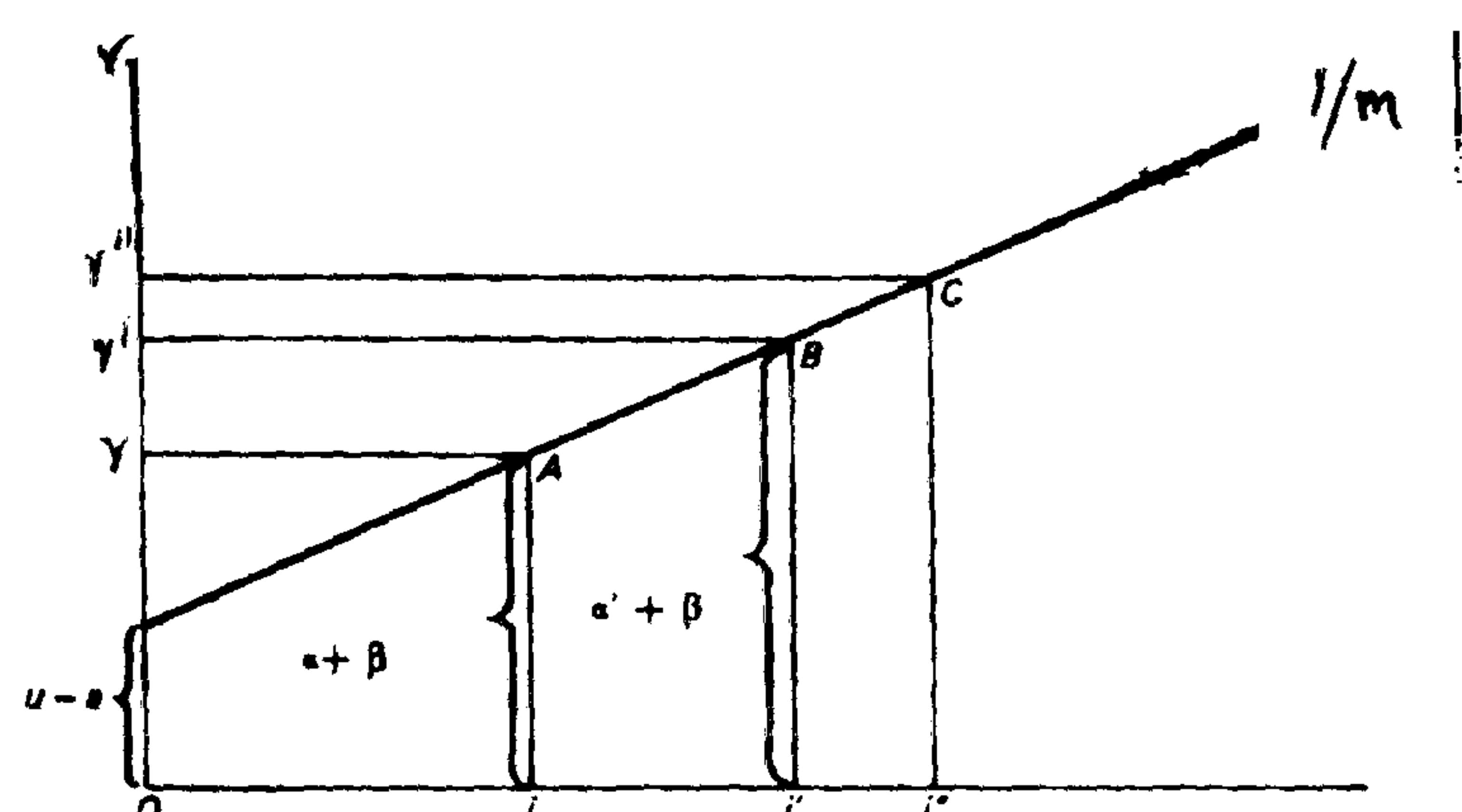
The rate of growth of the national income (r) existing at the starting period t_0 is below the limit set by the labour force (there exists a reserve of population able to work and not yet employed) and therefore it can be increased. The assumption of stability in the rate of increase of productivity (β), in as much as β depends on the coefficient m , is meanwhile maintained. (Polish experience, before 1949, can be cited as a case study in this regard.)⁸

We shall examine the variability of the rate of growth at the period of acceleration. When α' indicates the rate of growth of the labour-force-supply due to the rate of increase of the population with a given ratio of active to total population and $\alpha' > \alpha$, meaning that the rate of increase in employment has been less than the rate of growth of the labour force, so that the growth potential was not fully taken advantage of, this would necessitate a change from the rate $r = \alpha + \beta$ to the rate of $r' = \alpha' + \beta$ (assuming that β remains constant, which is not precisely true even when the coefficient m remains unvariable). A change, however, from the rate r to the rate r' is a very complicated process which cannot follow a uniform path.⁹ Though the gradual increase of r to r' means a formal equalization of the actual and of the potential rate of growth, the absolute increase of employment in this situation is still lower than the absolute increase in labour force. If the above-mentioned conditions were stabilized, then employment would grow by α' , but simultaneously unemployment would grow also, at the same rate, by α' . Thus to stabilize the rate of growth after n years in the year t_n at the level r' there must be some moment between the period t_0 and the period t_n during which the rate of growth $r'' > r'$, in order to bring the economy on to the new course of growth. Only after a period during which the rate of growth is sufficient both to absorb the whole current increase in labour force and in addition the surplus of labour from the preceding periods, can growth be stabilized at the level r' . We have, therefore, the following course of the process of changing the economy from the rate of growth r' , corresponding to the rate of increase of labour force α' : $r \rightarrow r' \rightarrow r'' \rightarrow r'$ while $r < r' < r''$.

In Figure II.13.1 this process is shown diagrammatically.

Figure II.13.1.

Acceleration of the Rate of Growth



[On the horizontal axis is measured

the rate of investment (i);

On the vertical axis the rate of growth
of the national income (y);

The coefficient of direction of the
straight line is $1/m$, the distance from
the origin $u-a$, if we assume that
 $u-a > 0$.]

Until the year t_0 the economy grows at the rate r with the rate of investment I . In the year t_m (intermediate between the year t_0 and the year t_n), the economy attains for the first time the rate of growth r' with a rate of investment I' . The line AB shows the development between the year t_0 and t_m . The line BC shows the development from the year t_m to t_n , when the rate of income growth and the rate of investments must temporarily increase above r' and i' to r'' and i'' to secure the elimination of unemployment. In the year t_n the economy returns to the rate of growth r' with the rate of investment i' . This is the rate adapted to the equilibrium balance of the labour force. The change to the new stabilized growth goes through the points $A \rightarrow B \rightarrow C \rightarrow B$. This analysis of the probable course of the process of absorption of the unutilized labour force and of the elimination of this source of difference between the actual and the potential rates of growth confirms the complexity of this process. The rate of investment must not only increase but even exceed temporarily the long-term optimal level and decrease again later. This requires, among other things, even a temporary reversal of the direction of the change in the rate of growth and in the rate of investment.¹⁰

II.13.v. Acceleration and the Dynamics of Consumption

The basic problem is the degree of freedom in determining the ratio of investment to current consumption in the national income. The current consumption (defined as $Y-I$) is the more affected, the lower is the starting-point, defined as the relative value r and i , and also the lower the starting level of consumption per head of population. The lower is the figure r in relation to r' (and also r''), so, *ceteris paribus*, the larger must be the growth of i . The growth of i diminishes correspondingly the share of consumption in the national income ($I-i$), and during the period of acceleration it restricts the rate of increase in consumption. The consequences of this restriction are the more onerous the lower is the level of consumption per head of population. From this point of view of course not only is the rate of acceleration of fundamental importance, but also the length of time in which the economy is to take the new course of growth. The shorter is n , the more violent is the growth of i and the fall of $I-i$, and the slower is the growth of consumption.

Let us now consider in detail the problem of acceleration in relation to the dynamics of consumption. In order to simplify we shall not take into consideration all the intermediary stages of the course between the points $A \rightarrow B \rightarrow C \rightarrow B$. Before the year t_0 the economy grows at the rate r . There is the same growth of consumption, C . This growth is the sum of $\alpha + \beta$, which means that β is not only the rate of growth of labour productivity but also the rate of growth of average real wages. On the other hand population grows by $\alpha' > \alpha$ so that consumption per head grows by $\alpha + \beta - \alpha'$, or slower than labour productivity and average wages β , as $\alpha + \beta - \alpha' < \beta$ when $\alpha' > \alpha$.¹¹ By the year t_n the economy will have attained the stabilized rate of growth $r' = \alpha' + \beta$. Total consumption will thenceforth increase at the same rate. Simultaneously the rate of increase in labour productivity and that of average real wages will equal the rate of increase in consumption per head of population, which will amount to $\alpha' + \beta - \alpha' = \beta$. The final effect is satisfactory.

But what happens during the n years between the year t_0 and t_n ? Let us assume that the decision to increase the rate of growth was taken in the year t_0 . This, assuming one year as period of 'maturing' of investment, leads to a change in the rate of investment in the year t_1 , and to a change in the rate of growth of the national income in the year t_2 .¹² Essential importance to be attached to the fact, that in the year t_0 , when the decision is taken to increase the investment rate in the year t_1 , a given rate of investment already exists, resulting from decision taken in the year t_{-1} . Thus the rate of growth of the national income in the year t_1 and the absolute level of the national income in that year are determined completely independent of the fact whether and to what degree the rate of investment may change. In such conditions, however, any growth of the investment rate does not only mean a reduction of the share of consumption in income - which is always true - but it also means that the level of consumption is absolutely below the level which would have been attained had the acceleration process not been started in the economy concerned.

Let us denote national income, consumption and investments in the year t_0 by Y , C , and I correspondingly. Were there no acceleration, in the year t_1 these figures would amount respectively to $Y(1+r)$, $C(1+r)$, and $I(1+r)$. If we intend to accelerate growth and establish

a share of investment in income amounting to: $i' = I(1+r)+\Delta I/Y(1+r)$, then consumption would amount to: $Y(1+r)-I(1+r)-\Delta I < C(1+r)$.

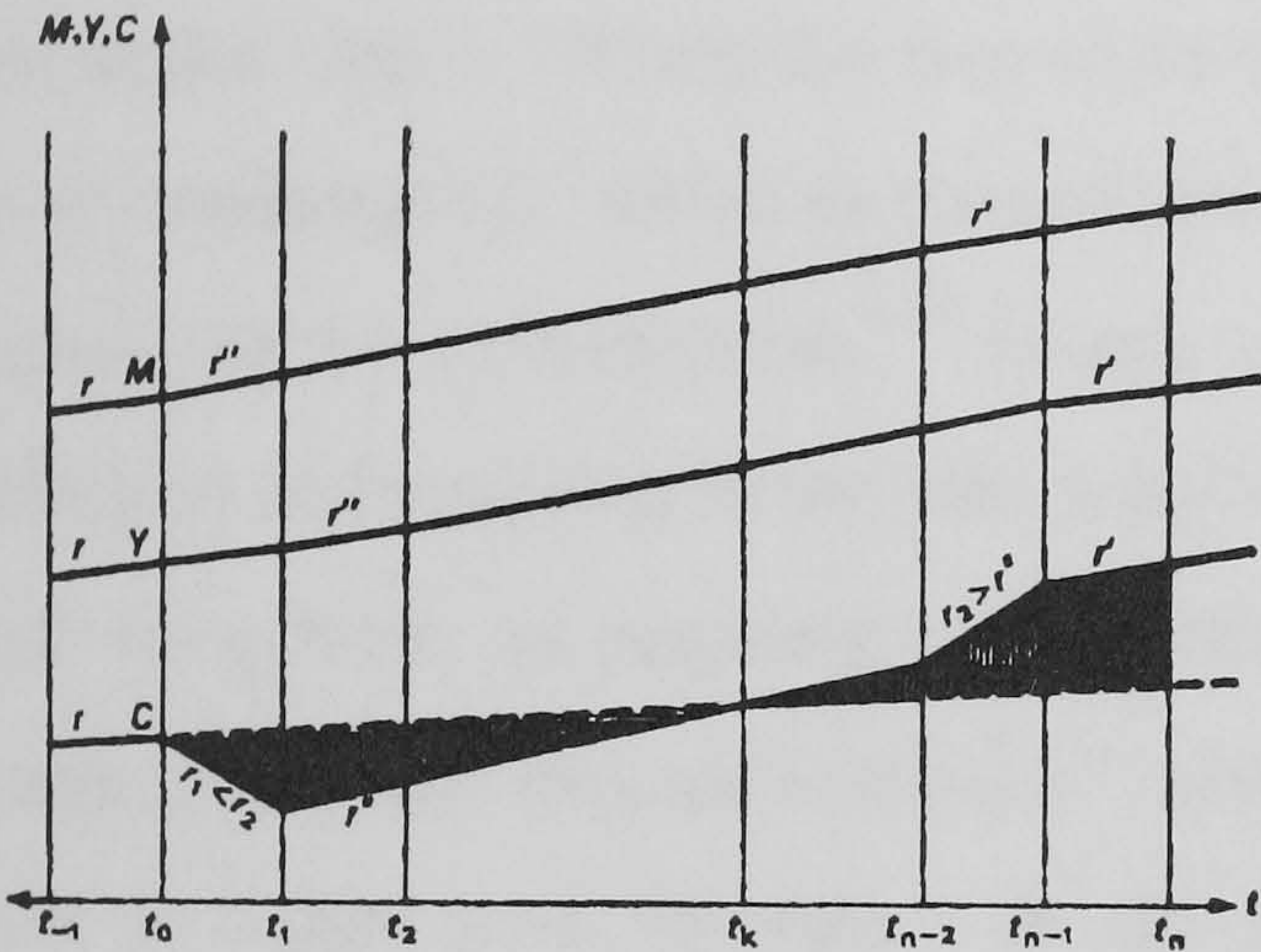
The rate of increase in consumption in the year t_1 will be therefore smaller than $r = \alpha+\beta$, and it must be smaller if acceleration is to be achieved.¹³

II.13.vi. The Limiting Factors of Consumption

The extent of the limitation of consumption depends on several factors, but above all on the magnitude ΔI which in turn depends on the difference $r'-r$ with the given coefficient m . If r' is much larger than r , then ΔI must also be large and it must limit relatively strongly the consumption in the year t_1 . It depends further on the magnitude r whether this limitation takes the form of a slower growth, a stabilization or an absolute decline. The lower r , the greater the danger of stabilization or even of absolute decline of consumption in conditions in which it is necessary to increase markedly the rate of income growth. Independently, however, of different possible quantitative changes, the phenomenon of initial losses of consumption in order to raise the economy to a higher growth path of national income and consumption always occurs in the process of acceleration.

It is illustrated in Figure II.13.2 (on a logarithmic scale).

Figure II.13.2.
Growth of Consumption in the Process of Acceleration



Until the year t_0 the economy (national income = Y , real productive fixed capital = M , consumption = C) has been growing at a stable rate $r = \alpha + \beta$ lower than the potential rate of growth $r' = \alpha' + \beta$. In the year t_0 the decision is taken to increase the rate of investment in order to adapt it to the available labour force. In order to simplify let us assume that there has occurred a single increase in the rate of investment to a magnitude sufficient to ensure the absorption of the whole labour surplus (the increase of population and those unemployed in the preceding period). The rate of investment will increase initially up to i'' (corresponding to the rate of growth of fixed capital r''). Assuming, however, that the maturing period of investment is one year, then in the year t_1 national income continues to grow at the rate r . "When the rate of investment is increased, this means a decline in the rate of consumption, which in case of drastic changes in proportions may lead even to an absolute fall of consumption."¹⁴ In any case, as it is shown in the diagram, the rate of increase in consumption in the year t_1 is lower than the hypothetical one (that which would occur were there no acceleration, indicated by a broken line). In the year t_2 the rate of growth of national income reaches r'' , consumption grows correspondingly at the rate r'' , which is higher than the rate r at the initial period. Thus at some moment t_k actual consumption will reach the level of the hypothetical consumption (the point of intersection of the continuous line with the broken one). This moment (year) is described as the moment (year) of equalization, and the period between this moment and the moment of starting the process of acceleration ($t_k - t_0$) as the time of equalization.¹⁵ In the following period, if growth continues for a period to be at the rate r'' , actual consumption will exceed hypothetical consumption. In the year t_{n-2} , foreseeing the exhaustion of the labour surplus during the year t_n , the planning authorities will decide to decrease the rate of investment for the year t_{n-1} to i' , corresponding to the long-term rate of growth r' . Thus between the year t_{n-2} and t_{n-1} there will occur a phenomenon inverse to the one observed during the interval of time from t_0 to t_1 : income grows still at the rate r'' , but with a rate of investment $i' < i''$ the increase in consumption is more rapid than r'' . From the year t_n , national income, consumption and real productive fixed capital grow at the long-term rate r' , which is higher than the initial rate r and corresponds (on the basis of the assumptions we have made) to the potential rate of growth $\alpha' + \beta$. The segment hatched horizontally

represents relative losses in consumption (in relation to the hypothetical consumption) during the period $t_0 - t_k$, the segment hatched vertically represents the relative gain in the period $t_k - t_n$. During the period after the year t_n , the relative gains are proportionate to the difference between the rates of growth r' and r .

II.13.vii. Acceleration and the Role of Lengthening of the Time

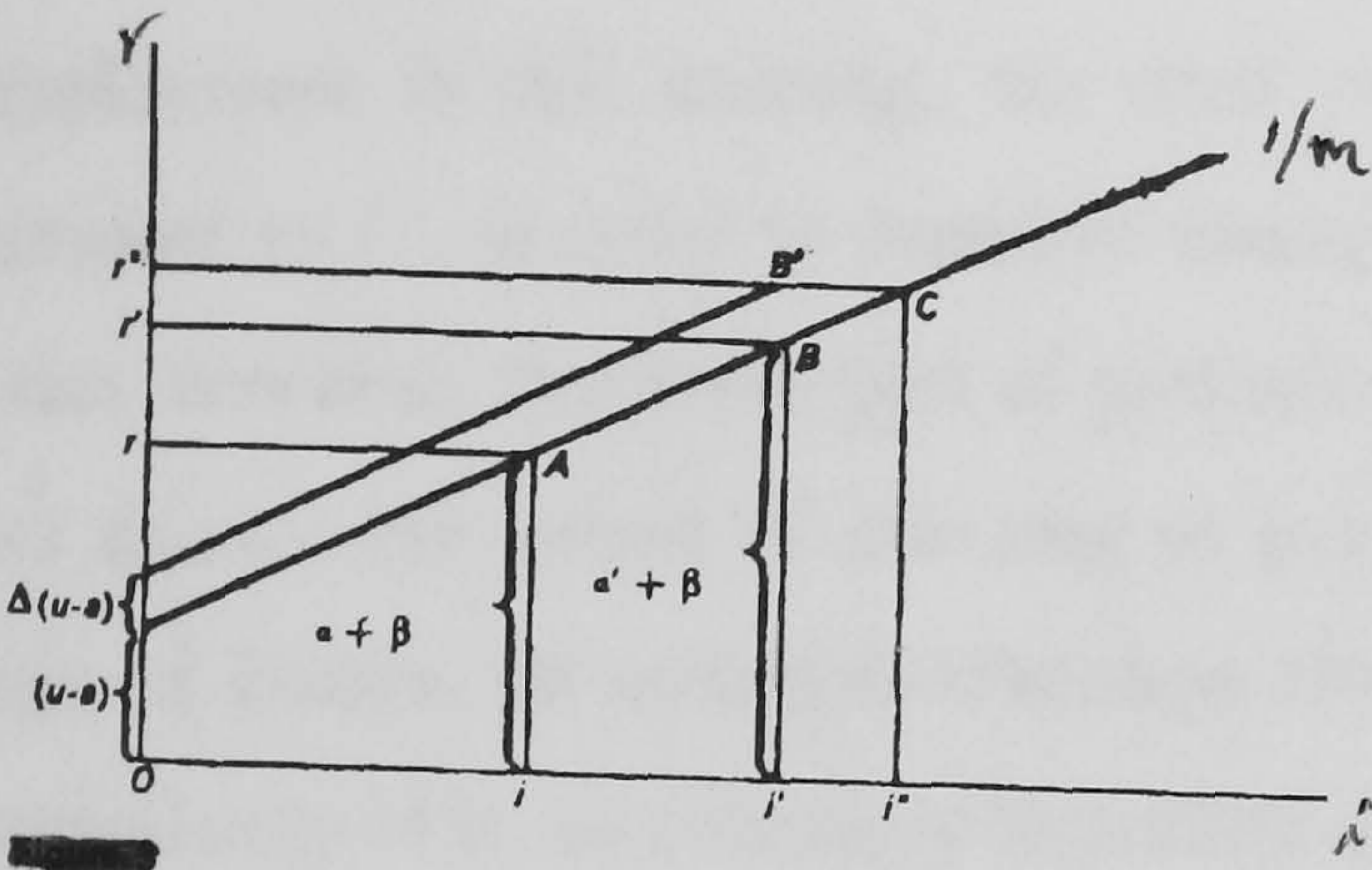
It is important to realize the part played in the process by the length of time over which acceleration takes place. At the end of this period the rate of investment must grow from i to i'' . A lengthening of the time over which the process of acceleration occurs is necessary to relieve the conflict between the growth of investment and the level of current consumption, as it makes it possible to have a higher rate of investment i'' when income and consumption have also attained an absolutely higher level. This is the problem facing socialist planning, since such planning cannot aim exclusively at a maximum shortening of the period of under-utilization of the labour reserve (though theoretically it would be most advantageous), but it should aim at what is in the given conditions the best compromise between growth with future consumption and the needs of present consumption.¹⁶

II.13.viii. The Role of Non-Investment Factors

From the above analysis it is clear that the strategy of growth during the period concerned must emphasize the taking advantage of all possibilities of shortening the period of under-absorption of the labour force, just so far as that can be done without damaging the actual consumption. "Countries at an intermediate stage of development have at their disposal a productive equipment which in conditions of capitalism is not fully utilized owing to lack of effective demand. We have, therefore, at the beginning of industrialization not only an under-utilized labour force but also some under-utilized productive capacity, the mobilization of which does not require any investment outlays."¹⁷ With the expansion of investment the violently growing internal demand can be met in some measure by the elimination of shorter working weeks, the increase of the number of

shifts, and similar measures. We have here an example of the importance of the power of macro-economic calculation under socialism to take advantage of an existing growth potential. An analogous part may be played, for a very short period, indeed, by the reduction of repair and period outlay maintenance (provided it does not decrease immediately output capacity in proportion to the reduction of outlay), and especially by refraining from replacing equipment which is out of date from the economic viewpoint. It is true that this equipment gives a very low return, in many cases not even exceeding the wages of the workers employed. It makes it possible, however, to use productively the surplus labour. Thus we can temporarily increase u and decrease a , increasing the difference $u-a$, which means an increase in the rate of income growth independently of changes in i . This factor is of special importance since, unlike investment, it produces very quick effects merely by increasing income, in which the share of productive investment may be expected to be greatly augmented. The increase of the difference $u-a$, achieved mainly by employing gradually a larger labour force on already existing equipment, can be considered as an alternative to applying primitive methods of production in order to take advantage of the so-called saving potential existing in incomplete employment. After the Second World War this alternative was rather commonly used in socialist countries.¹⁸ The influence of the change in the difference $u-a$ on the process of setting the national economy on a new path of growth can be illustrated in Figure II.13.3.

Figure II.13.3.
 The Role of Non-Investment Factors



In comparison with the Figure II.13.1, we have here an additional straight line at the same inclination ($1/m$) as the line AC, but at a greater distance from the base of the diagram. This distance is greater by the segment $\Delta(u-a)$, which expresses the average total effect of the increase of u and of the decrease of a during the period (number of years) in which this effect occurs. We assume in this connection, as usually happens in practice, that workers additionally employed as a result of the increase in $\Delta(u-a)$ stay there permanently. In consequence of this effect, the rate of growth r'' is temporarily attained due to the rate of investment i' (point B'). When the temporary effect $\Delta(u-a)$ ceases, at the rate of investment i' , we descend to point B on the straight line AC. But if at that moment unemployment is still existing, we must reach point C, that is increase the rate of investment to i'' , in order to liquidate unemployment and to come to point B. In view of the fact, however, that some part of unemployed was absorbed by taking advantage of the effect $\Delta(u-a)$, the period of our stay at point C will correspondingly be shorter, which brings, of course, an essential advantage from the point of view of actual consumption. Independently of it, an extremely important advantage consists in the fact too, that the rate of investment grows from i to i' and eventually from i' to i'' when there is an absolutely higher level of income, and thus also at an absolutely higher level of consumption. This schematic process considers the fact of taking advantage of the effect $\Delta(u-a)$ which facilitates the acceleration of the rate of growth in the most difficult initial phase of socialist economic planning.

The additional increase of income due to non-investment factors will consist in the first place of capital goods and not of consumption goods. Without previous investment no growth in agricultural production is to be expected, and in the countries concerned agriculture produces the main part of consumption goods. On the other hand labour productivity will grow more slowly when non-investment factors are utilized, than if the labour reserve were absorbed by new equipment. There occurs therefore a notable trend towards the increase of employment to the detriment of the factor of the increase of productivity. This is related, then, to the problem of the appearance of inflationary phenomena in the first stage of socialist industrialization.¹⁹

II.13.ix. Function of the Growth of Labour Productivity

The growth of labour productivity, amounting in the initial variant to β , plays an important part in the reduction of strains in consumption caused by the acceleration of growth. It is easiest to represent it by denoting the rate of investment as the function of the level of labour productivity (W) and of real wages (w). We have then

$$i = I/Y = \{Z(W-w)/ZW\} - 1 - w/W \quad (5)$$

It follows therefrom that the rate of investment depends on the ratio of wages to labour productivity, assuming that the whole difference $W-w$ is productively invested. The increase of i calls for a decrease in the ratio w/W . When productivity grows by β annually, some increase in real wages is compatible with a decrease of the ratio w/W provided that the rate of increase of real wages is lower than β . If, however, a significant increase of i is required, then the increase of real wages must remain far below β . When β is large enough, real wages can grow, or at least not fall, even if their trend is far below β . But if β decreases, then the possibility of real wage increase, which is far less than β , falls also. When $\beta = 0$ or W is constant, any increase of i requires unconditionally the fall of w to a level determined by the postulated magnitude i . Again when β is positive, but relatively low, in general the required magnitude of the rate of investment will not be attained without a certain decrease in real wages. "Thus the danger of decrease of real wages is greater when investment is linked with non-investment than when investment alone is imposed (but within definite limits)."²⁰

But the level of real wages should not be identified with consumption per head. If, when investment alone is imposed unemployment lasts longer, then employment is lower also at the start. With a given consumption fund, wages will be higher the lower is employment. With an additional utilization of non-investment factors $\Delta(u-a)$ employment is higher in the first stage, while unemployment is lower. With the same consumption fund, wages will be lower if employment is higher. This will be the case also, even when the consumption fund is greater, provided that employment is still correspondingly greater.

It would seem that this last case was characteristic of the first stage of rapid industrialization in Poland. At that period real wages increased very little and in the years 1951-53 they even decreased markedly. But the increase in employment was so great in comparison with the growth of population that consumption per head grew during the whole of this period. Even a stabilization, not to speak of a decrease, in real wages is a hard nut to crack for a socialist society. On the other hand, when there is a conflict between increase in wages and increase in consumption per head, it is in the general interest of the economy to solve it to the benefit of consumption.²¹

II.13.x. The Problem of Inflationary Phenomena

In these conditions the danger of inflation generally arises. It occurs when real wages cannot rise further, while money wages still must rise by a certain percentage even if only because of payment by piece rates. If efficiency grows by β , then money wages grow by β/p , where $p \geq 1/(1/p)$ is the coefficient of increase of money wages in relation to the increase in productivity. But since real wages are to stay fixed, then prices and costs of living must rise also by β/p . Naturally this phenomenon operates more acutely if real wages have to decrease at some time, and much less acutely if real wages are able to rise though to a smaller degree than the 'natural' increase in money-wages. It should be remembered that during the phase of rapid industrialization of a country the growth of average money wages is strongly influenced by rapid changes in the structure of employment arising from the transformation of the general economic structure. Employment increases most rapidly in heavy industry and in building, where relative wages are high, as is necessary to attract labour in the desired direction. The resulting increase of average money wages becomes an inevitable additional factor increasing the inflationary pressure.²² This is the problem of inflationary phenomena in the introductory stage of socialist industrialization.

We have considered the problems relating to the process of the acceleration of growth by employing for production unemployed and hitherto surplus labour. The increase of the ratio of active participation renders possible growth at a higher rate, but only so long as

there exist conditions favourable to the increase of this ratio. The ratio of participation of the population depends in a great measure on expenditure on social institutions (e.g. crèches and kindergartens which make possible an increase in the participation ratio of women) and in certain other forms (transportation facilities, hostels for workers, etc.). The possibility of allocating funds, to education and professional training of skilled personnel and for health measures and other socio-economic purposes, directly by the planning authorities according to the criteria of socio-economic productivity - without having to depend on private 'propensity' to meet these needs adequately - is widely adopted in socialist countries.²³ This is shown by many indices reaching, and even exceeding, the levels of highly developed capital countries, let alone countries at the same level of general development.

II.13.xi. Acceleration of Growth and Technical Progress

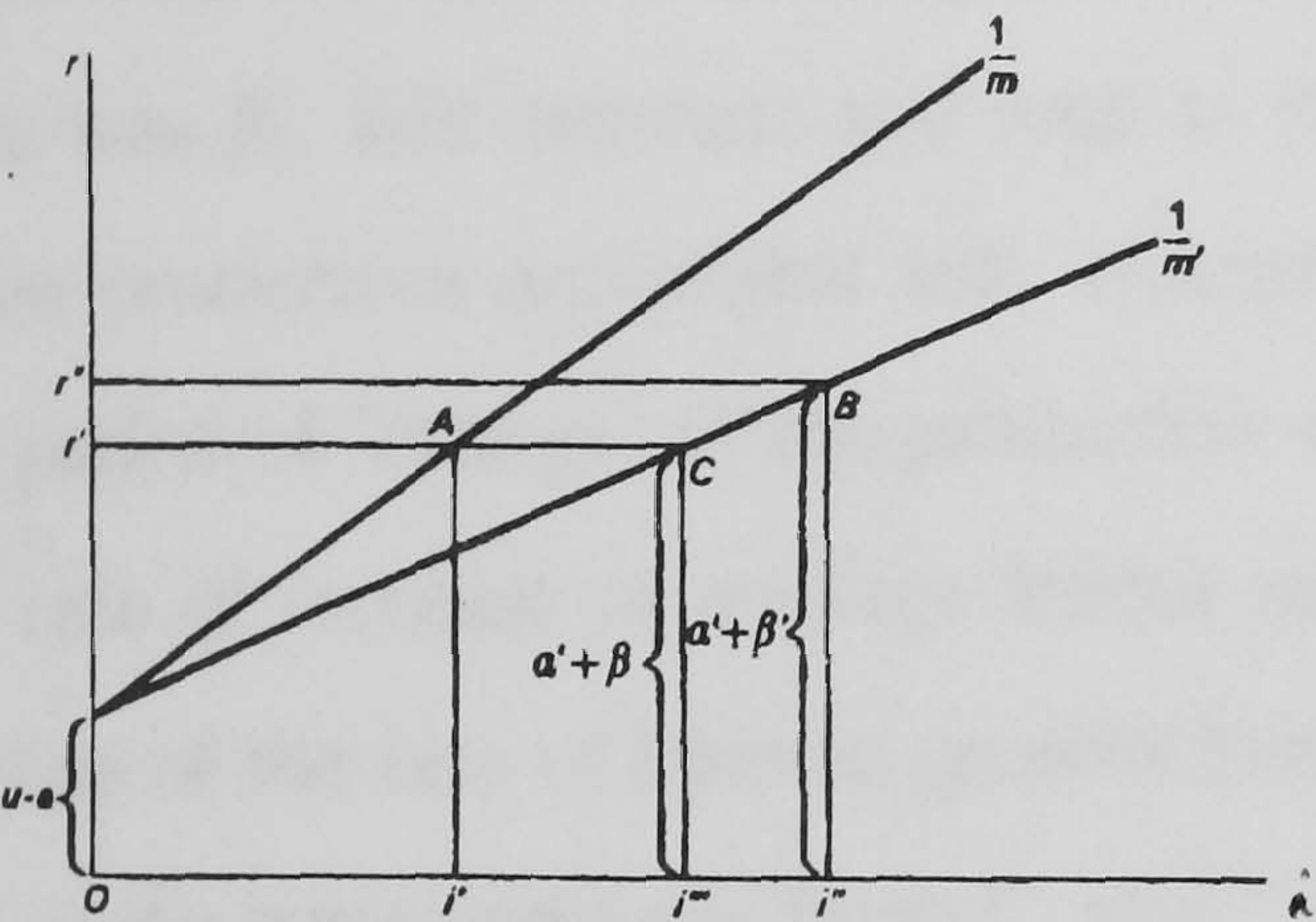
The 'rejuvenation' of capital stock, according to Kalecki (1970), is the increase of the proportion of new capital in the total of all capital. If we raise the rate of increase in employment, a corresponding growth in average labour productivity will follow. It will be higher than β , though the incremental labour productivity of the newly employed grows at a stable rate β . The effect of the 'rejuvenation' of capital stock will naturally disappear gradually as the process advances, but this does not diminish its importance. It is clear, therefore, that changes in the rate of increase in employment, and even more so changes in the structure of employment, are bound to influence the dynamics of labour productivity. "The basic factor in the increase of labour productivity is technical progress, a factor that is fundamentally different in character."²⁴ Change in the rate of increase of labour productivity acquires a special importance in conditions when the possibilities of raising the rate of increase in employment are exhausted. If the rate of employment growth a' cannot be increased, the only way to raise the rate of growth r' is to raise the rate of increase in labour productivity β . We shall proceed to the analysis of this question.

Variability of the rate of growth during the acceleration period can be determined by the technical progress and the choice of the rate of growth. In view of the co-existence of

methods of production²⁵ embodying different degrees of mechanization (including also degrees of automatization), planning authorities aiming to accelerate the existing rate of growth may decide to raise the degree of mechanization of investment goods. Let us assume that, during the period preceding this decision, the process of growth was stabilized at a fixed rate of growth $r' = a' + \beta$ and continued for at least n years, representing the average period of life of the different constituents of the real productive fixed capital. Included in this assumption is not only the rate of growth of average labour productivity, but also the rate of growth of incremental labour productivity, defined as the ratio of labour productivity attained in completed investments put into operation in the year t_n to labour productivity achieved in investments put into operation in the year t_{n-1} .

Any increase in labour productivity greater than β and any rate of income growth greater than r' will be the result of the above-mentioned decision. But in these circumstances, the coefficient m will increase too. An increase of the coefficient m is inevitable with increasing mechanization and a given state of technical knowledge. Were it possible to increase the rate of growth of labour productivity without any increase of m , there would be no reason to choose methods of production absolutely worse than others co-existing at that time. The increase of the coefficient m is the price to be paid for a higher rate of labour productivity resulting from higher mechanization. Let us assume that planning authorities decide on such a single increase of the coefficient m to m' . Let us assume that it will lead to a considerable single growth of incremental labour productivity by more than β and in the following years the incremental labour productivity will continue to grow by β .²⁶ This will in turn lead to the process shown in Figure II.13.4.

Figure II.13.4.
 Acceleration of Growth and Technical Progress



This single increase of the capital coefficient from m to m' is expressed by a lower inclination of the straight line having the direction coefficient $1/m$. We assume that the single increase of incremental labour productivity, achieved by this decision, will imply a rate of average labour productivity amounting to β' . And accordingly the increase will grow for once by $r'' = \alpha' + \beta'$, but as point B indicates this will require an increase in the rate of investment from i' to i'' . It will be impossible, however, to keep up this rate of investment with the given assumptions. We have assumed that the realization of investment at the coefficient m' gives a rate of growth of incremental labour productivity, amounting still to β . Accordingly the increase of average labour productivity, which for once was β' , will decrease and tend to β . It will reach it after n years, during which the entire productive equipment will 'change' into a new capital coefficient m' . Thus during the period of 'change' of the productive equipment we shall have to deal with a decline of the rate of increase of average labour productivity from β' to β , and together with it, a decline of the rate of income growth from r'' to r' . This process will be accompanied by a fall of the investment rate from i'' to i''' . At this rate of investment, the rate of growth will again become $r' = \alpha' + \beta$, but the absolute increment of income will be larger than were they achieved without changing the productive equipment to a new capital coefficient.²⁷ Thus the whole process follows the line $A \rightarrow B \rightarrow C$, as we have already seen earlier. (Kalecki, 1960).

"In considering whether to accelerate growth by utilizing the labour surplus - that is by eliminating unemployment - there is no choice for a socialist state whether 'to accelerate, or not to accelerate'. There is no question regarding the advantage and necessity of utilizing the possibility created by socialism of accelerating the rate of growth."²⁸ The matters of choice are only the forms and the speed of the process. In emphasizing the specific difficulties involved in changing the productive equipment into a higher m , it should be remembered at the same time that, after the initial reserves have been exhausted, this is the main means to accelerate the rate of growth, and also that we have then to deal with an economy that is much more mature in all respects, and with an absolutely higher level of consumption. It is thus an economy capable of solving much more complex

problems. The experience gained from the second stage of industrialization in Poland fully confirms this view.

II.13.xii. Three Types of Technical Progress

We assumed that the single increase of the coefficient m increases labour productivity, but the incremental labour productivity at a new capital coefficient amounting to m' continues to grow by β , as it did with the previous coefficient m . Whether this will be so depends on the type of technical progress, and this cannot be predicted theoretically. It is quite possible that the incremental labour productivity with the capital coefficient m' will not grow by β but by more than β . If this happened after having changed the productive apparatus into a new degree of capital intensity, the rate of income growth would be stabilized at a level higher than r' . The opposite would occur if the single increase of the capital coefficient should yield an increase of incremental labour productivity lower than β . It is clear, therefore, that the gain from changing the productive equipment to a higher m will be different, *ceteris paribus*, with each of these three possibilities, arising from the type of technical progress in the period concerned: if there is a possibility of securing an incremental labour productivity greater than β there will be clear incentives to increase the capital-intensity; if the possibility of increasing the incremental labour productivity is lower than β the opposite situation will arise (an this is not only in regard to increasing the capital-intensity but even maintaining it); if there is the possibility of securing an incremental labour productivity equalling β there will be no incentive whatever in either direction. On the basis of such reasoning, Kalecki deduces his criteria differentiating the types of technical progress, defining the first as encouraging capital-intensity, the second as discouraging capital-intensity, and the third as neutral.²⁹ With given preferences, the planning authorities will be the more disposed to apply additional mechanization designed to increase labour productivity and thus to accelerate the rate of growth, the more capital-intensive is the type of technical progress.

This brief sketch of the problems of adjusting the rate of growth in the light of technical progress seems to confirm the significance of production-relations in taking advantage of national growth potential and the favourable conditions in this respect created by socialism. The importance is again evident of planned determination of basic macro-economic magnitudes and of possible flexibility in adapting the rate of investment to the varying requirements of the different stages of the development process. Apart from this the problems involved in raising the rate of growth in different conditions of technical progress, bring to light the role of the time-horizon in taking advantage of growth potential. The broad time-horizon of central planning authorities in a socialist economy renders possible the mobilization of such factors of growth of which otherwise advantage could not be taken.³⁰

II.13.xiii. Factors Limiting the Rate of Growth

The examination of the problem enables us to realize better the relevance of some of the problems to the strategy of growth and to visualize the opportunities created by socialism to apply this strategy. But we cannot overlook some of the inevitable difficulties met in the rapid process of growth under socialism. We are concerned not only with obvious issues, as frictions and planning mistakes while the rate of growth is being changed and the sectoral proportions involved are changing too. We are concerned with problems of a more general character. What are the factors limiting freedom to determine the rate of growth.

II.13.xiv. Issues of Foreign Trade

Kalecki was the first to study these problems and he proved that the difficulties connected with the acceleration of the rate of growth are related above all to foreign trade, and this both directly and indirectly. In countries strongly dependent on imports of investment goods and, especially, of raw materials (most countries, including Poland), the acceleration of growth implies directly the necessity to increase imports and - with a well-

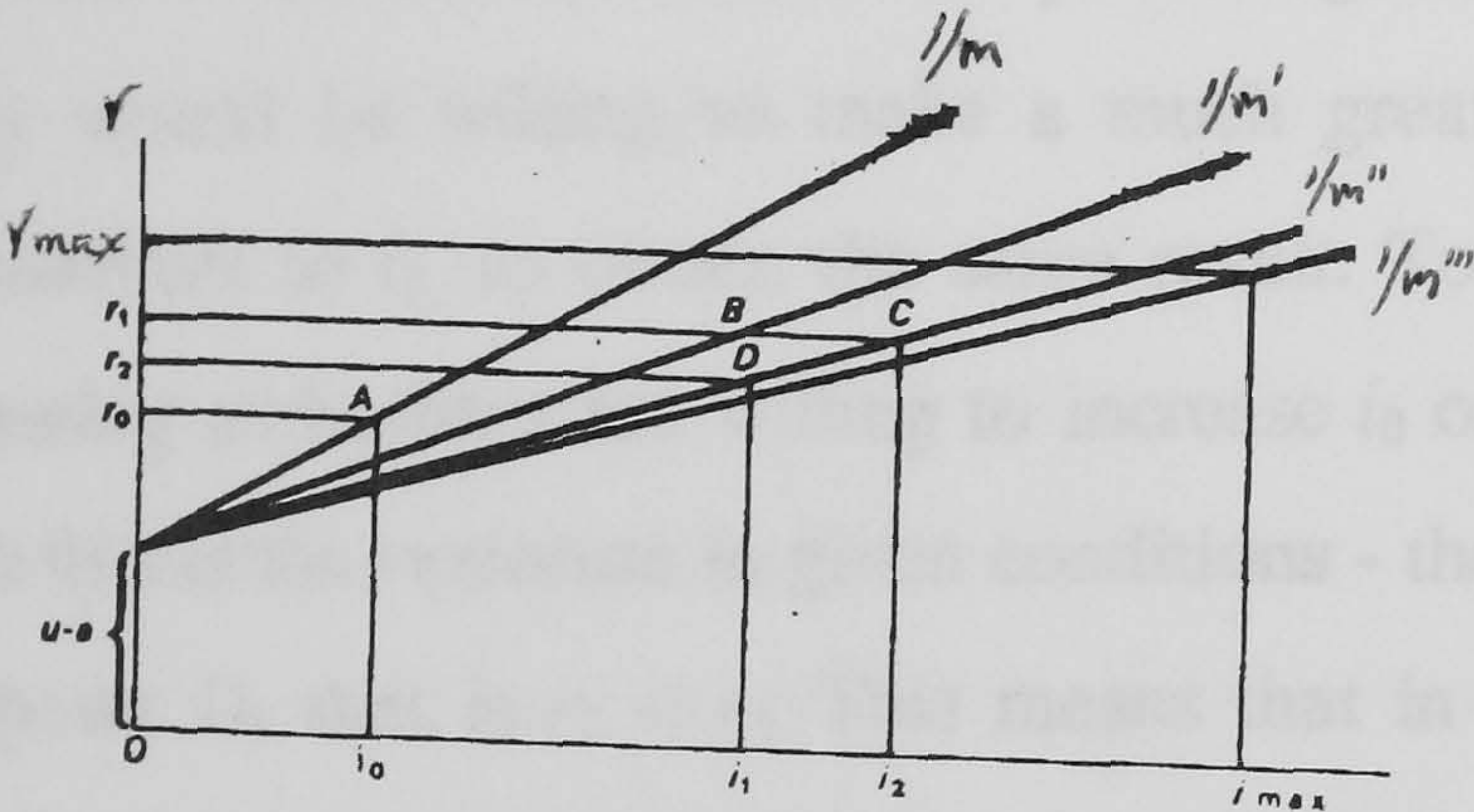
balanced foreign trade - exports. To overcome these difficulties, it may be necessary to make some less profitable exports or even to take measures against imports. Thus the corresponding investment will have a comparatively high capital coefficient. But this is possible only to some degree. In every situation there exists a certain limit imposed by foreign trade which cannot be exceeded; it may be nearer or further from the existing rate of growth, but it will not allow the rate to exceed a certain maximum magnitude.³¹

It should also be borne in mind that foreign trade is the universal remedy for a number of difficulties arising during the acceleration of growth, quite apart from any necessity to increase imports. These difficulties are the familiar 'bottlenecks', which determines the trend of the whole economy. These 'bottlenecks' may take the form of a shortage of natural resources; of a shortage of highly qualified technical personnel and experienced workers; or of a shortage of personnel in some regions while there is satisfactory balance of supply and demand for the labour force as a whole. They may take the form of delays of in planning and completing investment projects in some sectors; of limited production capacity in design of office and building enterprises, and so on. Such difficulties may be, and are, overcome by widening these 'bottlenecks' and by adjusting them to the needs of the national economy rather than by adjusting the economy to them. But it often requires additional investment.

There is no question that the development of co-operation between socialist countries is diminishing foreign trade difficulties, especially when acceleration takes place simultaneously in all or most of the countries concerned. But since 'bottlenecks' occur, none the less, in all socialist countries and since relations between these countries and the non-socialist countries exist and are expanding, the difficulties described above emerge sooner or later when it is attempted to raise the rate of growth above some level.³²

The increase of the capital coefficient involved in overcoming difficulties in foreign trade and in removing 'bottlenecks' plays an essential part in giving effect to decisions concerning the acceleration of growth. This is illustrated in Figure II.13.5.

Figure II.13.5.
Acceleration of Growth and Foreign Trade



The planning authority is prepared to introduce some limitation on current consumption and to raise the rate of growth from r_0 to r_1 , or pass from point A to point B by increasing the rate of investment from i_0 to i_1 . This implies that the capital coefficient grows from m to m' ; which increases the average labour productivity from β_0 to β_1 . But to attain the rate of growth r_1 , difficulties in foreign trade must be overcome and 'bottlenecks' must be removed - the price to be paid for it is the further increase of the capital coefficient to m'' . Thus the point B is unattainable and the rate of income growth r_1 is represented by point C with the rate of investment i_2 . But though the planning authorities were willing to increase the rate of investment to i_1 as the price of gaining the rate of growth r_1 , it is doubtful that they would be willing to make a much greater effort, that is to increase the rate of investment to i_2 , to obtain the same result. To simplify the problem we assume that the planning authorities are willing to increase i_0 only up to i_1 - considering for some reason that this is the optimum in given conditions - then they will plan a rate of growth indicated at point D, that is $r_2 < r_1$. This means that in the event of foreign trade difficulties and 'bottlenecks' appearing, the planning authorities choose a lower acceleration of the rate of growth rather than the acceleration to which they would have given priority were there no difficulties or 'bottlenecks'. Finally, on the vertical axis the magnitude r_{max} is shown, corresponding to the share of investment in the income i_{max} at the capital coefficient m''' which results in these conditions and is sufficient to overcome the difficulties mentioned. If the planning authorities were willing to increase the share of investment in the income higher than i_{max} in order to attain a rate of growth higher than r_{max} , then this willingness would be faced by an impassable limit (a deadline) of the maximum magnitude of acceleration of growth. Thus the real range of choice for the planning authorities, when r_0 is a rate correlated with the balance of labour force at a given magnitude β_0 , is within the magnitudes represented by $r_0 - r_{max}$.

II.13.xv. Comments on Macro-Micro Economic Decisions

We shall conclude this analysis by making some comments on the relations between macro-and micro-economic decisions. In the first place we should mention work designed

to improve and develop the techniques of co-ordination calculus and of optimization of the plan. We refer here to the work devoted to the analysis of input-output, both from the theoretical and the technical point of view, and to work on the theory and the technique of programming.³³ We have touched on the problem of relations of the highest central level and the lower levels in a socialist economy. This problem is fundamental from the point of view of growth. The starting point of the discussion, on the model of the functioning of a socialist economy on the premises of centralization and decentralization, was the thesis that, with the raising of the economy to a higher stage of development, the complexity of economic problems grows also. With it, there is a growing importance of such factors as: the flexibility of adjustment of the structure of supply to the structure of demand (both in production and in consumption); economically justifiable substitution of different forms of expenditures; expansion of different enterprises and sectors related to their economic achievements. It was just from this point of view that excessive centralization was criticized, since this takes the form of concentrating nearly all decisions at the highest level and passing targets and resources to lower echelons only in the form of orders and physical allocations. As a result, the functions of lower echelons (particularly in enterprises) were limited to pure execution of orders only. The discussion showed that the problem of centralization and decentralization under socialism cannot be considered in terms of centralization or decentralization of *all* economic decisions. It is to be noted that the problem of creating institutional conditions favourable to the full use of potential growth does not disappear once the socialist system is built. Socialism overcomes a number of fundamental contradictions of the capitalist system; this does not mean, however, that it eliminates all contradictions of every kind, nor that it avoids creating new contradictions arising from the characteristics of the socialist system as such. This implies a necessity for continual search for optimal institutional forms to solve these contradictions, and especially to adapt the functioning system of a socialist economy to the various stages of development, both from a purely economic point of view and a socio-political one. A socialist socio-economic system provides a possibility of different solutions of the method of functioning of the economy, thus allowing choice of alternatives in this field also, within certain obvious limits.³⁴ Our analysis of the model

developed by Brus and Laski, which is based on the works of Kalecki, shows not only the interplay of consumption and production but also the inherent problems of a socialist system. We shall proceed to make a critique of the socialist economic system based on the applied core economic growth models which we have endogenized in our study.

NOTES

1. Brus and K. Laski, Problems in the Theory of Growth under Socialism, in E. A. G. Robinson (ed.), Problems of Economic Development, Macmillan, 1965, pp. 21-54.
2. The model of Brus and Laski is based on the following works of Kalecki: Kalecki, M., 1960, '*Zagadnienia teorii dynamiki gospodarki socjalistycznej*', (On problems of the theory of socialist economy dynamics) in the collective work *Zagadnienia ekonomii politycznej socjalizmu* (Problems of the Political Economy of Socialism), Warsaw, 3rd edn.; and, 1963, *Teoria wzrostu w gospodarce socjalistycznej*, (Outline of a theory of growth in a socialist economy), Warsaw; English edition, 1969, Oxford; The following work of Kalecki, though not used in this model, is a useful material: 1972, Selected Essays on the Economic Growth of the Socialist and the Mixed Economy, Cambridge.
3. Alec Nove and D.M.Nuti, eds., Socialist Economics, Penguin Books, England, 1973, pp. 173ff.
4. Ibid., p. 176.
5. Ibid., p. 176-7.
6. G. Robinson (ed.), Problems of Economic Development, op. cit. pp. 21-54.
7. Brus, W., and Laski, K., 1962, '*Istotna tresc marksowskiego ujecia problematyki rozwoju ekonomicznego*', (The essential content of Marxian approach to the problems of economic development), *Ekonomista*, no.4.
8. Alec Nove and D.M.Nuti, eds., Socialist Economics, Penguin Books, England, 1973, p. 178.
9. Sadowski, 1958, '*Zmiana stopy wzrostu gospodarczego*' (The change in the rate of economic growth), *Ekonomista*, no. 6; and 1961, '*Przyspieszenie dlugofalowego wzrostu w gospodarce socjalistycznej*' (The acceleration of long-term growth in socialist economy), *Ekonomista*, no. 4.
10. Alec Nove and D.M.Nuti, eds., Socialist Economics, Penguin Books, England, 1973, p. 179.
11. Ibid., pp. 180-182.
12. In practice the gestation period of investment is much longer than one year and this is of great importance, especially, when the scale of investment expansion is violently changed.
13. Sulmicki, P., 1962, '*Proporcje Gospodarcze*', (Economic proportions), Warsaw, ch. 3, sec.3; Minc, B., 1961, '*Ekonomia polityczna socjalizmu*' (Political Economy of Socialism) Warsaw, P. W. N. Here, he employs the notion of the year of equalization more or less in an analogous meaning. But by a 'period of equalization' he means a 'period in which the total consumption in different years at a higher rate of investment becomes equal to total consumption at a lower rate.' Regarding the year of equalization see also Sulmicki (1962, p. 138) and Polaczek, S., 1961, *Inwestycje w krajach gospodarczo nierozwinietych i ich wplyw na bilans handlowy* (Investment in Economically Under-Developed Countries and their Influence on the Trade Balance),

Warsaw, Library of the School of Planning and Statistics in Warsaw. Quoted in Brus and Laski.

14. Alec Nove and D.M.Nuti, eds., *Socialist Economics*, Penguin Books, England, 1973, p. 184
15. See Pajestka, J., 1961, '*Zatrudnienie inwestycyjne a wzrost gospodarczy*', (Employment and Investment in Connection with Economic Growth), Warsaw. Here, he describes the problem of reserves of labour force at the initial stage of industrialization from a somewhat different methodological position.
16. G. Robinson (ed.), *Problems of Economic Development*, op. cit., pp. 21-54.
17. Ibid.
18. Alec Nove and D.M.Nuti, eds., *Socialist Economics*, Penguin Books, England, 1973, p. 187.
19. Alec Nove and D.M.Nuti, eds., *Socialist Economics*, Penguin Books, England, 1973, p. 188.
20. Alec Nove and D.M.Nuti, eds., *Socialist Economics*, Penguin Books, England, 1973, p. 189.
21. Ibid., p. 190.
22. Regarding the relations of real wages, nominal wages, and changes of prices see: Kucharski, M., 1961, '*Pieniadz, dochod, proporcje gospodarcze*' (Money, Income, Economic Proportions), Warsaw, ch. 2; Regarding the problem of inflation in socialist economy, see also: Fedorowicz, Z., 1959, '*Zagadnienia rownowag monetarnej w gospodarce socjalistycznej*' (Problems of Monetary Equilibrium in Socialist Economy), Warsaw; and articles by Sulmicki, P., 1957, '*Pojecie inflacji w gospodarce socjalistycznej*,' (The notion of Inflation in a Socialist Economy), *Mysl Gospodarcza* (Economic Thought), no. 5; and Oyrzanowski, B., 1957, *Walka z niebezpieczenstwem inflacji*. (Battle against the danger of inflation), *Economic Thought*, no. 5; and Mlynarski, F., 1957, *Walka z niebezpieczenstwem inflacji*. (Battle against the danger of inflation), *Economic Thought*, no. 5, in Brus and Laski.
23. Alec Nove and D.M.Nuti, eds., *Socialist Economics*, Penguin Books, England, 1973, p. 191-192.
24. Ibid., p. 193.
25. By 'method of production' we mean here the combination of labour expenditure and investment expenditure inescapably necessary to increase national income by one unit (assuming an unchanged structure). In addition we abstract from the possibility of changes in the methods of production consisting in diminishing investment outlays while the volume of human labour remains constant since we are interested here only in technical progress leading to the increase of labour productivity, which is the essence of technical progress. In "Problems in the Theory of Growth under Socialism," Brus and Laski.

26. Alec Nove and D.M.Nuti, eds., *Socialist Economics*, Penguin Books, England, 1973, p. 194.
27. Ibid., pp. 195-196.
28. Ibid., p. 198.
29. See Kalecki, op. cit., 1960.
30. Brus and K. Laski, *Problems in the Theory of Growth under Socialism*, op. cit., 1965.
31. See Kalecki, M., and Rakowski, M., 1959, '*Ogolnienie wzoru efektywnosci inwestycji*,' (Generalization of the Formula of Investment Effectivity), *Gospodarka planowa* (Planned Economy), no. 11; Rakowski, M., 1961, *Efektywnosc inwestycji*, (Investment Effectivity), Warsaw; See also, Trzeciakowski, W., 1961, '*Problemy kompleksowego systemu analizey, efektywnosci biezacej handlu zagranicznego*', (Problems of the complex system of analysing the current effectivity of foreign trade), *Gospodarka planowa* (Planned Economy), nos. 4 and 5.
32. Alec Nove and D.M.Nuti, eds., *Socialist Economics*, Penguin Books, England, 1973, p. 203.
33. See the following works: Lange, O., 1961a, '*Model wzrostu gospodarczego*', (The model of economic growth); '*Kilka uwag o analizie nakladow i wynikow produkcji*', (Some remarks on input-output analysis); '*Produkcyjno-techniczne podstawy efektywnosci inwestycji*' (Productive and technical foundations of investment effectivity), included in *Pisma ekonomiczne i spoleczne* Papers in Economics and Sociology, 1930-60, Warsaw; English edition, 1970, London; 1961b, *Teoria reprodukcji i akumulacji*, (The Theory of Reproduction and Accumulation), Warsaw; English edition, 1969, Warsaw.; and also publications of Sulmicki, P., 1959, *Przeplywy miedzygalezlowe* (Input-Output), Warsaw; and Porwit, K., 1960, '*Wybore ekonomiczny w planie przedsiebiorstwa*' (Economic Choice in the Plan of Enterprise), *Ekonomista*, no. 6; and Sadowski, W., 1960, *Teoria podejmowania decyzji*, (The Theory of Decision Making), Warsaw.
34. Alec Nove and D.M.Nuti, eds., *Socialist Economics*, Penguin Books, England, 1973, p. 206f.

CHAPTER FOURTEEN

A CRITIQUE OF THE APPLIED MODELS OF GROWTH UNDER SOCIALISM

Our survey of the socialist growth models together with the dynamics and structure of the socialist state reveals the strength and the flaws of the centrally planned economic system. We shall proceed to make a critique of the applied socialist economic growth path.

II.14.i. A Stream of Thought

The writings of Marx and Engels illustrate the general features of the two stages of communism: socialism, 'the lower phase' in which all the countries mentioned in our study can be said to be, and communism, 'the higher phase'. *The ABC of Communism*, written during the civil war, by Bukharin and Preobrazhensky, represents an extreme position but one that was then held by the majority of party intellectuals, who espoused a moneyless economy and a direct leap into socialism. Bukharin also wrote the important *Economics of the Transition Period*, which expressed similar views. He anticipated the imminent withering away of economics under socialism: there would be no room for markets and prices when goods are allocated consciously by society. Lenin did not go quite so far as this. The bitter experience of war communism led him to attach great importance to markets, prices and trade in his last years of political life. By 1921 the New Economic Policy was adopted, this being a compromise between market forces and peasantry. The state kept hold of the 'commanding heights'¹ of the economy (large-scale industry, banking, foreign trade) while permitting private enterprise in industry and trade and basing its relations with the peasantry on purchase and sale.

In our analysis of Preobrazhensky, we note that he highlights the problems actually faced by Lenin's successors since they viewed the New Economic Policy differently. While Bukharin became the chief protagonist of caution and of an alliance with the peasantry,

which meant a moderate rate of capital investment, Trotsky demanded faster growth and action against the richer peasants. Preobrazhensky sided with Trotsky and in his *New Economics*, in which he wrote about primitive socialist accumulation, he was advocating a more rapid transfer of resources from the private (principally peasant) sector to the state sector, as we have noted in our analysis. The implied challenge to the then dominant official policy led him into spirited polemics with Bukharin, who was at that time backed by Stalin. But as we have noted, in due course Stalin split with his ally and launched his revolution from above, with rapid industrialization and forcible collectivization; also in the great purges that followed both Bukharin and Preobrazhensky as did many other economists, politicians, generals, writers, perished. In our survey of the socialist growth models, we also noticed that Fel'dman, an officer of the Gosplan, was given the task of preparing a theoretical framework for a general plan, extending over a period of ten to twenty years, to be drafted by Gosplan alongside the first five-year plan. Starting from Marx's schemes of expanded reproduction, Fieldman built a two-sector model of acceleration of economic growth and thus became a pioneer Marxist growth theorist. His model expresses the foundations of the Soviet strategy for economic growth until the mid-1950's, based on priority for heavy industry and production goods; the same strategy was passively followed by the other socialist countries of Eastern Europe after the war. In our study of the dynamics of socialism, we also noted the view that the state 'creates' its own profits by its own investment and discussed the role of prices (including the interest rate) in investment planning and pointed out that savings in socialist state is a negative notion. Our analysis based on the research by Brus and Laski (inspired by Kalecki's work and by the Polish experience), pointed towards the then existing conflict between consumption and growth, and the factors limiting economic growth, anticipating the new trend of giving priority to consumption rather than to production goods.² These chain of thought modelled the growth strategy of the socialist state at its various phases of development.

II.14.ii. Growth Performance During the Period of Classical Socialism

The results of forced growth can be summed up by using the following tables. Tables II.14..1, II.14..2, and II.14.3 give the aggregate growth indices for several socialist countries and compare these with similar growth indices for capitalist countries.

TABLE II.14.1
Growth of Aggregate Output: International Comparison

Average Annual Growth Rate

	1961-70	1971-80	1981-88
<i>Socialist Countries</i>			
Bulgaria	5.8	2.8	1.2
Czechoslovakia	2.9	2.8	1.4
East Germany	3.1	2.8	1.8
Hungary	3.4	2.6	1.0
Poland	4.2	3.6	0.8
Romania	5.2	5.3	-0.1
Soviet Union	4.9	2.6	2.0
<i>Capitalist Countries</i>			
Austria	4.7	3.6	1.7
France	5.6	3.2	1.9
Greece	7.6	4.7	1.5
Italy	5.7	3.8	2.2
Japan	10.5	4.6	4.0
Netherlands	5.1	2.9	1.3
Portugal	6.4	4.7	2.2
Spain	7.3	3.5	2.6
United States	3.8	2.7	3.2
West Germany	4.5	2.7	1.7

Source: J. Kornai (1992, p. 200); compiled by J. Arvay, based on P. Marer et al. (1991) for socialist countries and OECD (1991) for capitalist countries.

Note that socialist output data refer to GNP, while capitalist output data refer to GDP.

TABLE II.14.2

Growth Rate of Aggregate Output in the Soviet Union and the United States

Average Annual GDP Growth Rates (percent)

Years	Soviet Union	United States
1900-13	1.5	4.0
1914-50	2.7	2.8
1950-73	5.0	3.7
1974-87	2.1	2.5

Source: W. D. Nordhaus (1990) based on A. Maddison (1989, p. 36)

TABLE II.14.3

Growth Rate of Aggregate Output: China Compared to Capitalist Countries

Average Annual GDP Growth Rates (percent)

	1965-80	1980-87
China	6.4	10.4
Low and medium income capitalist countries		
Argentina	3.5	-0.3
Brazil	9.0	3.3
India	3.7	4.6
Indonesia	8.0	3.6
Mexico	6.5	0.5
Pakistan	5.1	6.6
South Korea	9.5	8.6
Thailand	7.2	5.6
Turkey	6.3	5.2

Source: J. Echeverri-Gent (1990, p. 105).

Under the classical system, though we note that the growth performance is substantial, it is still questionable if it emerges that the data must be revised. (See, Appendix 5, where an international comparison of official and alternative estimates of growth are shown). The statement that classical socialism certainly took many countries from a state of severe backwardness at least to a medium level of development, is again debatable. What we can

observe is that leaders of the socialist countries are inclined to attach high intrinsic value to the fast growth or even make a fetish out of growth rate for aggregate output and go for its increase at any price. An impartial observer, however, cannot accept this short-sighted criterion of evaluation. Even if the rate should be high in some socialist country or other, at least for a period, the question remains: what sacrifice had to be made for that growth rate? And what kind of economic structure lies behind the aggregate index? The price paid for forcing growth is very high. It involves a great deal of abnegation and causes contemporaries much suffering. At the same time, this type of growth undermines its own economic performance. Even where a high growth rate is attained initially, it cannot be kept up; sooner or later, the growth rate starts to fall more and more conspicuously. Each generation leaves a baleful legacy for the next - of grave, postponed, and increasingly urgent tasks, and of an economy with a disharmonious structure.³

II.14.iii. Growth Policy During the Period of Classical Socialism

The policy position on growth under the classical system is unambiguous: as fast growth as possible has to be attained in the medium term, regardless of cost or sacrifice. That expresses itself in the priorities and methods applied in the strategy of forced growth, as we have noticed. During the process of reform, this clear-cut line gives way to ambivalence and in many cases downright schizophrenia. The leadership half wants to continue the forced growth, and half inclines to slow it in favour of quicker results in improving the standard of living and rectifying the previous disproportions. Both these conflicting attitudes are backed up by the influence of a range of factors. The leadership in several countries is distressed that the growth rate is slowing down, and the sight strengthens further its determination to combat the declining trend.⁴ Among the reasons behind the deceleration is that the potential for using the earlier extensive methods of attaining fast growth is being exhausted. This primarily relates in the European socialist countries to the exhaustion of the surplus of labour.⁵ The leadership repeatedly announces a policy switch to intensive methods of growth, the strategy of “the new road of growth,” but it proves impossible to apply under the conditions of the existing economic system. So

at times of acceleration, it tries the most immediate method of effecting growth centrally, which is to increase investment. That brings us directly to one of the impulses behind a source of tension, namely, overheating of investment activity.

In the discussion of the motives for moving on from the classical system, the first to be mentioned was the slowing of growth, to which the counter-reaction was the “growth at any price” attitude just outlined. But no less important a motive behind the reform is the dissatisfaction of the general public. Deciding how economic policy should react to that poses a serious dilemma. On the one hand, the ratio of accumulation to consumption must be altered in the latter’s favour, so that the growth in real consumption can speed up at last. But on the other hand, people’s living conditions and the quality of life are governed not merely by the flow of goods consumption, but by the capital accumulated by the sectors directly serving consumption: their stock of equipment and buildings. A fast and if possible instant increase in consumption requires a fall in the share of investment, while a rise in investment is needed in the sectors directly affecting the quality of life. Within the general dilemma of investment versus consumption, there arises the specific dilemma of how to reallocate the investment among the sectors. The traditional beneficiary from the priorities of the classical system is industry, notably heavy industry. It now feels doubly threatened and applies more pressure to obtain its accustomed investment “allowances.” If development of the previously neglected sectors actually begins, for instance, if the pace of housing construction increases, the high capital requirement of this activity draws investment resources from the “internal spiral” directly inducing growth and causes growth rate to slow.⁶ Whereupon the dilemma becomes even more acute: should the ratio of investment be reduced at all, and to what sectors should the resources be transferred?

There is no real solution to the problem. There is alternate acceleration and deceleration of investment, and an oscillation can also be seen in the reallocation of investment in favour of the service sectors.⁷ But if either of the constituents of this schizophrenic condition does come out on top, it tends to be the element of the ambiguous policy that inclines toward forced growth. This behaviour has become a conditioned reflex for the bureaucracy. Implanted in the decision makers by the official ideology they have digested

is the feeling that the faster production grows, the stronger the system becomes. The forcing of growth is a spontaneous inclination, whereas the other attitude of making concessions in favour of consumption and investment to serve consumption is suggested more by common sense, possibly backed up by fear at the sight of mass dissatisfaction. Unsurprisingly, the bureaucracy constantly relapses from the self-compelling, pro-living standards attitude into its natural, pro-growth behaviour.⁸

II.14.iv. A Socialist-Soul-Searching

The applied Marxian socialist mechanism of economic growth and development came to a historical end with the collapse and demise of the Soviet Union and the COMECON community. The dream of the heroes and heroines of the 'heroic age' during the period of transitional socialism remained a dream. The initial phase of the classical socialism witnessed an economic boom due to the forced application of the extensive methods. The illusory stage of socialism resulted in the development of an oasis. The oasis dried up as the exploitation of available resources exhausted. The panic-stricken leaders of socialist state turned to intensive methods only to realize that they are far behind the developed economies of the world. The catch-up urge resulted in brutal and inhuman models of development. The revelation of the social cost of socialist growth and development undermined the lofty principles of socialism. The guardians of socialist state became annihilators of the socialist ideals. In the name of socialism, wars were fought, nations were conquered, cultures were dismantled and human dignity was robbed and destroyed. Nations after nations suffered and people after people were stripped of their human worth under socialist regime under the iron curtain. All the brutality of the socialist agents could not bend the human spirit to the socialist states' desired motives. The free spirit of the human person triumphed over the applied socialism, when the Berlin wall was torn down, to the cheers of millions of socialist subjects all over the world. They realized that they had nothing to loose except the inhuman chains that controlled them for decades. The principles of *glasnost* and *perestroika* freed true *socialism* from being exposed and exploited any further. The human ideal and understanding of true socialism could not

succumb to the tortures of institutionalised socialism. This is the victory of the human culture of macro-knowledge. (Please refer to chapter seven of section one).

II.14.v. **Introduction of Micro Knowledge as an Economic System**

In our identification of the Knowledge Sector, in chapter seven of section one, we have modelled a dual sector of micro-macro knowledge. Here, we shall try to make a step further of our understanding of micro knowledge. As we have already noted, the micro knowledge can be developed or moulded and applied. The application of micro knowledge could be a reason for dynamism or stagnation in the process of development. In section two we have been familiarising ourselves with an applied growth path, that of socialism. This applied model of socialism can be considered as a form of micro knowledge. The exponents of this applied micro knowledge believed in the efficacy of this as an economic system. They thought that by introducing a new form of micro knowledge, they would replace the existing macro knowledge and therefore they did not consider the relevance of the macro knowledge. They thought that macro knowledge, i.e., national way of thinking or philosophy, could easily be replaced by a micro knowledge, i.e., an ideology, namely, Marxism and its offshoots. The ulterior objective was to develop the culture of communism as the dominant macro knowledge. Here, we encounter a few contradictions. The introduction of a micro knowledge through ‘one ideology’ of Marxism in view of ‘one objective’ of communism, to be evolved as a macro knowledge, faces with the first contradiction.

II.14.vi. **First Contradiction: Ideology versus Philosophy**

Can we associate the vociferous process of economic development of a nation with the philosophical trends that silently reside in the national consciousness? Does the way of thinking influence the way of economic behaviour? Does economics determine philosophy or vice versa? We are familiar with ideologies which model economics. In section two, we have been trying to understand an economic model within the framework of a Marxist-

socialist ideology. Even the so-called Marxian philosophy is only a form of micro knowledge and therefore an ideology. But philosophy is not an ideology. Philosophy is the authentic existing macro knowledge. Falsity cannot exist in philosophy. Ideology results in fundamentalism, even economic fundamentalism, which can be detrimental to economic development for it cuts the existential human needs. It creates a world of division: North vs. South; rich vs. poor; bourgeois vs. proletariat etc. But philosophy is something that transcends ideology. Ideology is created in a short time while philosophy evolves in a process of internalization of a civilization which happens in the long-run. Thus even an ideology that determines or models economics, in the course of time, gives way to philosophy. Thus philosophy can give the final judgement about an ideology which has become the base for the economic action or inaction of a nation. And while giving the judgement, philosophy evolves as a corrective measure of a wrong ideology or an evaluative rod which balances ideology and economic advancement. Thus, in our analysis we could apply and evaluate the particular ideology by the macro knowledge and this would enable us to understand the relevance of the way of thinking that does influence economic behaviour of a nation.

We shall use the subjective dissimilarities or paradoxes of the socialist economic system to prove our point. First, human being as a free economic being is the source of any economic action. The experience of the economic individual under a socialist economic system, by and large as we have seen, was a stifling one due to the imposition of state rigidity. This experience of the 'free economic being versus state rigidity' is a subjective one because it is the individual who suffers the contradiction (scale of time-immediate). Second, unlimited human wants and scarcity of resources is a fact of economic life. Under a regime of ideology, unfulfilled promises become the source of false generosity. Without consideration to the truth of the scarcity of natural and other resources, the agents of the socialist state (e.g. leaders-planners) act generously by an exploitative mechanism of plundering. This experience of the 'scarce resources versus false generosity' is, again, a subjective one because it is the leaders-planners who suffer the contradiction (scale of time-too late). Third, the growth model of the socialist economic system, as we have seen, results in forced-superficial growth. When the real worth is tested, it collapsed with a big

bang. The socialist economic system proved itself superficial without any real worth of its own. This experience of the 'real worth versus forced superficial growth' is therefore a subjective one because it is the system and hence the economy suffers the contradiction (scale of time-distant). These subjective dissimilarities unfold the dynamism of the first contradiction of the socialist economic system. It is the triumph of macro knowledge (philosophy-the national way of thinking) over the micro knowledge of an ideology, Marxian socialist system and therefore its collapse is naturally justified.

II.14.vii. Second Contradiction: Political Consolidation Vs. Economic Vision

Marxian socialist model had an inherent structural imbalance. At the dawn of historical socialism, this contradiction became more conspicuous. While the consolidation of economic mode of production through the proletarian victory made the economic consolidation easy, the political consolidation became a stumbling block. Marx did not develop a political structure of the proletariat for the fulfilment of the socialist revolution. As we have seen in our analysis, the emerging revolutionary leaders designed a political structure of consolidation which was detrimental to socialist ideals. The feudalist-capitalist-bourgeoise political structure of the socialist state undermined the victory of socialism. In this sense, they could not replace political capitalism with political socialism. Every step towards the political consolidation resulted in a systemic failure. Gradual decaying of a political system inevitably lead to the final collapse of any economic system. Socialist political collapse could be described as a systematic failure of a system which could not find a resonance between the socialist aspiration of economics and politics. When the iron curtain was removed, we were able to see the decay and the inherent contradiction that exists between the political and economic nature of a socialist system. The ideological micro knowledge of an economic system failed to integrate with a macro knowledge of common sense.

II.14.viii. Third Contradiction: Application Faults

Our analysis of the introduction of a micro knowledge based on an ideology of Marxian socialism, points out a few applicational faults. The macro knowledge of socialism was/is/will be a living phenomenon. Ancient civilizations and medieval cultures and modern nations vied to be socialist. But, true socialist longing came to an end with the first victim of applied socialism. The experience of historical socialism was against the macro knowledge of socialist ideals. This was due to the faulty application of an ideology by an administrative hierarchy who were victims rather than result of a system. A victim would never opt to be a master of a system which has made him a victim. S/he would live always in that pre-victim stage. The role model of a socialist was a capitalist. The socialist model has been interpreted and applied to satisfy the immediate needs, by these longing 'would-be capitalists' in the mantle of socialists. This contradicts with the eternal vision of socialism towards communism. True socialism did not happen. Marxist vision of communism would never blossom. Applied socialism removed the vision of communism and this in turn corrupted historical socialism. This explains why the micro knowledge, rather than being a growth factor, became a non-growth factor in the working of a socialist state. Overcoming a stagnant and decaying applied micro knowledge has become the sole objective of the 'non-administrative hierarchy' of the socialist state. The vision of 'one-ideology and one objective' of the socialist state collapsed. The micro knowledge of an ideology could not have any impact on the macro knowledge of the way of thinking of the people and their aspirations in spite of a whole applied mechanism of fatal apparatus. This is the super-success of the macro knowledge over micro knowledge as an ideology oriented economic system. At every juncture of the historical socialism, it is the macro knowledge which challenged the validity of the application of micro knowledge. The failure of historical socialism and Soviet Union and COMECON community, is the success story of the strength of macro knowledge that subsists in every nation and cultures. The emergence of transitional economies from the ashes of historical socialism have to be understood as a true longing of the people to live according to the culture of macro knowledge.

II.14.ix. The Arrival of Socialism

In the existing economic systems which are based on the principles of Capitalism, contrary to the general opinion, there is a huge public sector. The bureaucrats and technocrats of *The Culture of Contentment* of Galbraith is a good example.⁹ Of course, this is being complemented by the private sector. As capitalism ripens, competitive market mechanism plays its role. A gradual privatization of the existing public sector is being visioned and implemented, as it is happening in Britain and other developed market-economy oriented countries. This was the pre-condition for the Marxist vision of socialism. Marx hoped that the total capitalist privatization would lead to the emergence of the industrial proletariat. This has not yet happened in any of the developed capitalist economies. Moreover, industrial proletariat were given a fairer treatment than was expected by Marx. This is due to the application of Marxian insights into the capitalist mode of production, distribution and consumption. In this sense, contrary to general belief, Marx has become the saviour of capitalism.

When full capitalist-privatization coupled with proletariat-exploitation of the Marxian range occurs, socialist revolution could happen. But this is far from reality and is a wishful and utopian dream. This is a negative understanding of socialism. Even if capitalist-privatization is completed, the exploitation of the proletariat would not happen as Marx predicted, because of the post-Marxian approach to welfare. Only if the social welfare system collapses, and the discontent of the working-class accumulates, the problem arises; strikes and demonstration of a transformatory system echoes; and the entertainment of capitalist-privatization comes to an end. From the ashes of capitalist-privatization, a form of public ownership is envisaged. But here the lessons of history become the guide to further march. A new mode of production is to be envisaged and modelled. The feasibility and viability of the public ownership of the means of production coupled with market mechanism and all its functions are to be taken into account. This is a new form of socialism. It is to be modelled on the existing macro knowledge of each nation which wants to participate in this transformatory global economic system. Let me conclude this section by a quote which can be applied to any nation in transition.

“Russia has already gone through many cultural invasions - Mongolia, Dutch, German, French, - but Russian culture and language has been preserved. I think penetration by foreign culture is a natural process. We are not an island, we are not on the planet Mars, and we are hungry for mass culture. We had a Stalinist mass culture, created for, but not by, the masses. Now we want American mass culture, and of course there is a danger in that, but our culture is strong.”

(Svetlana Kolesnika)

NOTES

1. Alec Nove and D.M.Nuti, eds., *Socialist Economics*, Penguin Books, England, 1973, pp. 11-13.
2. Ibid.
3. Kornai, Janos, *The Socialist System: The Political Economy of Communism*, Clarendon Press, Oxford, 1992, pp. 201-202.
4. The Soviet period of reform began, before the announcement of perestroika and glasnost, with Gorbachev proclaiming an acceleration of growth to be the watchword. Acceleration is identified in a similar way as a central task of the party and government in Hungary, Poland, and China from time to time.
5. We could notice other factors forcing a deceleration of growth. In Hungary, for instance, the main justification given for the slowdown was the alarming growth of foreign debt.
6. Kornai, Janos, *The Socialist System*, op. cit., p. 535.
7. Lacko, 1984, on the example of Hungary demonstrates how the service sphere's ratio of total investment varies as a function of the favourable or unfavourable development of the overall economic situation. See, Lacko, Maria, "Behavioural Rules in Distribution of Sectoral Investments in Hungary," 1951-1980, *Journal of Comparative Economics*, September, 8 (3), pp. 290-300.
8. Kornai, Janos, *The Socialist System*, op. cit., p. 536.
9. Galbraith, J. Kenneth, *The Culture of Contentment*, Sinclair-Stevenson, London, 1992.

SECTION THREE

THE TRANSITION GROWTH PATH

THE economies in transition are making a heroic and challenging march towards progress. They are simultaneously engaged in dismantling the legacies of a planned economic system and building up a structure of market-oriented economic system. The economic objective of growth and development remains a top priority during the period of transition. The transition process that began a few years ago in eastern and central European countries, after the collapse of socialist economies, moved decisively to implement reforms to establish a market economy. “By now, virtually all of the former centrally planned economies are, to a greater or a lesser degree, attempting to establish a market economy, and most countries have experienced substantial and sustained output declines. The experience of the countries of central Europe that first and most boldly implemented market reforms clearly show that macroeconomic stabilization and structural reform are essential prerequisites for a resumption of growth, and that there is no advantage to postponing them. These countries are now growing, or appear to be on the threshold of recovery, and prospects for continued growth are good” (EBRD Transition Report, 1994). In the theoretical growth path that we have designed, in section one of our study, we were following the capitalist-market economy growth models with a view to determine the engines of growth and their motivating forces. We have seen the prospects and limitations of those models within a global framework. We have tried to identify and endogenize a growth influencing knowledge sector as an extension to such models. In the applied growth path that we have designed, in section two of our study, we followed the economic growth models of a socialist economic system. The socialist ideological structure and dynamism have been endogenized in these applied growth models. A critique of the socialist system by means of the dual knowledge sector, which we have developed, shows the inherent socialist contradictions. From the ashes of historical socialism emerges

the hopes of the economies in transition. These hopes are to be translated into reality by following a seemingly difficult but unavoidable structural reforms; particularly by treading the macroeconomic stabilization path. This will give a new vision to their economic objective. From the vision-growth path of the economies in transition we move to design a solution-growth path. As we have done in our previous sections of this study, let us begin with the composition of place of the economies in transition.

CHAPTER FIFTEEN

THE COMPOSITION OF PLACE OF ECONOMIES IN TRANSITION

The cosmos is in an ever transitional process. The physical and metaphysical realities are understood in this process of being in transition. In this transitional process, the old is given way to the new; and the freshness of this new age is constantly seeking new forms and ways of life. In the global economic scenario, this has been existentially more vibrant in the continent of Europe. “Europe has entered a new promising era. Central and Eastern Europe is liberating itself. The Soviet Union has embarked on the long journey towards a free society. The walls that once confined people and ideas are collapsing. Europeans are determining their own destiny. They are choosing freedom. They are choosing economic liberty. They are choosing peace. They are choosing a Europe whole and free.”¹ This declaration of the NATO Summit (See Appendix III.15.1) heralded a promising era. To enter into this new promising era, we need to make an archaeological tour of the region to find the roots and sources which have geographically knit together the ground of their existence.

III.15.i. Geographical Composition

The imperial-colonial world collapsed at the emergence of new nation states. The most significant achievement of the peace treaties of 1919, following the end of World War I, was the creation of a belt of central European states from the buffer zones of the pre-war German, Austro-Hungarian and Russian empires. Their true independence proved short-lived; within two decades the expansion of Nazi Germany and the Soviet Union had erased their autonomy. To understand the geography of Eastern Europe, we need to consider the area which lies east of a line from Lubeck to Trieste and is bordered by the Ural and Caucasus Mountains. We include, therefore, those central and southern European states which came under Soviet influence at the end of World War II, and also the European

republics of the Soviet Union. Accordingly, the expression 'Eastern Europe' has commonly been used to refer to the arc of Soviet satellite states established after the World War II between the Baltic and the Black Sea.² The terms 'central Europe' and 'east-central Europe' are increasingly used as attention is directed to the political events between the Soviet border and the states of the European Community. The region we are referring to as Eastern Europe covers an area of 5.5 million square kilometres and contains some 330 million inhabitants.³ The differences in ethnic and religious terms are also marked.⁴ The economies of east-central Europe are in a process of transition and therefore they are also known as Transitional Economies (TEs) or Economies in Transition. This transition is also from an ideology to which they have been chained for decades.

III.15.ii. **Ideological Composition**

As we have noted in the previous section, the world's first successful Communist revolution, The Bolsheviks' 'October Revolution' of 1917, came as a surprise even to most Marxists, since Russia was a relatively backward country economically. Marx had always believed that revolution would occur first in the industrially advanced states. During the early days, even the Bolsheviks believed that only a Communist revolution in the West could guarantee the success of their movement.⁵ At home, the 'Reds' faced strong opposition and they had to fight a lengthy and bloody civil war before emerging triumphant. As they consolidated their revolutionary success the Bolsheviks grew in confidence and came to believe that, far from seeking help from the West, revolution could be exported to the rest of Europe-on the bayonets of the Red Army. Although the Bolsheviks were heirs to the vast, multinational empire of the Tsars, it took them several years to reconquer and reabsorb a number of the outlying republics which had tasted independence and had developed along nationalist lines. Soviet Russia became transformed into the USSR (Union of Soviet Socialist Republics) only following the acceptance of the 1923 Constitution.⁶

The emergence of USSR with a new ideology and a new power structure caused a global alarm. Communist Russia was treated with suspicion by the international community and remained isolated during the early years of its existence. Only in the late 1920s, the Western states began to give the USSR grudging recognition. German-Soviet co-operation in the military-industrial sphere was extensive during the 1920s and was suspended only when Hitler came to power. For a number of years the Nazis' open hostility towards Communism made co-operation impossible. Then, in a remarkable reversal of policy (which dismayed his Italian and Japanese allies), Hitler agreed to a new understanding with the Soviet leader, Stalin, which resulted in 'The Nazi-Soviet Non-Aggression Pact' of August 1939. But in 1941 Hitler turned his armies east to attack his ally, and the Soviet Union was plunged unexpectedly into a desperate 'Great Patriotic War' which costed her over 20 million dead. Immediately Hitler attacked, the Soviet leadership found itself allied with Nazi Germany's existing enemies, notably Britain and USA and the wartime alliance of the Big Three Powers was born.⁷ The alliance during the World War II gave USSR a strengthening position in compromising deals which are reflected in the post-war division of Europe.

III.15.iii. **The Post-war Composition**

The post-war division of Europe can be traced back to the Great Power conferences⁸ which took place in the closing stages of the war. Western policy makers realized after the Soviet victories of Kursk and Stalingrad that the defeat of Germany was inevitable. They saw, moreover, that the Red Army would liberate most areas of east-central Europe from German occupation. Faced with this inevitability, Churchill and Roosevelt attempted to meet with Stalin at an early stage to agree on the principles of post-war reconstruction. Consequently, there was a readiness to make concessions to Stalin and smooth over any points of conflict. In late October 1944 Churchill had put to Stalin the famous 'percentages agreement' concerning the relative influence of the Great Powers in south-central European countries expected to be liberated by the Red Army's advance. The Soviet's were to have a 90% interest in Romania, 75% in Bulgaria and 50% in Hungary

and Yugoslavia. In return, the British were ceded a 90% interest in Greece. Stalin seized the Baltic states (to the disquiet of the Western allies, who refused to recognize their absorption into the Soviet Union), Bessarabia and northern Bukowina from Romania, and part of Czechoslovakia. In fact, Stalin reclaimed nearly all the territory he had occupied during 1939 and 1940 as a result of his Pact with Hitler. Two results flowed from this deal. The first was that Poland, having lost almost half its territory in the east, was compensated in the west at the expense of Germany. A large strip of territory from the Baltic coast to Silesia became Polish, including towns such as Stettin (Szczecin) and Breslau (Wrocław). Millions of German inhabitants were expelled to make way for Poles being 'repatriated' from the Soviet-occupied eastern regions of the country. The second was that after 1945 the Soviet Union had a common border with Hungary and Czechoslovakia. This was to have considerable significance in 1956 and 1968.⁹ It is to be noted that along with the territorial expansion, Soviet Union made an ideological expansion through the new economic ideology of Communism, which resulted in unforeseen consequences.

III.15.iv. The Various Stages of Communist Take-over

The Communist take-over of east-central Europe between 1944 and 1948 - the imposition of one-party rule - took place by stages. The first was that of military occupation by the Red Army. With the Soviet forces stalled outside Warsaw in the summer of 1944 the offensive moved to the south. Bucharest fell on 31 August 1944. On 5 September Moscow declared war on Bulgaria and the Red Army crossed the Danube. On 19 October Soviet troops were established in Debrecen in eastern Hungary. Only in January 1945 was Warsaw eventually taken, and Soviet troops crossed into Czechoslovakia in March of the same year. The Soviets were sufficiently subtle not to install Communist regimes at the outset. But everywhere ¹⁰ the Red Army was able to install 'its' people in the local administration and to eliminate potential opponents. The second stage of the take-over was marked by the establishment of provisional coalition governments, with the participation of both Communist and non-Communist

representatives. The Communists had, at best, marginal influence in most of these states before the war and were given a role which, in importance, far exceeded their support. The third stage involved propaganda and terror. In all cases the Communists took control of key ministries such as Justice, Internal Affairs or Security, and Defence. This put them in an ideal position to break the back of democratic opposition and cloak their actions in legality. The Communists habitually made lavish promises, whether or not they were able to carry them out. As Communist control of the mass media grew, the population became increasingly subject to the Party's line on all matters. Communist ideological censorship was more severe than that imposed during the German occupation. The fourth stage involved 'salami tactics' to undermine their enemies by subversion, intrigue and bribery. Communist support varied widely (from 17% in Hungary to 38% in Czechoslovakia), but in all cases they were in a minority in government. The fifth stage involved the elections themselves. Although the 1946 elections in Czechoslovakia were fairly conducted, those in Poland and Hungary during 1947 were not. The final stage involved the further settling of accounts with political opponents once political power had been consolidated.

In asking why the Communists were successful we have to recognize a number of characteristics, in addition to skilful use of propaganda and terror. They were, on the whole, better organized than their democratic opponents. During this period the party apparatus was highly centralized and extremely disciplined. They were playing the political game to a different set of rules from their opponents, who were, in any case, often divided among themselves. Indeed, if, between the wars and as a result of the Versailles settlement (1919), the newly independent states of central Europe had provided the West with a protective barrier against the contagion of Bolshevism, after World War II, they gave the USSR a security shield behind which it could recover and arm itself. Hopes that the 'Big Three' alliance would last beyond the war were disappointed.¹¹ The global political scene and even the destiny of humanity itself were tested to the grim reality of an imminent annihilative nature of nuclear war and fear.

III.15.v. The Dawn of Cold War Period

Historians are divided about when the Cold War actually began. Some choose March 1946, when Churchill attempted to draw the world's attention to what was happening in east-central Europe. Churchill had been awarded an honorary degree by a small American liberal arts college at Fulton, Missouri. His acceptance speech, delivered in the presence of President Truman, echoed around the world. An 'iron curtain', said Churchill, had descended across Europe from Stettin in the Baltic to Trieste in the Adriatic. Behind it the Communist parties which were previously very small had 'been raised to a pre-eminence and power far beyond their numbers' and were seeking every where to obtain totalitarian control. They constituted 'a growing challenge and peril to civilization.' Churchill, who had been in opposition since the July 1945 General Election, had employed the term 'iron curtain' in a parliamentary speech, in August 1945, when referring to the expulsion of Germans from Poland. But after the Fulton address the term entered into popular usage and became part of the vocabulary of the Cold War. By the end of 1947 the division of Europe was clearer. The Communists were no longer hiding behind coalition governments, but had in most states taken absolute control, had outlawed the opposition and were hounding them.¹² The deepening of the Cold War chilled the relationship between the West and the Soviet Union, which resulted in varying responses.

III.15.vi. The Western Response

The West began to respond to Communist expansion during 1947 when in March the American President outlined what came to be known in his name as '*Truman Doctrine*'. Washington would help those countries, which sought to avoid coming under Communist domination, to retain their freedom and independence. This policy of 'containing' Communist expansion was later superseded under the Eisenhower administration. The European Recovery Programme, or *Marshall Plan*, (named after US Secretary of State, George Marshall), was also brought to life during 1947. This was a move to extend economic aid to rebuild Europe's war-shattered economies, a condition being that the

Europeans agreed to economic co-operation (\$12 billion dollars was sent to Europe between 1947 and 1951).

Following the defeat of Nazi Germany, Germany had been divided into four occupation zones, to be administered by the victorious Allied powers: the USA, Britain, France, and the Soviet Union.¹³ When moves to fuse the Western zones (after the Potsdam Conference agreement of July 1945) were eventually taken in 1947, and currency reform was effected in the West without Soviet agreement or participation, the scene was set for a showdown. The Soviets retaliated in June 1948 by cutting Western road and rail links which crossed the Soviet-occupied territory to the capital, Berlin. The West foiled this by a massive airlift of supplies into Berlin.

Subsequently, the demarcation line with the Eastern, Soviet, zone became virtually a state border. The German Democratic Republic-East Germany- became *de jure* an independent state from 1949, with its own parliament and decision to frame a constitution. In 1955 it joined the Warsaw Pact. Events like Tito's defection (1948), the Berlin confrontation and Atlantic Pact led to decisive moves to consolidate Communist rule in the satellite states and to weld them into a political bloc. In the economic sphere, industrialization was pushed forward and central planning bodies set up. Tighter censorship was imposed, and a greater cultural and artistic conformity demanded. Increasing pressure was exerted on the Church; Roman Catholic primates were arrested and imprisoned; church property was confiscated and church charitable organizations wound up or taken over by the state. The use of secret police to eliminate political opponents was soon directed towards the ranks of the Party itself.¹⁴ The new political scenario also demanded a firm Soviet response due to the Western policies.

III.15.vii. The Soviet Response

The Soviet response was the *Zhdanov Doctrine*. An associate of Stalin, A. A. Zhdanov expounded his theory of the 'two camps' to delegates at the founding session of the Communist Information Bureau (Cominform) in Polish Silesia in September 1947.

According to Zhdanov's vision, the world was divided into opposing camps - the 'imperialist', 'anti-democratic' camp (headed by the USA) and the 'socialist', 'anti-imperialist', 'democratic' camp led by the USSR. This speech provided a justification for the sovietization of east-central Europe.

In January 1949 the Communist world's trade organization, the *Council of Mutual Economic Assistance* - known as Comecon or CMEA - was called into being in Moscow. The forming of Comecon was regarded by most observers as the Soviet answer to the Marshall Plan. The aims of Comecon, as outlined in the communiqué, were to 'exchange economic experience', to extend technical aid and encourage trade between the member states. Its stated political aims were to 'strengthen the unity and solidarity of members' and encourage co-operation 'in the interest of the building of socialism and communism'. The fusing of the Soviet bloc nations in a military alliance did not take place until 1955, when the *Warsaw Treaty Organization* (better known as the *Warsaw Pact*, See Appendix III.15.2)¹⁵ was created. Western analysts have suggested that the formation of the Warsaw Pact was an early Soviet gambit to bring about the dismantling of NATO and the withdrawal of American troops from Europe - on a *quid pro quo* basis. Soviet justifications for the creation of the Eastern bloc pacts - that they were reacting to developments in the West - ignore the reasons why the Cold War began; the aggressive methods undertaken by Moscow, especially during the Stalinist period, to enforce Communist rule on its Western neighbours.¹⁶ The Soviet bloc nations embraced the ideology of Communism to defeat the Western responses to the Cold War.

III.15.viii. The Characteristics of Communist Rule

The regimes which came into power in east-central Europe after the 1945 called themselves 'people's republics' or 'socialist democracies'. In fact they were neither socialist in the accepted Western sense of the word nor were they democracies, since they did not allow for free choice in competitive elections. Nor were the regimes in any way the choice of the people. Misuse of such terms and misinformation about the true nature of conditions obtaining under Communist rule have been characteristic of Communist

regimes. The emerging Communist states did have a number of things in common as we have discussed in the previous section. The first is that of an official ideology of Marxism-Leninism, which had three important elements: it provided a 'scientific' interpretation of history in class terms; it explained that the victory of the proletariat and the triumph of Communist rule was logical and inevitable; finally, it presented a vision of a more egalitarian society, with the elimination of poverty and exploitation. The concept of 'building socialism' was portrayed as a thorough worthy and progressive exercise. Marxism provided the moral and theoretical justification for Communist Party rule in the name of the working classes. Another characteristic was the introduction of single-party rule. Party control was extended outwards and downwards by means of the *nomenklatura*; Party nominees selected for key posts in all areas of public life - from the economy and local government to the media and the diplomatic service. The economic systems introduced into east-central Europe were modelled on the Soviet type; that is, the market relationship between consumer and producer was largely removed. The result was empty shops and queues for basic necessities. Communist economic systems almost everywhere failed in terms of the efficiency and the standards of living achieved under the successful market economies. Communists everywhere worked to achieve a monopoly on the supply of news and information to the public. The post-war Communist regimes shared in the elimination of civil society.¹⁷ Our previous analysis in section two reveals well the nature of communist rule in the Soviet bloc nations. In spite of the initial successes in the accumulation of physical capital and commanding control, the Soviet system collapsed into a vacuum of economic chaos.

What were the factors which led to the break-up of Soviet hegemony over east-central Europe? While 'changing of the guard' in the Kremlin in 1985, the mantle falls on the shoulders of the representative of a new generation, Mikhail Gorbachev, for whom the days of the Red Army's triumphs during World War II were scarcely more than a childhood memory. But from his early policy statements there was little to suggest that we would see the far-reaching transformation which has occurred, both in East-West relations and in those between Moscow and its Eastern European satellites. It seems clear that the radical change in policy leading to the Soviet disengagement from central Europe was not

just a spontaneous process. Influences of an almost irresistible nature on the Kremlin leadership forced a reassessment of traditional policies and relationships. These influences or pressures came from three areas: pressure for change from within Eastern Europe itself, pressures due to developments in Moscow's relationship with the West, and domestic Soviet policy considerations.

III.15.ix. The Unstable Socialist Zone

The Soviet bloc nations experienced economic growth but at a very high social cost as we have explained in our previous section. Unstability has become a constant problem in the socialist states. The nations of east-central Europe did not submit happily to Communist rule and became increasingly turbulent over the four post-war decades. Protests and unrest were apparent from an early stage. The first major upheaval of any consequence occurred in East Germany in June 1953 - shortly following the death of Stalin. In 1956 came the Polish October - following Khrushchev's denunciation of Stalin at the Soviet Party's Twentieth Congress. The Polish events were followed by the Rising in Hungary. All the revolts were put down by force. An estimated 20,000 people a month were flooding across the borders of East Germany by the end of the 1950s, which became an embarrassment to the Communist authorities. On the night of 12/13 August 1961, barbed wire was put up along the boundary between Soviet and Western sectors, to be replaced within days by a more substantial structure - the Berlin Wall. The Wall became a symbol of the post-war division of Europe - and of Communist repression. It illustrated in stark form the lost freedoms of the people who lived behind it.

The erection of the Wall and the storm of international protest which resulted detracted significantly from the propaganda value of Yuri Gagarin's first manned space flight, which took place during the same year. The intervention by Warsaw Pact troops and tanks in Czechoslovakia, during the Prague Spring (1968), harmed East-West relations, increased Warsaw Pact members' suspicion of the Organization, and undermined Moscow's standing with previously sympathetic leftist groups in the West. No sooner had the Prague Spring been nipped in the bud, than unrest broke out again, this time along Poland's Baltic

coast. The 'recurrent crises' afflicted the Communist regime and the central command in Moscow. The rise of the Solidarity trade union under Lech Walesa's leadership (1980) proved the most serious threat to Soviet control of the region, and the most difficult to put down, precisely because it clearly had such huge public support (10 million members). The vision of Poland, the largest of Moscow's central European satellites, being ruled during the 1980s by a military junta style, (after the introduction of martial law in December 1981), forced the Soviet leadership to rethink its policy in the region. The 'proletarian rule' of a military junta against the very industrial working class, whose interests the Party was supposed to be representing, brought shame to Moscow. The unstable socialist zone became a liability rather than a 'cordon sanitaire'. Furthermore, the trade costs of maintaining the defensive cordon had become prohibitive. But, the subsidy measures continued; even after the oil crisis, we note that Moscow was selling its partners valuable supplies of oil at below world prices in return for poor-quality manufactured goods.¹⁸ Into this unstable socialist zone, some signs of hope was brought in by the development of East-West relations.

III.15.x. Development in East-West Relations

The socialist zone remained isolated during the Cold War period. Development in East-West relations were important in influencing Soviet policy towards Central Europe. One of the early moves to defuse tension was the reorientation of West German foreign policy towards rapprochement with Eastern Europe. This 'Ostpolitik' was set in motion as early as 1966 under Chancellor Kurt Kiesinger, but flourished under his successor, Willy Brandt, with whom it is now chiefly associated. Brandt's Ostpolitik led to the process of East-West détente in the 1970s. It paved for the Helsinki Conference (1973-75) on Security and Co-operation in Europe (CSCE).¹⁹ Appendix III.15.3 explains the relevance of the Summits held in Helsinki and Paris. Soviet policy makers were forced to recognize that the stifling of the aspirations of its citizens was a greater threat to stability than NATO tanks. The Helsinki talks revealed the need for continuing East-West dialogue, and so the Helsinki process was born. However, the Soviet invasion of Afghanistan (December

1979) led to the collapse of détente and the return to a Cold War atmosphere in the last years of the Brezhnev period. This, in turn, resulted in a renewal of the arms race. If increased military spending was creating imbalance for the US budget, it was making the economic prospect bleak in Moscow. The war in Afghanistan constituted a further drain on the resources and the international standing of the Soviet Union. Further east, the Chinese Communists had introduced limited economic reforms and were achieving impressive 9% annual growth rates throughout the decade. Not only was Japan now an economic super-power, but the nations of the Pacific Rim, with their market economies, were making commendable efforts to emulate it. It was against this background that the Soviet leadership looked to the West, saw the impressive moves towards economic and political union made by the West European states and their prosperity, and realized that greater hope for stability lay in courting, rather than confronting, their West European neighbours. Also, they could not any more handle by themselves problems like the external debt, dependency on imported food etc. Moreover, the decreasing oil price during the second half of the 1980's was a blow to the Soviet economy. The Soviet policy in the closing years of the decade developed from this scenario: liberalization at home, abandonment of the arms race and rapprochement with the West, enunciation of the concept of 'Common European home', and, in regard to the central-Eastern European satellites, rejection of the Brezhnev Doctrine in favour of the so-called 'Sinatra Doctrine' of 'let them do it their way.'²⁰ The domestic policy considerations together with the development of the East-West relations finally led to the loosening of the claws of the Soviet central command in relation to the Soviet bloc nations. A series of CSCE summit meetings took place such as those on disarmament at Madrid (1983), Stockholm (1984-6), Vienna (1986-89), and Paris (1990).

III.15.xi. The Reality of Transition

The realization that the unstable socialist zone could not make any remarkable economic growth in the current economic structure was brought home by the recurring upheavals in the various regions of East-Central Europe. In both Hungary and Poland change began earlier and was altogether more gradual and less dramatic than elsewhere. In the early months of 1989 the Party made repeated concessions to an opposition movement headed by the Democratic Forum, until the way was eventually cleared for a multi-party democracy. The Hungarian Party reshaped itself in preparation for elections in the spring of 1990. In Poland too, Solidarity representatives were invited to round-table talks, which took place in the spring of 1989. These led to the 'partly free' elections in June and to the appointment of the first non-Communist premier of a Warsaw Pact state. During this period, the motives of Moscow remained inconspicuous. In the Eastern European capitals the message had been received early that the Soviets were prepared for a liberalization and a loosening of ties. Gorbachev made his views clear during two key speeches in July 1989: one to the Council of Europe in Strasbourg and the other at the Warsaw Pact summit in Bucharest. In Bucharest, the Soviet leader stressed to his allies his rejection of the Brezhnev Doctrine; there was no set model for the building of socialism. Each Communist party had the right to pursue its own strategy in line with national conditions. At Strasbourg, Gorbachev signalled his desire to 'consign to the archives the postulates of the Cold War, when Europe was regarded as an arena of confrontation'. In a final break with the doctrine of interventionism, he stated: "The affiliation of the states of Europe to different social systems is a reality, and the recognition of that historical state of affairs, respect for the sovereign right of every people to choose a social system as it sees fit, is a vital prerequisite for the normal European process. The social and political orders of one country or another changed in the past and may change in the future as well. However, that is exclusively the affair of the peoples themselves, a matter for their choice. Any interference in internal affairs, any attempts to limit the sovereignty of states, both of friends and allies, no matter whose it is, is impermissible."²¹ While Gorbachev gave the green light to change it is unlikely that even he realized how rapidly change would come.

In August and September of 1989 (28 years after the erection of the Berlin Wall) waves of East Germans began once more to exercise their choice of political order. East Germans flooded to the West via Hungary, Czechoslovakia, and the West German embassy in Poland. The refugee exodus and the mass demonstration led in October to the resignation of Party leader, Erich Honecker, to be replaced by Krenz. The ultimate goal of the demonstrators was now the complete removal of the Communists from power. On 7 November the government resigned, to be followed a day later by the whole Politburo. On 9 November the Berlin Wall was breached by the authorities, by which time 200,000 East Germans (1% of the population) had left the country. On the day after the Berlin Wall was breached, Bulgarian leader Todor Zhivkov was toppled by Party colleagues and was replaced by Petur Mladenov. Within days, the Czechoslovak regime capitulated and the change was complete in early December. Finally, the dramatic and bloody events in Romania erupted in the days before Christmas 1989 and the Romanian leader Nicolae Ceausescu was executed with his wife after a summary trial. The withering of Communist leadership in the Eastern bloc happened so sudden that even an onlooker was surprised by the speed with which the old structures of power collapsed. Their frailty shocked even those opposition elements responsible for their downfall. The movement for change and reform seemed to gather its own irresistible momentum. Though we can elucidate various reasons for the sudden Communist collapse of the Eastern European states, we can safely state the following reason as a crucial one. In their philosophical, religious, cultural and political traditions they identified more closely with the West than with Russia. We can also refer to the collapse of belief in Marxist ideology (and therefore in the future it promised), the economic failures, the removal of the threat of force (both domestic and external). The Soviet policy of greater openness - *glasnost* - also had an effect.²² The Eastern and Central European nations asserted their right to be free from any external interventions in determining their way of life.

In the aftermath of revolution, the new free sovereign states were given a job of designing a fresh way of life. Whereas the second half of 1989 saw the toppling of Communist regimes in much of central Europe, in the first half of 1990 there was a consolidation of the reforms that had been set in motion. The most significant events to

take place during this period were the democratic elections in most of the east-central European states. In the second half of 1990 a good deal of the euphoria and optimism generated by the collapse of Communist regimes evaporated, as the states of east-central Europe discovered that there is more to democracy than merely holding elections. As one east European academic put it, they woke up with a post-revolutionary hangover. The necessary strains of running a democracy led to the break-up of the Solidarity consensus in Poland and that of Civic Forum in Czechoslovakia and such other parties. German unification occupied the thoughts of policy makers of both East and West during 1990, and full unification took place on 2 December after the 'two plus four' treaty was signed.²³ One of the most disappointing features of this period of post-Communist rule in central Europe has been the resurgence of nationalism, often in its most bigoted and intolerant form.

On the economic front moves have been made to end central planning and introduce market mechanisms, to cut spending on the defence, armaments and security forces. Steps are being taken to remove state subsidies, to privatize state-owned concerns and to encourage foreign investment. Western aid and relaxation of export of advanced technology goods to these emerging economies and the interest shown by Western firms etc. strengthened the economic prospects. To promote economic development in Eastern Europe and to keep a discreet eye on the democratic and human-rights records of potential beneficiaries, The European Bank of Reconstruction and Development (EBRD) was opened in London in 1991 with the following purpose: "In contributing to economic progress and reconstruction, the purpose of the Bank shall be to foster the transition towards open market oriented economies and to promote private and entrepreneurial initiative in the central and eastern European countries committed to and applying the principles of multiparty democracy, pluralism and market economics."²⁴ Economic forecasts for the region vary widely. The reality is likely to be considerably more complex, with possibly significant divergences in economic performance between individual states.

Political stability is a major factor in determining where foreign investment will be directed. There is the further problem in all the new democracies of changing attitudes to

work and developing the skills necessary to run a market economy. It is not proving easy to develop an entrepreneurial culture rapidly in societies where private trade has been condemned for decades as 'speculation'. The collapse of Communist rule in east-central Europe also led to a crumbling of the Communist bloc alliances. At the beginning of 1991 the dissolution of Comecon was announced and the Warsaw Pact was dissolved as a military organization in March 1991. One way of filling the vacuum caused by the collapse of the old bloc structures is to form regional sub-groupings. The Pentagonale is such a grouping and is also perceived in some quarters as providing a 'fast track' for entry into the European Community. Appendix III.15.4 provides the policy document of the Pentagonale. Between 19 and 21 November 1990 a CSCE summit took place in Paris (See, Appendix III.15.3). Thirty-four nations took part - all the signatories of the Helsinki Final Act. At the Elysee Palace NATO and Warsaw pact members signed an agreement to cut arms in Europe. The 'Helsinki process' was also given a new institutional form - in the shape of a secretariat to be based in Prague and a Conflict Prevention Centre in Vienna.²⁵ The East-Central European nations have definitely entered a new era. "While 1989 was a euphoric year of political revolutions in Eastern Europe, 1990 and 1991 saw a growing disillusionment with the long-awaited Great Transformation. According to many analysts, the big question of the years 1992 and 1993 was whether anything one might be proud of from among the achievements of 1989 has survived."²⁶ How to re-invigorate these economies in transition is an issue that we would be dealing with as we discuss the transition growth path. As though, edified by the adventures of the followers, the leader has decided to follow the steps of the followers. No alternative path was on the vicinity. We shall proceed to analyse the transitional growth path of the former Soviet Union.

NOTES

1. NATO Summit (London, 5-6 July 1990), from *The Times*, 7 July 1990. This quote is from the Preamble: point 1 of the 23-point declaration. It is given in Keith, Sword, (ed.), *The Times Guide to Eastern Europe: Inside the Other Europe*, Times Books, 1991, London, p. 272.
2. There are some questions about the usage of 'Eastern Europe.' Yugoslavia and Albania, which were never subject to Moscow, are sometimes referred to as being in 'Eastern Europe.' Prague, often during the interwar years taken as being at the heart of Europe, is almost equidistant from Madrid and Moscow. Many people forget that Vienna is further east than Prague or Zagreb, that Athens is further east than Warsaw, Budapest and Belgrade.
3. There are great differences between the various states and republics. Poland is the most populous state outside the Soviet frontier with a population of 38 million, which contrasts with Albania's 3 million. Ukrainian SSR has 52 million, while tiny Estonia has only 1.5 million. In spatial terms, Poland is ten times the size of Albania, and more than twice the size of Czechoslovakia or Hungary, while Ukrainian Republic is twice the area of Poland.
4. Few are as homogeneous in ethnic and religious terms as Poland. The Poles, Lithuanians, Slovaks, and Hungarians are predominantly Roman Catholic; Latvia and Estonia are mainly Protestant; Bulgaria, Byelorussia, Romania and Ukraine are mainly Orthodox.
5. We could point out the short-lived-attempts to create soviet regimes like that of Bela Kun in Hungary or the Soviet Republic declared in Bavaria in 1919.
6. Keith, Sword, (ed.), *The Times Guide to Eastern Europe: Inside the Other Europe*, Times Books, 1991, London, pp. 9-10.
7. Ibid.
8. Note particularly the Great Power conferences at Teheran in November 1943 and at Yalta, in the Crimea, in February 1945.
9. Keith, Sword, (ed.), *The Times Guide to Eastern Europe: Inside the Other Europe*, Times Books, 1991, London, p.12.
10. Except in Yugoslavia, where Tito's partisans took control, and Albania was beyond the reach of Soviet units.
11. *The Times Guide to Eastern Europe*, op. cit., p. 14.
12. *The Times Guide to Eastern Europe*, op. cit., p. 15.
13. *The Times Guide to Eastern Europe*, op. cit., p. 16.
14. *The Times Guide to Eastern Europe*, op. cit., p. 17.
15. *The Times Guide to Eastern Europe*, op. cit., p. 19.
16. *The Times Guide to Eastern Europe*, op. cit., p. 20.

17. The Times Guide to Eastern Europe, op. cit., p. 22. Also, see George W. Breslauer, *Is the Soviet System Transformable?: The Perennial Question*, in "Dilemma of Transition: In the Soviet Union and Eastern Europe", Breslauer, G. W., University of California at Berkley, 1991, pp. 1-13.
18. The Times Guide to Eastern Europe, op. cit., pp 23-25.
19. The Times Guide to Eastern Europe, op. cit., p. 25.
20. The Times Guide to Eastern Europe, op. cit., p. 27. Also, see Robert W. Campbell, *How to Think about Perestroika*, in "Socialism, *perestroika*, and the Dilemmas of Soviet Economic Reform", John E. Tedstrom (ed.), Westview Press, Oxford, 1990, pp.1-22.
21. The Times Guide to Eastern Europe, op. cit., p. 28. Also, see Gregory Freidin, *How Communist is Gorbachev's Communism?*, in "Dilemmas of Transition", op. cit., pp. 25-45.
22. The Times Guide to Eastern Europe, op. cit., p. 29. Also, see Gail W. Lapidus, *The Crisis of Perestroika*, in "Dilemmas of Transition", op.cit., pp. 15-25.
23. The 'two plus four' talks were among the US, USSR, Britain, France (the wartime allies) with representatives from both Germanys; it was set in motion in May aimed to solve the problems arising from German unification.
24. Transition Report, (EBRD), October 1994, London, p. 3. Also, see Laura D'Andrea Tyson, *The Three Challenges of Economic Transition in Eastern Europe*, in "Dilemmas of Transition", pp. 45-65.
25. The Times Guide to Eastern Europe, op. cit., p.33. For an overview of the events during the early period of Transition, see, Gregory Grossman, *The Soviet Economy in Mid-1991: An Overview*, in "Dilemmas of Transition" op. cit., pp. 65-73.
26. Kovacs, Janos M., (ed.) (1994), "Transition to Capitalism?: The Communist Legacy in Eastern Europe", Transaction Publishers, London.

CHAPTER SIXTEEN

THE TRANSITION-PATH OF THE FORMER SOVIET UNION

While the Central and East European socialist nations decided to determine their political destiny by following the democratic path and economic destiny by following the market mechanism of the capitalist path, the historical socialism upheld by the Soviet leadership crumbled. The consequences of turning away from the principles of applied socialism, in turn, shattered the confidence of the Soviet strength. The unprecedented historical events that happened in the former Soviet Union ultimately resulted in the disintegration of the empire and its reconstruction into several newly independent states. Since the 'mongol yoke' was lifted in the fourteenth century, there has been one dominant power in the region from Poland to the sea of Japan: Russia. "Under the czars, russification - one czar, one language, and one religion - characterized a policy that placed all political, economic, social and military power in the hands of the leaders in the Russian capital. Soviet leaders paid lip service to self determination and preservation of minorities but in effect reinforced this historical orientation toward the centre with an emphasis on one party leadership, one Russian culture, and a Marxist-Leninist ideological substitute for religion."¹ The end of the Leninist-Stalinist system and the empire paradoxically came through an attempt to reinforce the traditional system of governance by reforming it. As Mikhail Gorbachev attempted to strengthen the party's central role with transformation to a socialist market, his reforms eroded the power of the party-dominated, command-economy system; his political reforms and glasnost eroded the cohesion of the Moscow-centred system and challenged the principle of geographic unity. With the abortive Moscow coup in 1991, it became clear that the military and police force that had held together the old system and empire was unwilling to support the overthrow of Gorbachev. Gorbachev, in turn, was unable to hold back the forces that led to the break up of the Soviet Union.² The end result of this catastrophic phase was the emergence of sovereign states.

III.16.i. From Russification To Sovereign States

Yeltsin moved quickly to abolish the Communist Party and to begin the dismantlement of the command economy system. As the power of the party, military, and police proved unable to maintain the Stalinist system and the empire, the long repressed forces of ethnicity and nationalism surged forward. Free to choose, all republics took their own sovereignty in preference to subservience to Russia; many minority groups within newly sovereign states and between states likewise challenged the authority of the new states being formed. "While the change from russification seemed irreversible, the new sovereignty based on self-determination was unstable as the networks of trade, investment, infrastructure, and other regional interrelationships were strained or ruptured, and old ethnic hostilities were let loose. The creation of new sovereign states weakened the long-established economic integration of the region and thereby undermined economic recovery, development, and the transition to a market system."³ The security problems of demilitarization, also regional, were complicated by the disintegration of the empire; weapons held in Ukraine, Kazakhstan, Belarus and other newly independent states could no longer be controlled or dismantled by order from Moscow. The mix of ethnicity and nationalism in a new, weak Commonwealth of Independent States (CIS) has not been conducive to regional economic reintegration. The new states need trade, investment, infrastructure, and the environment to act as centripetal forces for regional integration if they are to make effective transitions to market economies and if they are to join and compete successfully in the world economy. Most of the new states favour economic integration but not with their neighbours, especially Russia. While the IMF, the World Bank, and the OECD draw the various independent states toward the global market system by stimulating openness and market-oriented discipline, the indirect conditionality they prescribe is not sufficient impetus for regional reintegration. The divorce from Russia, as the ruble zone ends and as other economic ties that bound the empire are broken, creates a fissure that will be hard to fill or repair. While the international system of economic institutions may play a role in integration, it appears at best a marginal factor. The CIS, multilateral and regional organizations, and bilateral arrangements are all potential engines for integration. Private non-governmental institutions might play

effective roles. One of those in particular, the “International Committee for Economic Reform,” might be effective if taken over by the G-7.⁴ The International Committee offers a multilateral, but non-governmental framework for identifying practical opportunities for the use of international assistance - in full participation with countries of the region and properly co-ordinated with the efforts of countries themselves. Such organizational and structural umbrellas as the International Committee and the Energy Charter⁵ could form a useful framework for interrelating security, political, and economic issues such as payments and environmental protection that Russia and the former Soviet Union republics seem to be unable to resolve either bilaterally or through the CIS. If destruction of the old command economy has opened the opportunity for a transition to the market, the manner in which the empire is disintegrating makes it more difficult to create the broader, regional, open economic space so important to successful reform within and among the newly sovereign states.⁶ This has been experienced by all the newly formed sovereign states as they find themselves in a state of economic stagnation out of which no immediate recovery is foreseen.

III.16.ii. **Period of Slow Growth and Stagnation**

Although there is controversy and uncertainty over the precise measurement of key aspects of the economy of the former Soviet Union, there is widespread agreement among specialists regarding the general trends. The Soviet Union was unable to reverse or arrest the long term slowdown in growth that began in the 1960s and grew steadily worse. The slowdown and accompanying signs of weakness in many sectors of Soviet economy resulted in a period of slow growth and stagnation.⁷ The estimates of the World Bank show Soviet GNP declined slightly in 1981, and dipped again in 1986 and 1990. Annual growth for the 10 year period, 1981-1990, averaged just under 2 percent.⁸ A downturn occurred in 1990 which accelerated over the next 2 years. There was a sharp drop in production in both industry and agriculture and output declined in all sectors. Trade among the republics was disrupted and foreign trade fell, especially with Eastern Europe which could not meet the hard currency terms set by Moscow during the early years of

transition. Living standards deteriorated. According to the International Monetary Fund (IMF), real gross domestic product (GDP) in the former USSR went down by 9% in 1991 and by 18.6% in 1992. The IMF also estimates that consumer prices increased by about 90% in 1991 and by nearly 1200% in 1992. Export volumes declined by about 24% in each of those years.⁹ The downturn extended, more or less, throughout the region. Inflation in Russia was somewhat higher than elsewhere. Retail prices were estimated at 1400 percent and the ruble plummeted. In spite of all these challenging difficulties, it is heartening to note that the newly formed sovereign states boldly opted to tread the path of market-economy models.

III.16.iii. From Sovietization To Marketization

As we have already noted, two of the most significant events in recent decades were the collapse of the Soviet Empire and the decision by Russia and the other successor states to transform themselves into market economies. The break up of the Soviet Union left in its place 15 independent states, including 3 Baltic nations, Georgia, and the 11 republics that made up the Commonwealth of Independent States (CIS). In 1992 all struggled to stabilize their economies and implement market reforms. The transitions were difficult and the outcomes still uncertain. But despite severe downturns throughout the region, major reform initiatives were underway and governments appeared to remain committed to the goal of marketization. In Russia, as in other successor states, both economic policy and performance measures are drastically changing in the emerging new system. An economy that for seventy five years placed military and protected industrial power at the top of the priority scale, is moving to favour consumers needs.¹⁰ This is made possible by the steps taken by the government of Boris Yeltsin.

III.16.iv. From Socialist Mikhail Gorbachev To Capitalist Boris Yeltsin

Appendix III.16.1.shows the milestones in economic policy and performance during the Gorbachev Era. While Mikhail Gorbachev should be credited with many achievements, it

is pointed out that all he wanted was to create a 'socialist market' within the framework of a command economy dominated by the Communist Party. Boris Yeltsin, the first president of Russia, pressed for a market economy and pledged himself to a transformation to a true market system. There were generally good harvests during the Gorbachev years, 1985-1991. In that period numerous reforms were introduced. "But there were fundamental flaws in Gorbachev's economic plans. The reforms were haphazard and at times contradictory. There were no meaningful steps to decontrol prices or to end the effective monopolies of the state enterprises. He refused to accept and implement the 500 Day Program of radical reform, and end the Party dominated command economy system. He sought to perfect Soviet socialism. In the end, he failed to halt the slide into deep recession or to prevent price increases from reaching a near hyperinflationary stage."¹¹ Yeltsin's approach to economic reform, in the first year of his presidency, was strikingly different from Gorbachev's. At the end of 1991, Yeltsin outlined a programme of radical change to a market economy and was given the power by Russia's congress to implement it. Yeltsin moved decisively to outlaw the Communist Party, dismantle the old ministerially directed economy, and liberalize prices. Price liberalization was the clear signal the West looked for to make reform credible. The other characteristics of the economic reforms would be clear as we proceed with our analysis.

The debate over economic reforms within Russia can be described in the context of four camps: "shock therapy" advocates, conservative gradualists, liberal democrats, and reactionary nationalists.¹² The 'shock therapy' approach followed by Yeltsin in 1992 emphasized stabilization through price liberalization, and restrictive fiscal and monetary policies. Proponents of this approach wanted to move quickly to achieve a free market. They would put safety net programmes in place to help persons in dire need, but would tolerate substantial falls in production and increases in unemployment. A number of groups pressed for a more gradual approach. They argue that "economies are more like giant tankers than they are like rowboats. They cannot be manoeuvred readily or turned about quickly."¹³ This is the situational experience of transitional economies. The conversion of a socialist command economy into a modern, mixed market economy is without historical precedent, and much disagreement exists both among economists in the

transitional economies and within the Western economic community about how to go about the transformation process. Communism and the socialist command economy have been repudiated in favour of democracy and the market economy. The conversion of democracy has progressed rather more swiftly and successfully than the attempt to convert to a market economy, and many observers both in and outside the former Soviet Union fear that resistance by vested interests to marketization will ultimately undermine the democratization movement too. We need to explore the question of whether the market mechanism is still too weak in the CIS and other transitional economies to carry the entire burden of allocation, production, and distribution. Enormous external assistance, both financial and educational, will be necessary to avoid failure of the economic transformation process and backsliding into another variant of the crisis administered economy. Ultimately, it is the responsibility of each transitional economy to develop their own unique transformation strategies based on their own peculiar economic circumstances, histories, and opportunities.¹⁴ The post-Soviet economic reforms are to be seen in this perspective.

III.16.v. Economic Reforms in Perspective

The transitional economies are in the midst of an attempted societal transformation that is unprecedented in nature and scope. Under the old regime, the economy functioned through a system that possessed its own internal logic and through institutions that were closely interconnected and mutually reinforcing.¹⁵ In the economic realm, these states begin the transition from socialist central planning to capitalist market economies with formidable legacies from failed communism.¹⁶ The legacies are found in the remnants of the institutions through which the economy was managed for many decades and in the mindsets and habits of the people whose behaviour was moulded by those institutions. Other legacies stem from the development strategies¹⁷ that were pursued and are physically embodied in the land use patterns, capital stocks, environment, and skills of the labour force. Related to those institutions and strategies are the legacies that are primarily the result of protectionist policies that not only insulated business firms from foreign

competition, but from domestic competition as well.¹⁸ Nonetheless, the old system, despite its manifest flaws, did generate economic growth¹⁹, secular gains in living standards, and an extraordinary degree of personal economic security. Unlike in the West in general, Soviet growth was fuelled by a massive build-up of capital stock, near-maximum mobilization of the population into the work force, profligate use of energy and raw materials, and an almost total disregard for the environmental consequences²⁰ of what amounted to a policy of production at any cost. Whatever the disputes over the numerical calculations, it would be generally agreed that improvements in productivity beyond those embodied in the capital stock and a better-educated work force contributed little, if at all to Soviet growth, a situation markedly different from Western growth experience.²¹ To maintain perspective on the emerging new economic orders in the transitional states, one needs to keep in mind the totality of the old monolithic order and its legacies, both good and bad. Also, it is this perspective that would determine the economic objective of transformation processes.

III.16.vi. The Objective of Economic Transformation

The new states are experiencing three types of transformations: the transformation of governance from dictatorial rule to rule by participatory consensus, the transformation of the economic system from socialist central planning to one based on private enterprise and markets, and the transformation from units in a highly integrated and centrally managed empire to fully sovereign nation-states. As all these intertwined revolutionary processes unfold in the coming years, the need to assess the progress of the three transformations will be ever present. Evidence of progress (or regress) will take the form of innumerable actions at all levels of society and in all arenas - political, economic and social. Here, we aim to develop a perspective focusing on the economic transformation.

All the attempts to reform socialism resulted in failure because “they were attempting to elicit capitalist behaviour from socialist firms without placing them in a capitalist environment.”²² But the real breakthrough occurred in 1990 in a series of developments that brought a sea change on the economic reform front.²³ The harbinger of those historic

developments was the so-called “Abalkin Blueprint” set forth in the fall of 1989, which for the first time made property ownership the centrepiece of reform.²⁴ This theme also figured in a more subdued way in the more conservative programmes set forth by the Ryzhkov government in December 1989 and in May and September 1990. The most radical of the programmes, however, appeared in August 1990 as the much-touted “500 day” (Shatalin) Plan.²⁵ This programme was unprecedented both for its stress on property ownership and for its fast timetables for “destatizing” and privatizing state property and for decontrolling prices - steps that are essential to creating a market economy. The basic features of this plan were incorporated in more general terms in the so-called Presidential Plan that was adopted by the federal legislature on October 19, 1990.²⁶ It was soon realized that in order to achieve these objectives, the creation of a normal economy was imperative.

III.16.vii. The Creation of a Normal Economy

The decision to institute a market economy, with its radically different institutions to replace the failed economic system of socialist central planning, was a recognition at long last of the futility of further attempts to reform socialism. The transitional economies (Russia, Baltic States, CIS, and Central and Eastern Europeans states) aim to join the international community as well-functioning market economies that can generate economic growth and improve living standards for the people. The goal is often put as one of creating a “normal economy.”²⁷ Economic theory and world experience define clearly the basic characteristics of a successful market economy. They are: the majority - three-quarters or more - of land and capital assets are in private hands with property rights that are clearly defined and legally protected; production is guided by consumers through flexible prices; the economic role of the state is limited to defining and enforcing property rights, ensuring macro-economic stability, and providing public goods as chosen by the political process. For the new states bent on creating a market economy, this means, privatization of most now state-owned property, removal of controls on prices and economic activity, and institution of a new role for the state. These are the challenging

tasks that the newly formed sovereign states would have to undertake as they try to create a normal economy.

III.16.viii. The Transformation Tasks

How to create a normal economy during the period of transition? “The institutional economics has no agreed-upon theoretical model that prescribes an optimal strategy for transforming one economic system into another one.” The real possibility of mapping the transition presented a new and exciting challenge for mainstream economists. The result was a lively debate among Western economists, and a subdued one by Soviet economists, about what steps must be taken to bring about a market economy and about the sequence and speed with which they ought to be taken.²⁸ Early on, the issues came to be discussed in terms of “Big Bang” versus gradualism and in terms of whether macro-economic stabilization should precede privatization or vice-versa. “In the process of proffering policy advice to the post-communist governments and interacting with them, Western mainstream economists learned much about the entrenched economic and political legacies of socialism, and Soviet economists learned much about the desiderata for a market economy.”²⁹ In the meantime, the countries of Eastern Europe were providing models and experience in diverse transition paths and privatization schemes. Out of these debates and experience has come a broad consensus about what must be done to transform a centrally planned economy into a democratic market economy and to deal with the legacies of many decades of economic development under socialism. According to G. E. Schroeder³⁰, these tasks are the following:

1. Stabilization. Inflation must be brought under control through drastic reduction in budget deficits and restricted credits.
2. Liberalization. Prices must be freed from controls, profit seeking business firms and farms must be allowed to decide for themselves what to produce and how to produce it, and firms must be able to engage freely in foreign trade. The currency should be made convertible as soon as possible.

3. Privatization. Most land and capital assets must be put into private hands and market arrangements set up for the exchange of such assets. Individuals and groups must be free to establish new private businesses with ease. Monopolies must be broken up.
4. Regulation. The state must assume the role of regulator of the macro-economy and of business activity using instruments that promote well-functioning markets through their influence on decisions of individuals and firms. The state itself should provide legal and social protection and supply public goods and services in amounts and kinds chosen by electorates.
5. New institutions. Legal, accounting, and statistical systems appropriate for a market economy must be established and new financial institutions created, such as a central bank and a network of private commercial banks, insurance companies, and securities exchanges.
6. Restructuring of production. The mix of goods and services produced must change and the land, capital and labour resources must be redeployed in accord with the preferences of consumers at home and abroad. The state may play a role in such restructuring but ought not to dictate its directions, which should come from market signals.³¹

These are the six major sets of tasks that must be carried out by each of the transitional economies, if they are to create a reasonably well-functioning market economy starting from the physical, human, institutional, and economic legacies of central planning. Each of these major tasks encompasses a multitude of specific tasks and entails numerous and perhaps conflicting choices. "What has to be done economically is gargantuan, and the tasks must be accomplished through political processes that are still in formation everywhere. The sheer magnitude and inter-connectedness of the tasks would seem to require that a start be made, (not necessarily in time sequence), on almost all fronts simultaneously."³² The new states will choose their own particular paths and paces of reform and development. Even though they have common legacies and large economic interdependencies, these choices will be influenced by the political, social, and economic particularities in each state. We shall look into those tasks in more detail later.

In its last year of existence, the U.S.S.R. witnessed the culmination of the combined failures of courses of action it had long pursued in two critical realms - its attachment to within-system economic reforms and its vaunted "nationalities policies." Once the union government's reins were loosened under the policies of glasnost and perestroika³³, the result was a bloodless revolt of the republics that proceeded swiftly and ended in replacement on the world stage of the unitary Soviet state by 15 new sovereign states. Each is a nation-state in the sense that an indigenous ethnic group is dominant in its total population as is shown in the following Table. We may not be able to strictly apply this criteria to the case of Kazakhstan.

Table III.16.1.
Composition of Dominant Ethnic Group

Ge ogr ap hic Un it	Ru ssi an Fe der ati on	Uk rai ne	Bel aru s	Mo ldo va	Lit hu ani a	Lat via	Est oni a	Ge org ia	Az erb aija n	Ar me nia	Ka zak hst an	Uz be kis tan	Ky rgy zst an	Taj ikis tan	Tu rk me nist an
Na tio nali ty	Ru ssi an	Uk rai nia n	Bel oru ssi an	Mo ldo van	Lit hu ani an	Lat via n	Est oni an	Ge org ian	Az eri	Ar me nia n	Ka zak h	Uz be k	Ky rgy z	Taj ik	Tu rk me n
Hi gh est %	81. 5	72. 7	77. 9	64. 5	79. 6	52. 0	61. 5	70. 1	82. 7	93. 3	39. 7	71. 4	52. 4	62. 3	72. 0
Se co nd Hi gh est %	Tat ar: 3.8	Ru ssi an: 22. 1	Ru ssi an: 13. 2	Uk rai nia n:1 3.8	Ru ssi an: 9.4	Ru ssi an: 34. 0	Ru ssi an: 30. 3	Ar me nia n: 8.1	Ru ssi an: 5.6	Az eri: 2.6	Ru ssi an: 37. 8	Ru ssi an: 8.3	Ru ssi an: 21. 5	Uz be k:2 3.5	Ru ssi an: 9.5

Source: Based on data given in *The Former Soviet Union in Transition*, Edited by Richard F. Kaufman and John P. Hardt for the Joint Economic Committee, Congress of the United States, 1993.

In order to gain perspective on what the new states have accomplished thus far in the area of economic reforms, we must remind ourselves of what are the most urgent of the tasks of new statehood. In the area of foreign relations, the new states must now formulate their own foreign policy, establish diplomatic relations with foreign states and negotiate new international agreements on a wide range of matters. They must decide on matters of national defense. In the domestic political arena, the new states need new constitutions, laws and administrative structures suited to independence. The political processes need to be managed to ensure a reasonable degree of stability of government in order to formulate and execute policy over a broad spectrum. In the social arena, the new states must revamp their social systems and formulate policies to deal with urgent problems in public health, criminal justice, and the environment.³⁴

In the economic realm, the tasks are even more daunting and also more pressing, since they concern the daily welfare of the entire population. While pursuing the complex tasks of systemic reform process forward, the beleaguered governments must cope with the daily crises stemming from the deep recession into which their economies have been plunged by the collapse of the center with its ability to command, by the steep decline in defense spending, by the disarray in trade with former CMEA members and the former republics, by the introduction of separate monetary unit, by worker strikes or strike threats, and by ethnic strife. The new states must now manage their own public sectors and try to balance their own budgets. In the international arena, they must forge new economic relationships with other countries, interact with them through international organizations, and seek economic aid and foreign investment.³⁵

Given the revolutionary nature of the many-faceted transformation from subservience to independence, the speed with which it occurred, and the excessive burden on the new governments, the progress on economic reform made thus far is remarkable. Human attitudes and habitual ways of doing things changes slowly in all societies. But there is much evidence that such changes are indeed taking place.³⁶ Although systemic transformation is in process at long last in all of the transitional economies, large elements of the old system remain in place (particularly in CIS), a situation that could hardly be

otherwise, given the brevity of their independence. “As for restructuring the mix of production, however, much alteration is occurring willy-nilly, as defense production falls and conversion to civilian production is attempted, as firms and farms spontaneously or under government prodding alter their product mixes, as the private sector oriented toward consumers expands, and as such investment as is taking place in the present chaotic conditions gravitates toward consumer-oriented sectors.”³⁷ The tasks still ahead in establishing the conditions and institutions of a viable market economy are awesome. They would severely tax the political and social fabric of even the most seasoned, stable, and ethnically homogeneous democracy. But there is no *economic* reason why they cannot be accomplished in time. Under the best circumstances, the transformation will require many years, and given the physical and psychological legacies, the full recovery of the economies will be slow in coming. As is already clear, the transformation process will be characterized by much diversity.³⁸

Our analysis of the transition process of the former Soviet Union unfolds the complexity of the nature of the task that is ahead. The economies in transition need to follow certain strategies to accomplish the desired economic objective of growth and development. In the following chapter let us try to comprehend those transition strategies that have been followed by the economies in transition.

NOTES

1. Kaufman, Richard F. and Hardt, John P., (ed.), (for the Joint Economic Committee, Congress of the United States), *The Former Soviet Union in Transition*, M. E. Sharpe, Inc., London, 1993, p. xviii.
2. Ibid.
3. Ibid., p. xix.
4. The Committee includes the major countries in the former Soviet Union and East Europe and the Western Industrial Countries; it offers a non-governmental, multilateral framework for dealing with regional issues.
5. "The Energy Charter Negotiation: Time for Decision", discussion paper, Department of State, April 16, 1993.
6. Kaufman, Richard F. and Hardt, John P., (ed.), *The Former Soviet Union in Transition*, op cit., p. xx-xxiv.
7. Details of this trend can be obtained from the successive compendia of studies published by the Joint Economic Committee. See, for example, *New Directions in the Soviet Economy, 1966*; *Soviet Economic Prospects for the Seventies, 1973*; *Soviet Economy in the 1980s; Problems and Prospects, 1982*; *Gorbachev's Economic Plans, 1987*; and the series of annual hearings, *Allocations of Resources in the Soviet Union and China, 1974-1990*.
8. World Bank, *World Atlas 1993*.
9. International Monetary Fund, *World Economic Outlook, Interim Assessment*, December 1992, p. 19.
10. Kaufman, Richard F. and Hardt, John P., (ed.), *The Former Soviet Union in Transition*, op cit., p. xi-xiii.
11. Ibid., p. xiv.
12. Ibid., p. xv. See, Hardt, John P., *Vision and Program for Russia: An American View*. Published in French in the volume of proceedings of the Summer University held at the University of Pau, France, "*Mutations a l'Est: transition vers le marche et integration Est-Oest*," edited by Marie Lavigne, Publications de la Sorbonne, France, 1993.
13. Millar, James R., *The Economies of the CIS: Reformation, Revolution, or Restoration*, in Kaufman, Richard F. and Hardt, John P., (ed.), *The Former Soviet Union in Transition*, op cit., p.35
14. Ibid.
15. Schroeder, Gertrude E., "*Post-Soviet Economic Reforms in Perspective*" Kaufman, Richard F. and Hardt, John P., (ed.), *The Former Soviet Union in Transition*, op cit., p. 60.

16. The many adverse consequences of the communist system of property are discussed in Gertrude Schroeder, *"The Role of Property in Communist Countries,"* In *Depth*, Winter 1992, pp. 31-55.
17. Schroeder, Gertrude E., *"Post-Soviet Economic Reforms in Perspective"* op cit., p. 61. These and other severe economic distortions brought about by socialist central planning are described in Jan Winiecki, *The Distorted World of Soviet-Type Economies*, Pittsburgh, Pa., University of Pittsburgh Press, 1988.
18. A variety of statistics showing the high degree of industrial concentration in the Soviet Union are cited in Heidi Kroll, *Monopoly and Transition to the Market, Soviet Economy*, April-June 1991, pp. 143-174.
19. Schroeder, Gertrude E., *"Post-Soviet Economic Reforms in Perspective"* op.cit., p. 63. See also, Laurie Kurtzweg, *Measures of Soviet Economic Growth in 1982 Prices, A study Prepared for the Use of Joint Economic Committee of the US Congress*, November 1990, pp. 54-57; CIA, *Handbook of Economic Statistics*, 1991, CPAS 91-1001, p. 34.
20. See, Murray Feshbach and Alfred Friendly, Jr., *Ecocide in the USSR: Health and Nature under Siege*, New York, Basic Books, 1992.
21. For a detailed survey of Soviet growth experience, see Gur Ofer, *Soviet Economic Growth, 1928-1985, Journal of Economic Literature*, December 1987, pp. 1767-1833.
22. Schroeder, Gertrude E., *"Post-Soviet Economic Reforms in Perspective"* op. cit., p. 67. And see also, *"Gorbachev: Radically Implementing Brezhnev's Reforms,"* Soviet Economy, October-December 1986, pp. 289-301 and *"Anatomy of Gorbachev's Economic Reforms,"* Soviet Economy, July-September 1987, pp. 219-241.
23. Schroeder, Gertrude E., *"A Critical Time for Perestroika,"* Current History, October 1991, pp. 323-327.
24. Schroeder, Gertrude E., *"Post-Soviet Economic Reforms in Perspective"* op. cit., p. 67. See Ed A. Hewett, *Perestroika Plus: the Abalkin Reforms, Plan Econ Report*, No. 48-49, December 1, 1989.
25. See Ed A. Hewett, *The New Soviet Plan, Foreign Affairs*, Winter 1990/91, pp. 146-167.
26. The formal title of the Plan is *"Basic Guidelines for Stabilization of the National Economy and Transition to a Market Economy,"* Izvestia, October 27, 1990.
27. Schroeder, Gertrude E., *"Post-Soviet Economic Reforms in Perspective"* op. cit., p. 69.
28. Ibid., pp. 69-70. There is now a large literature on the economics of transition. For example: *"Symposium on Economic Transition in the Soviet Union and Eastern Europe,"* Journal of Economic Perspectives, Fall 1991, pp. 3-162. *"The Economic Transition in Eastern Europe,"* Comparative Economic Studies, Summer 1991, pp. 9-177. Merton J. Peck and Thomas J. Richardson (eds.), *What is to be Done? Proposals*

For the Soviet Transition to the Market, New Haven, Yale University Press, 1991. Christopher Clague and Gordon C. Rausser, *The Emergence of Market Economies in Eastern Europe*, Cambridge, Mass., Blackwell Publishers, 1992. Hans Bloomstein and Michael Marrese (eds.), *Transformation of Planned Economies: Property Rights Reform and Macroeconomic Stability*, Paris, OECD, 1991. *Reforming the Economies of Central and Eastern Europe*, Paris, OECD, 1992. Peter Murrell, "Big Bang versus Evolution," Plan Econ Report, no. 26, June 29, 1990. Entire special issue, *Economics of Planning*, vol. 25, no.1, 1992. Janos Kornai, *The Road to a Free Economy*, New York, W. W. Norton, 1990. See, following chapters for more references relating to the economics of transition.

29. Schroeder, Gertrude E., "*Post-Soviet Economic Reforms in Perspective*" op. cit., p. 70.
30. Ibid.
31. Ibid.
32. Ibid., p. 71.
33. See, John E. Tedstrom, (ed.), *Socialism, Perestroika, & The Dilemmas of Soviet Economic Reform*, Westview Press, Oxford, 1990; George W. Breslauer, (ed.), *Dilemmas of Transition: In the Soviet Union and Eastern Europe*, University of California at Berkeley, 1991.
34. Schroeder, Gertrude E., "*Post-Soviet Economic Reforms in Perspective*" op. cit., pp. 76-77.
35. Ibid. See Tauno Tiusanen and Richard Berry, *The Eastern Market: The Investment Climate in Transitional Economies*, Rastor-Julkaisut, Helsinki, 1995.
36. Ibid., p. 78. Some of the strongest evidence on how popular attitudes are changing is provided by public opinion surveys. See in particular, Tatiana Zaslavskaja, "*The Economic Situation, Food Problems and Public Opinion in Russia*," a paper given at the Geonomics Spring Seminar in Middlebury, Vermont, May 17-20, 1992.
37. Schroeder, Gertrude E., "*Post-Soviet Economic Reforms in Perspective*" op. cit., p. 79.
38. Ibid.

CHAPTER SEVENTEEN

ECONOMIC GROWTH STRATEGIES OF TRANSITION

Economic growth is very much determined by the strategies a country adopts. Throughout the republics of the former Soviet Union and Eastern Europe, the state can no longer dictate economic results and the market is not yet sufficiently well established to provide the incentives necessary for vigorous or stable growth. In this transformation, economic and political reforms are inextricably intertwined.¹ We shall concentrate here on those transition strategies and the number of issues relating to the speed and sequence of reform in the economies in transition. The heart of that effort, the most difficult and protracted part of it, is the construction of market economies on the ruins of central planning from the eastern part of Germany to the Pacific coast of Russia. "Making markets where none existed before is an enterprise of daunting scale. It is far greater in scope than the parallel shift from communist to democratic governance. Government, after all, is a full-time activity for only a handful of people in any society. The economy, by contrast, is the setting in which most adults in any country spend their working lives."² The transition from plan to market involves abrupt and sweeping changes in the daily routines of hundreds of millions of people - changes in how and where they work, what they buy, how they earn money to pay for their purchases, and where they live. At the outset we can safely state that there is no unique optimal path of transition. Much depends on the starting point and the events preceding it. Many countries have moved sufficiently far that there is little point in suggesting embarking on a new path which might involve retracing steps. But, while no single path should be seen as the "model" or "right" way, there are some basic elements that are central to the success of the process.³ Let us begin analysing these strategies by having an understanding of the term *transition*.

III.17.i. The Conceptual Understanding of Transition

Since the present transition has no historical precedent, it would be better if we can familiarize ourselves with this concept as we use in our study. In the “Transition Report” of the European Bank for Reconstruction and Development, the term *transition* is defined in the following words. “In general terms, *transition* is the progression from a command economy to an open market-oriented economy. The transition concerns institutional change. It is the institutional arrangements for the allocation and generation of goods and resources, and the ownership incentive and reward structures that institutions embody, that characterise the differences between a market and a command economy.”⁴ Transition is not only an intermediate goal contributing to economic development. It may also be regarded as an ultimate objective in itself. The market economy, in contrast to central planning, gives, in principle, the individual the right to basic choices over aspects of his or her life: occupation and place of work, where to live, what to consume, what risks to take or avoid, and so on. The right to these choices may be seen as basic liberty and as a fundamental aspect of standard of living. Of course, the notion of liberty goes far beyond the elements of choice described but these choices may be regarded as basic to it. Thus the transition is also an end in itself.

Individuals freely pursuing their interests and interacting in the market place together provide a more efficient, dynamic and creative economy than one based on centralised commands. “The centralised command economy may suffer more severely from political manipulation, corruption, the arbitrary exercise of power, poor information, cumbersome systems and perverse incentives.”⁵ In summary, since the founding of the Bretton Woods institutions, the dominant view is that a market-based system has overwhelming advantages over central planning. The transition from a command to a market economy is the movement towards a new system for the generation and allocation of resources. It involves changing and creating institutions, particularly private enterprises.⁶ The transitional economies need to integrate certain basic ingredients of open market-economy as they strive to create a market-based system.

III.17.ii. The Ingredients of Open Market-Economy

As we have seen, transition is a progression towards an open market-economy. The key ingredients of the open market-oriented economy must be examined more closely, since that would enable the identification of the important dimensions of the progression. “In identifying the ‘key ingredients’ it must be remembered that there are many varieties of market economy which may be viewed as the ‘end point’ or ‘target’ of the transition.”⁷ The contrasts between the economies of Japan, Germany and the USA illustrate that the possibilities are very broad. It is important to remember that the transition is not a simple, linear, one-dimensional progression to a ‘standard’ market economy. It involves the designing of a new economic system which is naturally a demanding venture with a complex process.

What are the key ingredients of a market economy? We shall merely outline the basic elements of the market economy as they are understood within a capitalist framework.

(1) *enterprises and households*, which are responsible for decisions concerning production and consumption. These decisions are taken in response to incentive structures embodied in the workings of the markets in which they operate;

(2) *markets*, which are the means by which goods and resources are exchanged between enterprises and households;

(3) *financial institutions*, which are crucial players in the integration of transactions over time; in particular the channelling of savings and investments, the organization of payments, and the enforcement of individual (household and enterprise) financial discipline.⁸

Integrating these basic elements of the market economy into the new economic system of the newly formed economies in transition is an unavoidable task. The new sovereign states must make all effort to bring about political stability in order to accomplish the economic transformation.

III.17.iii. The Role of the State in the Market Economy

The role of the state in a market economy remains important, although very different from that in a command economy. This changed role requires fundamentally different governmental institutions. The state plays a major role in the market economy, across many dimensions, which is very different from that of the command economy. Basic elements include:

- (a) legal and regulatory structures and governmental responsibilities concerning the behaviour of enterprises and financial institutions, property rights, transactions and contracts, and the functioning of markets;
- (b) the provision of parts of education, public health and medical care;
- (c) the provision and protection of certain public goods or services including defence, law and order, the environment, and elements of the infrastructure;
- (d) the provision of protection against important aspects of poverty;
- (e) a system of taxation that can support the provision of the above services.⁹ The fulfilment of these functions by the state is a necessary step towards the system of market mechanism. As the very term transition implies a short-term scenario, it was believed that the measures which are to be taken by the economic policy makers should be radical.

III.17.iv. The Interlocking Wheels of Transition

Despite the lack of experience with a transition of this sort, a consensus has emerged in both East and West on what it involves. They broadly agree that the vehicle to reach a private market economy should ride on four interlocking wheels. The first is macroeconomic stabilization - bringing the balance of payments into rough equilibrium and above all correcting economic imbalances that are ordinarily expressed as overt or suppressed inflation. (The following chapter analyses in detail stabilization as a transition strategy.) A second set of changes necessary for the transition from plan to market comes under the rubric "liberalization." All involve dissolving state controls of economic activity

and substituting market rules and practices. They include such measures as breaking up the monopolistic structure of industries to foster competition and putting economic relations with other countries on a market basis, an important element of which is making local currencies convertible. Liberalization involves freeing up prices, including interest rates; devaluing the currency to a realistic - perhaps supercompetitive - level, and then managing the exchange rate under some "flex-fix" regime (such as pegging with periodic large devaluations, crawling peg, or frequent minidevaluations, or managed float); making the currency convertible for the current account (that is, for international transactions of goods and services); integrating with the world economy by eliminating barriers to cross-border movements of goods, services, capital, technology, and ideas; and reforming other (for example, financial and labour) markets. The third set of changes involves privatization of the economy, which we shall describe briefly later in this chapter. The fourth set of changes requires building the institutions necessary to sustain a market economy. This is a process of developing a market-supporting institutional infrastructure. This encompasses constitutional, legislative, legal, accounting, regulatory, fiscal, monetary, and social insurance reform.¹⁰ Among the market-supporting institutional infrastructure, perhaps, the most important is private property. Ownership must be transferred from the state to private hands. Also important is the establishment of a legal framework within which private economic activity can take place, contracts are enforced, and private property is protected. Important as well is the development of a financial system that can channel capital, in the form of private savings, to profitable uses. And perhaps most important of all is the accumulation of the skills - managerial, legal, and entrepreneurial, among others - that are necessary to make free markets work.¹¹ Liberalization, privatization of the economy, and development of a market-supporting institutional infrastructure could be grouped together under the overall label of "marketization." Economists also broadly agree on the following point: in order to move fast and maintain the momentum, the vehicle should *initially be fuelled*, not just lubricated, by massive foreign *governmental* assistance - moral, intellectual, technical, and financial. One can therefore view adequate external assistance¹² as the essential start-up fuel to ignite the engine, get the wheels moving, and build up the momentum to put the economy on the turnpike to capitalism.

Thus, the consensus strategy for capitalist transformation may also be described as a structure resting on three primary pillars: stabilization, marketization, and foreign aid. Economists further agree - though with more qualifications - on the essential features of the transitional performance of the Central and Eastern European (CEE) countries since 1990, and of the former Soviet Union since 1991.¹³

While economists generally agree on components that should compose the core of the transformation strategy, the convergence breaks down on the sequencing, speed, and stress (relative intensity of implementation) of these components, as well as on whether and how sectoralism (i.e., industrial policy) should shape their implementation. One instructive start toward understanding the debate on sequencing, speed, stress, and sectoralism is to separate the semantics from the economics of such catchphrases as “shock therapy,” “big bang,” and “gradualism.” We shall proceed to analyse these catchphrases in the context of transition.

III.17.v. Shock Therapy, Big Bang, and Gradualism as Transition Strategies

The conventional practice is to use the terms “shock therapy” and “big bang” interchangeably, and contrast them with the alternative of “gradualism” (some call it a step-by step or conservative approach).¹⁴ The shock therapy/big-bang strategy typically implies a simultaneous and rapid deployment approach on all fronts. In terms of the four interlocking wheels described earlier - stabilization, liberalization, privatization, and institutional infrastructure building - the big bang approach means exactly what it says: get all four wheels moving together and quickly with minimum emphasis on sectoral selectivism (industrial policy). By contrast, gradualism usually connotes an approach involving a great deal of attention to appropriate sequencing of the various components and subcomponents of the overall policy package, as well as differentiation in speed and stress of these component reforms determined in light of sectoral considerations.

“Shock therapy is a highly conservative Western economic doctrine emphasizing monetary policy. Originally developed to stabilize and invigorate an economy with

substantial capitalist aspects, it is here modified to convert a command economy to capitalism.”¹⁵ The conditions for shock therapy to succeed are quite stringent. (Moreover, the theory upon which it rests makes a number of questionable assumptions, especially for the Russian case.) It is assumed by the theory that if monetary and pecuniary problems can be solved, production will be restored without central government intervention in production decisions. Let us analyse the case of Russia, which followed this strategy.

Yegor Gaidar, in Russia as acting Prime Minister during 1992, initiated a transformation regime that is called “shock therapy” because it attempts to create the necessary institutions for a functioning capitalist economy and achieve macroeconomic stability in the shortest possible time period. This strategy recommends speed in implementation on two grounds. First, a market economy requires the existence of a minimum set of institutions coming into operation simultaneously. Liberalizing retail prices, for example, can have little beneficial effect upon production and allocation decisions unless enterprises have been privatized and thus are operated according to the dictates of profit maximization. A second reason given to move fast with the economic transformation is that the process is expected to be economically painful for most members of the population. The quicker the new economic regime is in place, the less time opponents will have to organize and the sooner it will begin to yield benefits to offset the costs of the transition, such as unemployment and the loss of welfare entitlements and lifetime savings.¹⁶

As a transition strategy, shock therapy is the approach generally supported by the World Bank, the International Monetary Fund and such well-known academic consultants as Harvard Professor Jeffrey Sachs. In Poland, influenced by Sachs, the Balcerowicz Plan scrapped the gradualist approach to transformation agreed in the spring of 1989 in the Round Table negotiations which led to the change of regime in favour of shock therapy and the big bang.¹⁷ The transformation regime is based on a monetarist philosophy and a free market ideology. Jude Wanniski, for example, has expressed the ideology underlying it most clearly in an essay on the future of Russian capitalism: “It is possible to imagine a future of Russian capitalism that asserts itself early in the 21st century as the envy of the

world....The Russian people are now engaged in nothing less than designing the basic architecture of a brand new country. Why not consider all possibilities? Why not design the Russian system of capitalism to be the best?"¹⁸ By the "best," Wanniski means most unfettered by state intervention and ownership. It calls for complete displacement of the prior economy (of former Soviet economic institutions).

But critics of the Gaidar transformation regime, like the Nikolay Shmelev (a Russian economist) and Georgi Matyukhin (director of the Russian Gosbank), believe that it is unrealistic to create a market economy in so short a time. They argue that the Western advisors are not familiar with the political and economic "realities" of the Russian economy. The majority of Western economists who were specialists on the Soviet economy prior to the collapse of communism, tend to agree with the critics of shock therapy and would call for gradual modification of existing economic institutions, not their wholesale elimination (a reformist approach). There also tend to be conscious *political* economists who believe that economists recommending economic policies must take political constraints and realities into account in formulating economic reform. Supporters of shock therapy base their recommendations instead on a theoretical model of the market economy that they are attempting to replicate in Russia, and they see little advantage in attempting to salvage or modify existing institutions. They also tend to be impatient with political constraints. What is appealing to leaders of the transitional economies who are facing a leap into the unknown in the face of popular unrest, is, of course, the simple and quick solutions provided by the confident assertions of Western economic advisors. The danger is that they may be merely leaping from one obsolete, unworkable economic dogma to another, from the frying pan into the fire.¹⁹

III.17.vi. Critique of Shock Therapy

The strategy of shock therapy has been criticized for the following reasons. According to the dictates of the model of shock therapy, unemployment should be increasing as industries trim and rationalize their labour forces in order to maximize profits.

TABLE III.17.1.

Unemployment in Russia in 1991-1992

Populat ion (Thous ands)	Proport ion of the Local Populat ion in the Total Able- Bodied Russian Populat ion	Econo mic Regions	Forecas t for 1991 (Ministr y of <u>Labour</u>	and Employ ment of <u>Russia</u>	<u>Real Situatio n</u>	<u>in 1991</u>	<u>Forecas t for</u>	<u>1992</u>
			Thousa nds of People	Percent age ^a	Thousa nds of People	Percent age ^a	Thousa nds of People	Percent age ^a
N.A. ^b	N.A. ^b	Russia, total	1,329.0	1.6	61.9	0.07	762.4	0.9
6,155.3	4.3.	Norther n	32.9	0.9	1.5	0.04	18.3	0.5
8,301.8	5.7	North- West	76.3	1.6	3.5	0.07	52.2	1.1
30,478.	20.4	Central	257.1	1.5	12.0	0.07	119.5	0.7
3	5.6	Volga-	84.3	1.8	3.9	0.08	46.7	1.0
8,476.5		Vyatsky						
7,756.0	5.0	Central	50.3	1.2	2.4	0.06	25.1	0.6
		Black Earth						
16,543.	11.2	Volga	179.1	1.9	8.4	0.09	113.5	1.3
0	11.1	North	149.5	1.6	6.9	0.07	102.6	0.9
16,944.		Caucas us						
3		West-						
15,127.	10.4	Siberian	157.2	1.8	7.3	0.08	87.6	1.0
6		East-						
9,224.9	6.3	Siberian	106.4	2.0	4.9	0.09	80.2	1.5
		Far-						
8,032.4	5.9	East	59.9	1.2	1.8	0.06	30.1	0.6

N.A. ^b	0.6	Kaliningrad area	4.8	0.9	0.3	0.05	2.1	0.4
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Source: Russian Business Monitor, No. 1, 1992, p. 25

^a.The number of registered unemployed against the total able-bodied population.

^b.Note: The source does not give the population figure for the Kaliningrad area (column 1). Columns 1 and 2 for Russia are also not specified. Finally, the percent figures given in Column 2 refer to a total able-bodied Russian population that is not identified. The text states (p.24) that the regions listed in the table represent approximately 75% of the Russian population. The unemployed are defined here consonant with the April 19, 1991, Law on Employment as all “able-bodied citizens that have [no] job or earning, (excluding payments for public works on assignment of government employment agencies)...[and are]...registered in an employment agency as seeking an adequate (sic.) job and ready to take it.”(Millar, p.51).

Essentially nothing has happened with respect to this criterion as seen in Table III.17.1. By Western standards unemployment is zero. Enterprise managers continue to see it as their prime responsibility to provide for the welfare of their employees, even at the expense of profits. Laying workers off in order to streamline and rationalize factory labour force deprives workers of more than their jobs. Most employers are struggling to protect their workers from the ravages of shock therapy; their efforts of course, undermine government economic policies. A survey of all available data on the various independent states of the CIS indicates that, in general, the short-run objectives of shock therapy are not being attained, as shown in Table III.17.2.

Table III.17.2.
Success Criteria: A Visual Guide to Reform Progress in CIS^a

	Inflation	Unemploy ment	Retail Rationing	Hoarding	Full Shelves	Output Increase
Textbook	x	x	0	0	x	x
Russia	x	0	0	0	z	0
Ukraine	z	0	0	0	z	0
Belarus	z	0	c	z	c	0
Moldova	x	0	N/A	x	c	0
Uzbekistan	x	0	N/A	N/A	c	N/A

Tajikistan	x	0	N/A	N/A	x	N/A
Turkmenistan	z	0	z	N/A	N/A	N/A
Kyrgyzstan	x	0	N/A	N/A	c	0
Kazakhstan	x	0	z	N/A	c	0
Azerbaijan	x	0	N/A	N/A	N/A	0
Armenia	N/A	0	N/A	N/A	N/A	N/A
Georgia	N/A	0	N/A	N/A	N/A	N/A

Source: Millar, The Economy of the CIS, p.52.

^a Compiled impressionistically from the following Russian and English language sources by Alexander Sulla: USSR Today, December 1991-January 1992; CIS Today, January-July 1992; FBIS Daily Reports - Central Eurasia, January-July 1992; RFE/RL Daily Reports, January-July 1992; RFE/RL Research Report, January 24, 1992; The New York Times, February 13, 1992; The Washington Post, February 2, 6, 7, and 8, 1992.

Legend: x = full; z = partial; c = minimal; 0 = zero; N/A = not known.

The textbook solution calls for an end to hoarding and queues and for rising unemployment in the short run. Money wages and pensions have not been successfully frozen, but they have not thus far increased at the same rate that prices have. The slower growth of money wages than prices is serving as an anchor - a "dragging anchor"²⁰ that is preventing hyperinflation for the moment.

Shock therapy focuses on financial and price issues, but it cannot succeed without privatization, demonopolization, and a well-conceived industrial policy. This last component is an essential but rarely discussed policy. "What is needed is something much more like the Marshall Plan than like shock therapy. The Marshall Plan focused on production and economic integration as well as on macroeconomic stabilization. It put the burden of organizing investment, production, and distribution on the shoulders of the potential beneficiaries, and it discouraged a mercantilist or beggar-thy-neighbour approach by beneficiaries."²¹ Unfortunately, the new independent states are reluctant now to cooperate freely in a common economic space.

The Soviet economy was always a crisis management economy. The market mechanism is still too weak in the CIS to carry the entire burden of allocation, production, and

distribution. Shock therapy is creating the external features of a market economy but not necessarily its content. The Russian, Ukrainian, and other republic economists will have to gain their own seat-of-the-plants experience in the central management of a market economy. This will take many years. The various other republics are following at different rates the pace set by Russia. Most objective observers see the process as taking at least ten years or more if a stop-and-go approach infects policy implementation, which has been the fate of shock therapy experiments elsewhere in the world. The problem of a “common ruble space”, self-conscious national and ethnic groups etc. pose a threat to Russia and other CIS. To the extent that the new states that compose the CIS focus on ancient rivalries, hatreds, and grudges, economic reform will be undercut. Shock therapy was initially successful in Yugoslavia until ethnic rivalries made the question of economic reform moot. Military conflict has superseded economic concerns. A similar development in the CIS would be even more destructive. Under these socio-political scenario, a rejection of shock therapy is the more likely outcome. The objectives of economic policy will remain the same as under shock therapy, but implementation will be slowed in order to maintain peace among the member states of the CIS and political stability within each state. Politics, it has been said, is “the art of the possible.” A review of the economic policy in the CIS indicates that shock therapy is not within the realm of the “possible” politically or economically.²²

The usage of the very term “shock therapy” is being criticized on the following grounds. This technical term of psychiatry is used by economists as a metaphor which involves a misleading analogy; and worse, it carries a false negative connotation. Psychiatrists apply electrical shocks as a last resort to treat patients suffering from certain types of severe depression and catatonic schizophrenia. Here the electrical shock *is* the therapy. “In other words, the shock is the intended means to achieve an end - relieve the symptoms, if not cure the patient. By contrast, for a postcommand economy, the shock that flows from a simultaneous and speedy implementation of a transitional strategy is an unintended - though unavoidable - consequence. Unlike the objective in psychiatry, the purpose is not to administer the shock to treat the symptoms of the underlying disease, but to apply a curative therapy that unfortunately involves a shock.”²³ Put succinctly, in psychiatry the

shock is the intended therapy, whereas in the economics of transition, the shock is the unintended consequence of the therapy.²⁴

These seemingly fine points of distinction have serious political implications. It so happens that observers often take this metaphor literally, and fall into the intellectual trap of viewing the shock as the intended therapy while interpreting the alternative approach as therapy without shock (the psychiatric analogy would be the painless drug therapy), and thus preferable. All the complex issues of sequencing, speed, stress, and sectoral activism are thus reduced to a choice between shock or no shock. Thus, the critics argue that it would be better to avoid the usage of “shock therapy” and remove this vocabulary from the economics of transition. Let us delve into the gradualist approach. *The Economist*²⁵ defines gradualists as those who put priority on creating market institutions (legal, accounting, and regulating frameworks; autonomous commercial banks; capital markets; and so on) over privatization, and advocate a strong state role in ownership reform of large enterprises with a step-by-step approach. *The Economist* would label Fischer and Gelb - along with many World Bank economists - gradualists, since they suggest, “It seems doubtful that the private sector could handle restructuring of very large, weak industries, so the state will need to restructure or close them.”²⁶ Interestingly, it is *The Economist*’s version of the gradualist model that many often criticize as a painful big bang involving simultaneous, forceful, and speedy implementation of stabilization and liberalization, but with little progress on privatization and institution building. Indeed, this is the Polish big bang that many love to hate. Clearly, *The Economist*’s big bang entails not only speedy implementation of stabilization and liberalization, but also rapid privatization of small and large state-owned enterprises (SOEs). This is the Czechoslovakian big-bang model which in practice did not yield the desired result. This debate about the dichotomy between big bang and gradualism reduced the practical complexities of the transition strategy into two conceptual pigeonholes. As Portes²⁷ has indicated, the paradox of the big-bang strategy is that in reality it *cannot* be implemented. There is no conceivable way privatization and structural market reforms can be implemented as rapidly as liberalization and stabilization. This inherent speed-gap means capitalism cannot be created with a big-bang. The lesson - from the post-Industrial

Revolution history of today's advanced industrial nations, as well as from experiments with "test-tube capitalism" since 1989 - is clear: In the real world, there is no such thing as capitalism with a big bang, but only gradualism of different shapes, sizes, and, of course, speed.²⁸ Let us conclude this survey by quoting Fred Block, "The fantasy of one royal road to rational decision-making must give way to recognition of the need for constant adjustment and adaptation to find effective ways to make choices."²⁹

III.17.vii. **Transition Strategy With an Emphasis on Privatization**

The challenges facing privatization in the postcommunist nations are of an unprecedented scale. The citizens of the new democracies expect privatization to eliminate the public immorality that Communism generated,³⁰ the selfishness of living at the expense of the future, the problem of the "free-rider" syndrome, and questions of the legitimacy of the emerging property rights and relations. In the economic context of the postcommunist transformations, privatization means the shift from a centrally governed and state-owned economy to a system based on the spontaneous interactions between autonomous private participants. Alexander Yakovlev, a Russian lawyer, likens the restructuring of the postcommunist societies to the destruction of a huge, unified, state factory built on Lenin's political ideals. Transformation requires not only the destruction of the state's monopoly of administrative machinery, but, more importantly, of the Communist party's monopoly of every sector of society.³¹ In this sense, privatization means not merely the technical restructuring of property rights and property relations in order to make the economy efficient, but the razing and rebuilding of the entire political process into institutions which permit and encourage public participation. Privatization, therefore, is understood both as an end and as a means of democracy.

Privatization of the economy requires development of a new private sector. It also requires reform of ownership and management of existing state enterprises (liquidation, restructuring, commercialization, and privatization of existing enterprises); and property rights reform of land and housing.³² A key element in the transition is the restructuring and privatization of state enterprises, for which an important first step is the imposition of

product market discipline. Two broad policy approaches to restructuring and privatization can be found: early mass privatization on the one hand and comprehensive financial restructuring before privatization on the other. Key differences between these approaches are the quality of governance and management provided by new owners of enterprises at the time of privatization and the methods of resolving any debt overhang.³³

The first approach achieves rapid privatization, but often at the expense of ownership and governance quality at privatization. Ownership typically becomes dispersed among voucher funds, managers, workers and private investors. One potential source of governance is the funds that intermediate investment of vouchers; however, their ability to perform tasks beyond portfolio diversification has yet to be convincingly demonstrated. Another is the managers and workers who may become significant shareholders; although, in some cases, incumbent managers can be an obstacle to restructuring. Possible methods of resolving any debt overhang include selective debt write-downs by the government, high inflation, and, in cases of insolvency, legal bankruptcy proceedings for privatized enterprises. But, there are strong objections to mass privatization that would distribute shares of any given firm among many individuals and thus so disperse control as to leave the existing management in charge. Whether or not the authorities choose to break up giant firms before they are privatized, setting up competition policy can benefit not only from experience in the European Community, but also from recent work in industrial economics.³⁴

The second approach aims to attract high-quality owners for enterprises at the time of privatization by implementing comprehensive financial restructuring before the sale takes place, but this is often at the expense of privatization speed. The lead agents in financial restructuring are either state banks or a government agency. However, there appear to be limits to the ability of these institutions to support those aspects of restructuring that require fixed investment, and private cash investors in enterprises can be difficult to attract. The scale of the investment demand created by new market opportunities, in addition, calls for the strengthening of domestic financial institutions. While domestic

financial institutions are vital to sustained growth, the internal cash flows of enterprises are likely to be a significant source of finance for fixed investment early in the transition.³⁵

Residents of the postcommunist countries of Eastern and Central Europe have an opportunity, virtually unprecedented, to create forms of property ownership that are both private and pluralistic. They are not confined to the nineteenth-century models of laissez-faire capitalism and state socialism. In the free world, many varieties of capitalism emerged (for instance, the Reaganite/Thatcherite capitalism of the U.S. and Britain, the MITI capitalism of Japan, the central bank capitalism of Germany), with their differences being nearly as important as their common characteristics.³⁶ “The question is which capitalism, which market economy, which private property relations the postcommunist world wants.”³⁷ It is crucial that policy-makers explicitly acknowledge that they are making deliberate choices among a wide array of options that can fairly be labelled private and market-oriented.

III.17.viii. Multiple Forms of Private Property Ownership

Just as there is an array of different forms of market economy, so private ownership of property can take multiple forms. “It is a great mistake to assume private ownership of property has just one meaning, the classical liberal idea of unlimited and absolute freedom by individuals to use, enjoy, or transfer their property as they wish, or that the general commitment to a market form of economic organization necessitates this form of property rights. The classical liberal form of individual ownership has probably never existed anywhere in the world at any time.”³⁸ Most investment capital in the U.S. is not controlled by individuals. Rather, it is controlled by large financial institutions, such as pension funds, and insurance companies, which manage it on behalf of thousands of individual beneficiaries. The postcommunist world, then, has a historically unprecedented opportunity to create new market modes of economic organization and new forms of private ownership of property that avoid the weaknesses of both state socialism and corporate capitalism. The way to capitalize on this opportunity is to create legal and economic institutions that are designed to minimize three problems in particular:

antidemocratic processes of decision-making, paternalism and passivity, and political and economic domination or exclusion based on race, religion, ethnic identity, or gender.³⁹

The first goal of this form of economic transformation is genuinely democratic processes of decision-making. “If the reinstitution of the market in the place of the command economy is to benefit the entire populations of the new democracies, and not just the already privileged classes, it must be accompanied by political freedom and truly democratic processes.”⁴⁰ It strives to ensure that policy decisions regarding investment of private capital, labour-management relations, and other basic issues that directly affect the material conditions of people’s lives are arrived at as democratically as possible. Far from being incompatible, economic transformation can in fact facilitate participatory property relations and encourage, through active participation, civic responsibility. The relationship between privatization, participation, and responsibility depends, as some observers have recognized, on what forms private property relations concretely take. Related to democratization is a second goal: forms of private ownership in which individuals are as active in control of their assets as is feasible. It is important not to recreate a regime of paternalism and passivity, either through state ownership or through certain private modes of ownership. The reintroduction of property rights must be accompanied by an extension of democratic control if the transformation is to cope successfully with the core problem of power. The question, as Fred Block has stated, is “not capitalism or socialism, but how a society can create economic institutions that give maximum scope to democratic participation.”⁴¹ A third goal of economic transformation is to avoid illegitimate forms of exclusion and economic and social domination based on gender and racial, religious, or ethnic identity. This means not simply that laws prohibiting discrimination in employment, housing, and other key sectors be enacted but that the free market not be used as a mechanism for perpetuating economic domination and exclusion.⁴²

Realizing these three goals requires that policy-makers explicitly articulate participation, democratic control, and social inclusion as values that motivate their choices of institutional forms of property relations. “The new democracies were formed as the result of popular movements in which participation, democracy, and inclusion were dominant

characteristics. The process of privatization and democratization are not categorically distinct from each other, but are in fact closely intertwined. The same values that animated the turn to democracy are as relevant to the task of privatization.”⁴³ The point can be made more strongly: it is only through a privatized economy whose institutions are participatory, democratically governed, and socially inclusive that the ideal of democracy in the political sphere can be truly realized.⁴⁴ Also, the legal⁴⁵ as well as the economic⁴⁶ perspectives are to be designed carefully as we try to formulate strategies of transition. These strategies could be co-ordinated through the central management of economies.

III.17.ix. The Relevance of Central Management of Economies

If central planning of economies has been discredited by the Soviet experiment, central management of economies has not. In fact, a major objective of economic transformation of the Russian and other transitional economies is to create fiscal and monetary institutions that will permit central management of what is expected to become a predominantly private enterprise economy. The other main thrust is, of course, to privatize and to create the conditions under which private enterprise may flourish. Central management of capitalist economies is, in fact, the main legacy of John Maynard Keynes. The American Keynesian Abba Lerner⁴⁷ introduced economics to the student by presenting the economy as an automobile that can be steered down the highway by means of appropriate fiscal and monetary adjustments. Thus, depression and inflation could be prevented and a stable, safe, and satisfactory rate of growth could be attained by good steering. According to Lerner, “The instrument that can do this is as readily available as the steering wheel for automobiles, yet it has not been installed [in the economy] and put into operation.”⁴⁸ This is an interesting metaphor to be applied to all transitional economies. As anyone would be frightened to death if one has to be in an automobile in which the steering wheel is as loosely connected to the wheels, so also any one concerned with the economy would be frightened if the steering wheels of fiscal and monetary policies are loosely connected to the wheels of the economy.⁴⁹

Western economists conceive of an economy as a set of simultaneous equations in n variables, which require a solution that solves for all prices and quantities in the system simultaneously. It follows that all prices and quantities in the system are interdependent, which is the primary reason that reform proposals call for simultaneity in the creation of market institutions. We also think of this set of economy-wide simultaneous equations as summing to the aggregate demand components of Gross National Product (GNP), that is, to the aggregate final demand categories: consumption, investment, government expenditures and net exports, on the one hand, and to the final distributive income shares, Gross National Income (GNI), on the other. Western policy recommendations, including the shock therapy and other forms of macroeconomic stabilization, are based upon these concepts.⁵⁰

By following an autarkic, Marxist policy, Russia and the other CIS states missed developing a modern market economy. “The 1990 Shatalin Plan to transform the economy to market principles in 500 days was unacceptable in the end to Gorbachev in 1990 because it meant abandonment of both the Union and socialist economic principles.”⁵¹ However, since Gorbachev’s demise, all subsequent plans have been similar to the Shatalin Plan. They all are teleologically driven, that is, they have been based on the market economy as a goal, rather than being tailored to modify specific characteristics of the existing economic system. All, also, have called for a rapid transformation to a market economy. “The first step of shock treatment as being applied in Russia and several of the other successor states under tutelage of the IMF and certain Western economic advisors is a set of short-run policies designed to create a free market and to achieve macroeconomic stability. Ideally, they should be implemented *simultaneously*.”⁵²

III.17.x. A Set of Short-Run Policies

We have outlined the basic components and the key strategies that are necessary for an economic transformation, especially, during the period of transition. The success of these strategies depends on a number of short-run policies. Though we have already analysed a

few of them, here we shall just list them, following James R. Millar's analysis, as a set of short-run policies and the criteria for their successful implementation.

1. Liberalizing prices to achieve rational relative prices and market-clearing price levels, to curtail aggregate demand, make hoarding unprofitable, destroy the population's financial assets, and undercut privilege and *blat*.
2. Freezing money wages and income to cause real wages and incomes to fall. This is necessary to prevent a wage and price spiral and to reduce real costs of production; in short, providing an anchor for the economy against hyperinflation and making the economy more competitive internationally.
3. Reducing and stabilizing government expenditures by cutting subsidies and entitlements and reducing defense spending.
4. Restricting aggregate demand by reducing deficit spending and raising taxes (e.g., a VAT tax).
5. Tightening bank credit, controlling the money supply, and creating a true central bank.
6. Opening the economy to the world market by floating the exchange rate to establish convertibility, and eventually creating a stable exchange rate. It is also necessary for Russia and the other new states to create domestic convertibility so that anyone within Russia can buy any legal goods or services for rubles, regardless of rank, position, or citizenship.⁵³

The criteria for successful implementation of these short-run policies include:

1. Transforming the economy from a seller's market into a buyer's market thereby ending hoarding, which will occur when prices rise to levels that no one expects to be exceeded. Shelves will fill up as hoarding ends, and reservation prices will fall sufficiently for people, enterprises, and governments to begin to stop hoarding.
2. Establishing a rising rate of unemployment as enterprise rationalize their labour forces and reduce redundant labour supplies.

3. Stabilizing wholesale and retail prices and money wages, opening the economy to the world market and stabilization of the exchange rate.
4. Making the ruble convertible.⁵⁴

There is evidence of a short-term supply response in Russia, but most of the short-term criteria have not been satisfied. Prices for a large share of consumer goods were liberalized in early 1992. Some critical products, such as bread, milk, vodka, etc., remained under strict price control, and are difficult to find and require queuing; but as a response, states are gradually allowing these prices to rise. As a result of high price of uncontrolled goods, these goods (like champagne) have appeared for the first time in years in state retail outlets. Hoarding has ended for price decontrolled products. Price liberalization has, therefore, achieved some degree of success, and most retail (and some wholesale) markets are now true buyer's markets. Stores are filled with goods and private markets have sprung up everywhere like mushrooms because enterprises, people, stores, cities, and republics have stopped hoarding and begun to sell hoarded goods. This is a short-run effect, predicted in advance. But production has not increased and output continues to fall. "For shock therapy to succeed, however, what is needed is a long-run supply response, that will depend upon structural changes in the economy - notably privatization and demonopolization."⁵⁵ The success of these short-run strategies have to be translated into long-term perspective as the transition process takes momentum..

III.17.xi. **The Long-Term Reform Success**

As we have explained, the long-term process requires privatization, demonopolization and the creation of an appropriate infrastructure for a modern capitalist system (e.g., legal protection of private property, business regulatory systems, etc.). This will be more difficult and will take more time. This is a cautious growth path that the transitional economies are treading. Since the possibilities are open-ended, things can go wrong too. Following again the analysis of James R. Millar, we shall list those inclusive fears with an adaptation of a particular strategy during the period of transition. What can go wrong?⁵⁶

1. Price liberalization may be constrained, with the result that hoarding continues and stores remain empty.
2. Money wages (and pensions) may float along with retail prices. It is difficult for a government to let product prices rise to equilibrium levels because of the adverse impact this has on the distribution of income and wealth. Money wages must at least lag, but the pressures will be great to let money wages rise, to protect those on fixed incomes by upping pensions and other benefits, and to maintain a broad social safety net, all of which will make it hard to reduce, or even restrain the state budget. More important, raising money wages and incomes weakens the anchor against hyperinflation.
3. Budget deficit may continue to rise.
4. The central bank may fail to restrict credit. In reality there is no true central bank yet in any member state of the CIS to manage and allocate credit, and the monetary authorities cannot, in any case, prevent legislative spending from spiralling if the elected legislature so chooses.
5. Privatization and demonopolization may stall, which thus far is the case.
6. Macroeconomic stabilization may fail. Convertibility of the ruble will require a large stabilization fund; otherwise like a run on an uninsured bank, the fund will be exhausted by insatiable demand for foreign exchange.⁵⁷

We may have to add here, that the conditions for the strategy of shock therapy to succeed, therefore, are quite stringent on economic grounds alone. It is assumed by the theory that if monetary and pecuniary problems can be solved, production will be restored without central government intervention in production decisions. That is, if one gets retail and wholesale prices right, money wages right, the interest rate right, and the exchange rate right, production will take care of itself. Rational economic actors (enterprise managers and households) will, by maximizing profits and/or utility, create an efficient and productive market economy. "Thus, paradoxically, shock therapy puts as much weight exclusively on pecuniary variables as the old command system did on quantitative variables. This purely monetarist solution is just as ideologically driven and one-sided as Soviet Marxism was."⁵⁸ But the dynamics of transition strategy can assure a degree of success.

The dynamics of implementation of the transition strategy involves five related, yet distinct, elements: sequencing; stress (intensity with which a policy is implemented); speed (the pace at which a policy is implemented); sectoralism (the extent to which the state

interferes with market forces to promote ‘winners’ and suppress ‘losers’ at the level of sectors, industries, and enterprises); and duration (the time it takes to complete the implementation of various policy measures). Out of these five elements, three involve time in one way or another: sequencing, speed, and duration. The other two involve differentiation in force (stress) and focus (sectoralism). Appendix III.17.1. illuminates this distinction further. Alan Gelb and Cheryl Gray⁵⁹ explain a stylized phasing of various reform measures with the premise that the full transition in a prototype CEE/former Soviet Union economy will take ten years, as is shown in this Appendix.

III.17.xii. **The Reality of the Transitional Economies**

Most economists agree that stabilization, liberalization, privatization, and institutional reforms are interlocking (complementary) wheels of the same vehicle, and therefore need to move together. At the same time economists also agree that restructuring and privatization of large-scale enterprises (and some critical institutional reforms) in the economies of CEE and the former Soviet Union have been much too slow, and thus have delayed the transition and raised the level of misery by preventing price and trade liberalization from generating a positive supply-side response. “The usual reaction to this ‘stabilization-privatization time gap’ is to advocate an acceleration of privatization, if necessary with ‘quick and dirty’ methods.”⁶⁰ The presumption is that intensified efforts at privatization will induce a quick birth of a substantially privatized market economy where strong and speedy “stabilization” measures will bear their intended fruits. “The problem with this prescription is that it ignores three aspects of the reality of the transitional economies: privatization of large enterprises takes a long time; a substantial portion of these enterprises are not viable at world prices; and the governments are not politically capable of liquidating them immediately.”⁶¹ All this add up to a central conundrum of the transition strategy: a “quick and dirty” approach to privatization in a post-command economy shocked by rapid and comprehensive liberalization and strong and ongoing stabilization measures is likely to yield dirty, not quick results. “The only way out of this conundrum seems to lie in following the conventional wisdom: correct the

speed mismatch problem, not by speeding up privatization, but by selectively slowing down liberalization, and to some extent softening and redesigning stabilization.”⁶² Here, we shall not elaborate on how phased and selective liberalization and soft stabilization can be co-ordinated with inherently slow enterprise reform and privatization. However, it is of paramount importance at this stage to understand the transition strategy of macroeconomic stabilization, to which we shall proceed.

NOTES

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3. Transition Report: Economic Transition in Eastern Europe and the Former Soviet Union, October 1994, *European Bank for Reconstruction and Development*, London, p. 45.
4. Transition Report, October 1994, *European Bank for Reconstruction and Development*, op. cit., p. 4.
5. Ibid., p. 3.
6. Ibid., pp. 3-4.
7. Transition Report, October 1994, *European Bank for Reconstruction and Development*, op. cit., p. 4.
8. Ibid.
9. Ibid.
10. Islam, Shafiqul, and Mandelbaum, Michael, (eds.), *Making Markets*: op cit., p. 183.
11. Ibid., pp. 3-4.
12. Ibid., p. 183.
13. CEE-3 consists of Poland, Hungary, and Czech Republic. For an analysis of the transitional performance of CEE, see, Andrew Berg and Jeffrey Sachs, *Structural Adjustment and International Trade in Eastern Europe: The Case of Poland*, "Economic Policy: Eastern Europe 14 (April 1992); and Andrew Berg, *A Critique of Official Data*, (Paper presented at the IMF/World Bank Conference on the Macroeconomic Situation in Eastern Europe, Washington, D.C., 1992); and Richard Portes, *From Central Planning to a Market Economy*, in *Making Markets*, op. cit., pp. 16-53
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16. Millar, James R., *The Economies of the CIS: Reformation, Revolution, Or Restoration?* op. cit., p. 35.
17. Bryant, Christopher G. A., and Mokrzycki, Edmund, *The New Great Transformation?: Change and Continuity in East-Central Europe*, Routledge,

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 20. Ibid., pp. 47-52.
 21. Ibid., p 53.
 22. Ibid., pp. 54-55.
 23. Islam, Shafiqul, and Mandelbaum, Michael, (eds.), *Making Markets*: op cit., p. 187.
 24. Ibid. See Robert Kuttner, *The Dustbin of Economics*, *The New Republic* (February 25, 1991).
 25. Ibid. See also, *Eastern Europe Hesitates*, *The Economist*, May 16, 1992, pp. 13-14.
 26. Ibid., p. 188. See also, Stanley Fischer and Alan Gelb, *The Process of Socialist Economic Transformation*, *Journal of Economic Perspectives*, vol. 5, no. 4 (1991), p. 100.
 27. See, Richard Portes, *From Central Planning to a Market Economy*, pp. 16-53, in, Islam, Shafiqul, and Mandelbaum, Michael, (eds.), *Making Markets*: op cit., p. 188.
 28. Ibid., p. 189. See also, Christopher G. A. Bryant, *Economic Utopianism and Sociological Realism: Strategies for Transformation in East-Central Europe*, in, *The New Great Transformation?*, op. cit., pp. 58-78.
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 30. "Those who live in command economies have become aware that it generates immoral behaviour." John Clark and Aaron Wildavsky, *The Moral Collapse of Communism*, San Francisco: Institute for Contemporary Studies, 1990, p. 330.
 31. Alexander M. Yakovlev, *Transforming the Soviet Union into a Rule of Law Democracy: A Report from the Front Lines*, *The Record of the Association of The Bar of the City of New York* 46: 129 (1991), quoted in Alexander, Gregory S., and Skapska, Grazyna, (eds.), *A Fourth Way?: Privatization, Property, and the Emergence of New Market Economies*, Routledge, London, 1994, p. xi.
 32. Islam, Shafiqul, and Mandelbaum, Michael, (eds.), *Making Markets*: op cit., p. 183.

33. Transition Report (IBRD), op. cit., p. 49.
34. Islam, Shafiqul, and Mandelbaum, Michael, (eds.), *Making Markets*: op cit., p. 34; See, Kai-Uwe Kuhn, Paul Seabright, and Alasdair Smith, *Competition Policy Research: Where Do We Stand?*, Centre for Economic Policy Research Occasional Paper, no. 8, London, 1992.
35. Transition Report (IBRD), op. cit., p. 49.
36. Alexander, Gregory S., and Skapska, Grazyna, (eds.), *A Fourth Way?*, op. cit., xiii. Several mainstream American economists have similarly emphasized the significant differences that exist among the world's capitalist economies. See, e.g., Lester Thurow, "Communitarian vs. Individualist Capitalism," *The Responsive Community: Rights and Responsibilities* 2: 24 (1992) (contrasting Germany's "social market" economy with the United States's "market" economy); Robert Cooter, "Organization as Property: Economic Analysis of Property Law Applied to Privatization," unpublished paper delivered at a conference on "Transition to a Market Economy," Prague, Czechoslovakia, March 1991 (contrasting Japanese, German, and American models of capitalist corporate organizations).
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39. Ibid., p. xv.
40. Ibid., p. xvi.
41. Fred Block, *Postindustrial Possibilities*, op. cit., p. 194.
42. Alexander, Gregory S., and Skapska, Grazyna, (eds.), *A Fourth Way?*, op. cit., p. xviii.
43. Ibid., xix.
44. Ibid.
45. Legal perspectives during transition need to be carefully designed. See, Thomas Raiser, "The Challenge of Privatization in the Former East Germany: Reconciling the Conflict Between Individual Rights and Social Needs,"; and Stanislaw Biernat, "The Uneasy Breach with Socialized Ownership: Legal Aspects of Privatization of State-owned Enterprises in Poland," in Alexander, Gregory S., and Skapska, Grazyna, (eds.), *A Fourth Way?*, op. cit., pp. 3-33.
46. During the transition to market economy, economic perspectives play the crucial role. See, Edgar L. Feige, "The Transition to a Market Economy in Russia: Property Rights, Mass Privatization and Stabilization,"; and Andrzej Wojtyna, "Stabilization versus Privatization in Poland: A Sequencing Problem at Macro- and Microeconomic Levels; and Clayton P. Gillette, "The Private Provision of Public Goods: Principles

- and Implications,*” in Alexander, Gregory S., and Skapska, Grazyna, (eds.), *A Fourth Way?*, op. cit., pp. 57-119.
47. Abba P. Lerner, *“Economics of Employment,”* McGraw-Hill Book Company, New York, 1951.
 48. Ibid.
 49. Millar, James R., *The Economies of the CIS: Reformation, Revolution, Or Restoration?* op. cit., p. 37.
 50. Ibid., pp. 37-38.
 51. Ibid. Gorbachev was quoted in May 1990 in the *New York Times*, criticizing a proposal raised in his cabinet for a leap directly into a market economy: “They want to take a gamble,” he said. “Let everything be thrown open tomorrow. Let market conditions be put in place everywhere. Let’s have free enterprise and give the green light to all forms of ownership. Let everything be private. Let us sell the land, everything. I cannot support such ideas, no matter how decisive and revolutionary they might appear. These are irresponsible ideas, irresponsible.”
 52. Millar, James R., *The Economies of the CIS: Reformation, Revolution, Or Restoration?* op. cit., p. 48.
 53. Ibid.
 54. Ibid.
 55. Ibid., p. 49.
 56. Ibid., p. 52.
 57. Ibid., pp. 52-53.
 58. Millar, James R., *The Economies of the CIS: Reformation, Revolution, Or Restoration?* op. cit., p. 53.
 59. Islam, Shafiqul, and Mandelbaum, Michael, (eds.), *Making Markets:* op cit., p. 190. See, Alan Gelb and Cheryl Gray, *“The Transformation of Economies in Central and Eastern Europe: Issues, Progress and Prospects,”* World Bank Policy Research Paper, no. 17, Washington, D. C., 1991.
 60. Ibid., p. 193. See, Jeffrey Sachs, *“Accelerating Privatization in Eastern Europe,”* (Paper prepared for the World Bank’s Annual Conference on Development Economies, April 1991).
 61. Islam, Shafiqul, and Mandelbaum, Michael, (eds.), *Making Markets:* op cit., p. 193. For a detailed discussion, see, Sanjay Dhar, *“Enterprise Viability and the Transition to a Market Economy,”* World Bank Internal Discussion Paper, no. 113 (Washington, D. C., 1992). See also Ronald McKinnon, *“The Order of Economic Liberalization: Financial Control in the Transition to a Market Economy* (Baltimore: Johns Hopkins University Press, 1991); and McKinnon, *“Financial Control in the Transition from Classical Socialism to a Market Economy,”* Journal of Economic Perspectives, vol. 5, no. 4 (1991).

62. Islam, Shafiqul, and Mandelbaum, Michael, (eds.), *Making Markets*: op cit., p. 199.

CHAPTER EIGHTEEN

TRANSITION STRATEGY WITH AN EMPHASIS ON MACROECONOMIC STABILIZATION

The economies in transition design strategies that would lead them to achieve economic stability and growth. As we have seen in the previous chapter, the problem of how to transform a centrally planned economy into a market economy has emerged as one of the most compelling and challenging issues of our time. The question is salient because the republics of the former Soviet Union and the nations of Eastern and Central Europe are in the midst of a transformation process that seeks to capture the claimed efficiency advantages of market mechanisms for their economies. It is complex because a rapid transition from socialism to a market economy is historically unprecedented, and requires a fundamental restructuring of a nation's economic, political, social, and legal institutions, as well as its physical infrastructure.¹ The early literature on transition concentrated on the issue of *sequencing*, interpreted as the order of priority between stabilization, liberalization, privatization and restructuring. In theory, each of these reform components reinforces the other, and therefore they should ideally be introduced simultaneously in one "big bang" reform. However, in practice, it has proved impossible to initiate a "big bang" reform strategy. Though we cannot at this stage establish a unique optimal path of transition, most now argue that macroeconomic stabilization, if not a necessary condition for transition, greatly facilitates it.² Therefore, we shall analyse in this chapter the transition strategy with an emphasis on macroeconomic stabilization. "Stabilization concerns basic macroeconomic variables including inflation, balance of payments, debt, unemployment and output shocks. Progress in achieving macroeconomic stability will be an important determinant of achievements in the transition, but it is very different from the transition itself. For example, an unstable macroeconomic position will discourage private investment, hindering both transition and development. One would also expect setbacks in other aspects of economic development, as the provision of medical and educational services may be disrupted by the shocks facing large enterprises that supplied many of

these services in the old regime, or as fiscal shocks may disrupt public sector payments for the services. Such disruption would, of course, be additional to the economic problems for individuals caused by the dislocation of employment.”³

It has certainly been learned from the range of countries’ experience that those that pressed ahead more radically on all four fronts have been rewarded not only with relatively rapid movement towards a market economy but also, in most cases, by more modest falls or earlier recovery in output. Would things have gone even better if they had gone even faster with these reforms? The experience of the transitional economies shows that faster reforms are not always preferable. Moreover, the improper sequencing of reforms is likely to have a significant impact on the stability of the transition to a market economy. “Transformation strategies typically define the final goals of reform and the nature, sequence, and timing of reforms most likely to achieve the designated objectives. Reform objectives include stability, efficiency, equity, and economic growth, and these objectives are believed to be most readily attainable by the establishment of a market economy.”⁴ The necessary, although not sufficient conditions required to satisfy a stable transition to a market economy include monetary and fiscal institutions that promote macroeconomic stability, among others. The following case study follows the macroeconomic stabilization policies adopted by Russia and the Baltic states during the period of economic transition. We shall begin with Russia. “The Russian reforms now appear poised at a critical juncture, one that may well determine whether, and in what form, the transformation to a market economy will proceed.”⁵ We shall follow the research paper by James A. Duran Jr., titled, Russian Fiscal and Monetary Stabilization: A Tough Road Ahead, as we analyse the Russian stabilization policies.

III.18.i. The Big-Bang of Destabilization

Though the various economic measures adopted during the period of transition in Russia were aimed at stabilization, what was truly experienced by millions of people was destabilization of a ‘big bang’ scale. The radical economic reform programme of the Yeltsin-Gaidar government implemented in January 1992 was but the latest stage in the

effort to shift from a centrally planned economy (CPE) to a market economy. Substituting macroeconomic fiscal and monetary instruments for the direct commands of the government in economic affairs was initiated in 1988. As each of the officially approved reform plans for the transition between systems have been debated and partially implemented, the rigidities inherent in the CPE have twisted the outcomes of decrees and statutes in unforeseen directions. “Concepts basic to 72 years’ rule by Marxist-Leninists have so permeated the minds of political leaders, managers, and the masses that even supporters of market reform have difficulty understanding the scope of change required. Stalin denied the validity of Western ‘capitalist’ macro-and microeconomics for the Soviet ‘socialist’ model. His deliberate ‘classicide’ against the private entrepreneurial classes of city and countryside prevented the development of a strong, independent middle class.”⁶ Thus, when macroeconomic measures were finally introduced into the changing economic system, they realized that the creation of a normal economy is a challenging task that lies ahead. They also faced the reality that the abandonment of a unitary budget system alone cannot guarantee the building of a “normal” society and a market economy immediately. After changing from a unitary state budget system to a decentralized federal one in 1991, the central and republic ministries increased the deficit to 26 percent of the total budgets. (The earlier government had limited its deficits to 2-3 percent of gross domestic product (GDP).) Emission of currency in 1991 reached twice the rate of 1990. Partial reforms designed to move to a market economy had undermined the controls of the centrally planned economy (CPE). The result was fiscal and monetary destabilization of the U.S.S.R. in 1991. Partially, this was caused by the inherent characteristics of a unitary budget.

III.18.ii. The Characteristics of a Unitary Budget

A Unitary budget is central to a command economy. During the Five Year Plan (FYP) period, the annual plan setting the parameters for virtually every institution was the centre of policy debate by top leaders and managers. Bargaining to get as much as possible while limiting commitments was the centre of politics on economic affairs. Within this, fiscal and

monetary policy were merely instruments for implementing the plan to attain its physical indicators. The U.S.S.R. Ministry of Finance had as its duty to calculate the numbers basic for the U.S.S.R. State Budget to implement the targets set by the top authorities. This document was a unitary one since the budgets of lower levels of government were included within the budgets of the next higher level.⁷ The U.S.S.R. State Bank (Gosbank), a department of the Ministry of Finance, kept and monitored the accounts of all enterprises, industrial and agricultural, and of all budgetary organizations on direct government payroll to ensure observance of the requirements of the plan. These accounts were carefully divided into two circuits. The 'cash account' was used primarily for wages and salaries. Since wages and prices were set by the government, control could be kept on the emission of currency so that demand would not unduly exceed the supply of consumer goods. The second 'circuit' was the noncash account of transactions among enterprises and between them and the government. Should subsidies be needed to ensure resources were available to meet planned production levels, Gosbank would provide them even to loss-making enterprises.⁸ Since the consumer prices for basic foods were kept below the costs of production, the state had to pour huge subsidies, by 1990 two-thirds of the total, into agricultural enterprises to cover the costs of production. Keeping loss-making enterprises going at the expense of the state may have maintained full employment and produced impressive physical statistics, but the wastage of capital resources was immense. "For the most part, budgetary and monetary policy was left to the experts in the ministries. Prior to 1989, the budget, a brief document, was always passed after a *pro forma* debate with the inclusion of a few pre-arranged amendments."⁹ While the unitary budget provides a masked balanced budget, the economic performance unmasked the imbalance nature of a unitary budget.

III.18.iii. End of a Balanced Budget Myth

Since the introduction of a socialist command economic model, the myth about a balanced budget was very prevalent. The shadow of the budget crisis haunted the system to its core. "During Mikhail Gorbachev's tenure in power, 1985-1991, *perestroika*,

glasnost, and democratization, broke the 'cake of socialist custom' as developed during the period of authoritarian Communist rule. During his first two years, he sought to 'perfect' the planning mechanism through *uskorenie*, a major campaign to raise the machine-building industry across-the-board to world standards."¹⁰ *Uskorenie* (acceleration) strategy failed at great expense; also his antialcohol campaign failed. Profits from foreign trade also dropped significantly since the price of Russia's key export, oil, fell sharply on the world market. During the second stage from 1987 to 1989, laws on enterprise, co-operatives, leasing, and individual enterprise were passed to give greater autonomy to managers and to improve incentives in limited areas for entrepreneurs. Involved were alterations in the tax laws that resulted in a significant reduction of revenues from profits. With greater autonomy, managers increased wages faster than the rate of growth of productivity. Also a source of the growth of the money supply was the relaxation of administrative controls on the accounts of enterprises. More cash was issued, especially through leaseholders and co-operatives, thus raising aggregate demand. During 1988, deficit spending reached about 11 percent of GDP. Budget imbalance became so obvious.

By mid-1988, the authorities had come to understand the necessity of dealing with the budget crisis. During his presentation of the proposed 1989 unitary budget on October 27, 1988, the U.S.S.R. Minister of Finance shattered the myth that the country's budget had been balanced for decades.¹¹ This had ideological importance since Soviet leaders had long pointed to their deficit-free management of national finances as one proof of the superiority of the Soviet socialist system. Efforts to slow budgeted deficit spending had some success in 1989 and 1990. According to the IMF, deficit spending was cut to 9.5 and 8.5 percent, respectively.¹² This was done partly by reducing subsidies to loss-making enterprises, who were supposed to become self-financing by 1990. Also, sharp reductions were made in budgeted outlays on construction projects. The budget lines for defense were to be cut by 1.5 percent in 1989, 7 percent in 1990, and 14.2 percent in 1991. However, consumer subsidies, especially for food, continued to rise steadily. On the revenue side, two major items, taxes on enterprise profits and foreign trade, declined as a percentage of GDP.

The monetary system also was increasingly being destabilized after 1988 as a result of the relaxation of central controls. While state credits to enterprises were diminishing and consumer credits were minute, currency was the main form of monetary expansion. From 1985 to 1987, the annual increase in emission ranged from 4.1 to 5.9 percent. That jumped to 11.8 percent in 1988, 18.4 percent in 1989, and 28 percent in 1990. As a result of the shortage of consumer goods, a very large monetary overhang of more than R250 billion was held by the population in savings and cash. Due to this imbalance, the potential for very rapid inflation was in place.¹³ At the same time, there was no mechanism to avoid the imminent budgetary collapse.

III.18.iv. **Budgetary Collapse in 1991**

The replacement of the unitary budget system by a federal one in 1991 led to a collapse of the fiscal system. An IMF staff team, which reported in April, 1992, concluded: "The overall fiscal imbalance in the union as a whole (i.e., the sum of the union and republican deficits) dramatically deteriorated in 1991. The overall deficit is estimated at rub 482 billion, or 26 percent of union GDP. If the impact of the frozen part of the deposit compensation is excluded, the deficit is reduced to 19 percent of GDP, financed mostly by domestic bank credit, compared with a deficit of the general government budget of the former U.S.S.R. of rub 85 billion in 1990, or about 8.5 percent of GDP. A deterioration of this magnitude reflects virtually unprecedented loss of fiscal control, the counterpart of which was the strengthening of inflationary pressures and further increases in undesired money imbalances."¹⁴ A federal formula of Gorbachev, "a strong centre and strong Republics" needed the impetus of fiscal corrections. In April 1990 a law was enacted by the U.S.S.R. Supreme Soviet on basic principles that would govern relations between the centre and the constituent union republics in which fiscal arrangements were to be fundamentally changed. The unitary state budget would be replaced by a federal system whereby the two levels developed their budgets independently. Gorbachev reiterated his commitment to this new system in his Presidential Guidelines for economic reform issued in October 1990.¹⁵ Gorbachev projected that 1991 would be a transitional year during

which a new Treaty of Union would be negotiated with clauses providing for a 'common economic space' with institutions to maintain an essential uniformity in fiscal, banking, and monetary policy. Especially crucial was Gorbachev's concession that the 'single channel' for tax collection would continue to be under the control of the republics.¹⁶ Lack of effective power by the centre to enforce the agreement soon became clear. Republics retained a higher proportion of shared revenues than agreed, amounting to 5.9 percent of GDP. Most of what was collected was not forwarded to the centre. Lower authorities also changed expenditure rules on investment, subsidies, and social welfare programmes without prior consent of the centre. Monetary reform to combat the illegal profits of the 'mafia' by demonetizing large denomination bill undermine faith in currency. Rumours of further monetary reform, growing shortages of consumer goods due to production breakdowns and the end of COMECON, as well as higher prices all led to panic buying. Demand was far outrunning supply. Faith in money as a store of value was being undermined. Barter was becoming widespread at both the enterprise and individual levels. Central revenues were so reduced on the eve of the coup that due to lack of resources the Council of Ministers refused to implement the increase in pensions and benefits for July 1 by the U.S.S.R. Congress and President Gorbachev.¹⁷ After the August coup failed, the centre was largely stripped of power in a series of constitutional amendments. The Council of Presidents, union and republic, were to reach decision only on the basis of consensus. Republics sharply reduced transfers of revenue to the centre. They unilaterally took jurisdiction over all union enterprises on their territory as the central ministries were being dissolved. The key economist of the Committee for the Management of the Economy, G. Yavlinskiy, devoted himself to negotiating a treaty to maintain a 'common economic space.' Much time was spent in seeking consensus on more than 20 specialized agreements in different economic sectors.¹⁸ However, no deal could be reached on co-ordinating fiscal and monetary policy. The economy had entered a deep recession with a fall in GDP of 17 percent in 1991.¹⁹ Symptoms of the economic crisis included sharp reductions in output and labour productivity, inflation, huge budget deficits, sizeable diversions of state resources into the underground economy,²⁰ and a flight from currency

into costly barter transactions. There was not much room left to manoeuvre the economy back to normal.

III.18.v. Liberalization Process

While the Russian government would have preferred to maintain the union, Yeltsin and his ministers understood that the economy was degenerating so rapidly that they needed to act decisively to keep the support of the public. On October 24, Boris Yeltsin announced that, if necessary, Russia would act alone in December. The “big-bang” programme designed by a young group of economists around Deputy Premier Yegor Gaidar featured two measures that could be implemented rapidly by state action. On December 16, most prices would be ‘liberalized,’ i.e. freed from government control. In addition, an austere, balanced budget policy with harsh cuts was to be implemented during 1992. Key reformers in the U.S.S.R. central government, including Yavlinskiy, described the Russian decisions as premature since the institutional infrastructure for a market economy was not yet in place. In November, 1991, the central fiscal system collapsed. With the U.S.S.R. government virtually broke,²¹ the Russian government moved to take over federal institutions, including the fiscal and banking systems. The budgets of the U.S.S.R. and the Russian Federation were merged for the last quarter of 1991 at an added cost of R43.5 billion for the republic. The other republics refused to pay anything.²² After that point, Gorbachev was an “Emperor without clothes.”²³ Even the military payroll was met by Russia. These liberalization measures loosened government control over budgets and monetary emissions, and thereby created even greater macroeconomic imbalances. When finally the Soviet leaders were prepared to revitalize the moribund economy by abandoning central planning, and by initiating more radical policies to effect a painful but necessary transition to a market economy, they found themselves in that process dismantling the Soviet Union itself.

III.18.vi. Implications of Termination of U.S.S.R

When viewed from the perspective of seventy years of authoritarian centralized control over all facets of political and economic activity, the scope and speed of the recent reforms initiated in the Soviet Union are nothing less than extraordinary. Most important among these was the demise of U.S.S.R itself. After the overwhelming vote for independence in the Ukrainian referendum of December 1, Yeltsin and his ministers realized that the struggle to preserve the old union was over. In order to maintain the 'common economic space' so basic to the continued operation of the interdependent economies, the Belarus, Ukrainian, and Russian presidents at a summit held in Minsk formed on December 8 the Commonwealth of Independent States (CIS) and terminated the existence of the U.S.S.R. The other republics, except for the Baltics and Georgia, joined within two weeks. Gorbachev played no role in these negotiations. On December 25-26, 1991, the U.S.S.R. *ceased to exist* because the U.S.S.R. President, legislature, courts, and Gosbank chairman abdicated their powers.²⁴

The socio-political and economic plot of this well-knitted historic novel, as it unfolded during 1990-1991, shattered the realities of millions of lives into a mere socialist dream. Apart from the social and political upheaval, the economic front experienced the worst catastrophic fall. The overall outcome of this debacle was fiscal and monetary destabilization. According to the IMF, the overall central and republic 1991 deficit reached 19 percent of GDP, but this omit another 7 percent owed to depositors holding frozen savings accounts. Whereas under the unitary system only the centre could run a deficit, in 1991 several republics did so. Russia had a deficit of 11.5 percent, Ukraine-14 percent, and Kazakhstan-18 percent. These three account for about 80 percent of the former union's GDP. Most of the smaller republics kept their deficit below 5 percent and some even ran surpluses. Emission of currency had grown by 106 percent in a single year and broad money (M2) by 77 percent.²⁵ The successor states of the U.S.S.R. had major problems to face as they gained their new independence. Their presidents recognized that the Russian economy was so dominant on the territory of the former Soviet Union that they would have to pursue the same general course of economic reform whether they liked it or not. At their request, implementation of price liberalization was delayed by Russia to January 2, 1992. Time was needed to prepare the necessary administrative measures.

Within a short span of years, political leaders have adopted, and large segments of the public have accepted, an entirely new agenda for their economic and political future. The fundamental decision to abandon central planning and replace it with market mechanisms for organizing economic activity has been made, and will be difficult to reverse.²⁶

III.18.vii. Gaidar's Radical Reform

On January 2, 1992, Russia, the largest and most influential member of the newly created Commonwealth of Independent States (CIS), embarked on a closely observed economic experiment whose consequences are shaping the nation's political and economic future. With a view to stabilize the economy, fiscal and monetary measures were introduced. Inheriting a severe crisis, the Yeltsin-Gaidar Russian government, in consultation with IMF experts, implemented two sets of policies that could be done quickly by central government decrees. The first was 'liberalization' of the economy, i.e. freeing prices,²⁷ the commodity markets, and foreign trade from most government controls. The second commitment was to strict fiscal and monetary policies focusing on virtually eliminating the budget deficit, strict reduction of credits to enterprises (the economy), and stabilization of the exchange rate. Commitment to carry out structural reforms through privatization, land reform, and development of market infrastructure remained strong, but these measures by their very nature would take several years to realize.²⁸ Transfer to an efficient market system could not occur without the freeing of prices, a 'big-bang', so that they would reflect relative scarcity. Such action would also result in the reduction of the heavy burden of subsidies from the state budget. The first consequence of price liberalization was to bring the previously suppressed inflation into the open by permitting state prices to reflect the demand pressure exerted by the "ruble overhang."²⁹ When the wage fund exceed total consumption expenditures, consumers found themselves with excess cash balances whose cumulated sum formed the "ruble overhang." By May, 1992, central regulation of 95 percent of retail prices on consumer goods and services by the center had been lifted. Due to rigidities inherited from the CPE, consumer prices did not drop to market-clearing levels even though consumption dropped

by more than 40 percent. For the first six months of 1992, the consumers' cost of living had increased by approximately 1,000 percent.³⁰ Since major inflation was expected, only a quarterly, not an annual, budget was attempted for the first months of 1992. Price-liberalization facilitated sharp cuts in producer and consumer subsidies.³¹

Revenue projections were optimistic. Revisions of the individual income and the enterprise profits taxes had already been enacted to adapt the revenue system to one compatible with a market economy. A new measure was to replace CPE turnover and sales taxes by a Value-Added Tax (VAT) and by reforming export levies. IMF studies show that it takes about 24 months to establish efficient administration of such a new tax. Box taxpayers and collectors have to be trained.³² The imposition of heavy export taxes as well as licensing and quota problems were to cause a sharp drop in the level of activity relating to foreign trade and revenues.³³ Emission of currency soon began to present dangers. The government has had to expand the total supply of currency by approximately seven times in 1992, from R263 billion to approximately R1.86 trillion (due to wage rise, and shortages of cash).³⁴ At the heart of the problem has been the failure of enterprises, many of them monopoly suppliers, to reduce prices to market-clearing levels. Retail sales dropped by more than 40 percent, but prices continued to rise despite decreasing demand. Also, retail charges for various consumer goods radically differed from region to region within Russia, showing a poorly developed, monopolized and regionalized distribution network that did not operate on market principles. Price setting by the center has been replaced by government authorities protecting their local markets or by enterprises and distributors continuing to operate monopolies at lower levels.³⁵

III.18.viii. Banking Practices Undermine Fiscal Policy

The central bank is yielding to enterprise interests by expanding noncash credits to accommodate the inter-enterprise arrears with newly created credit. Inter-enterprise arrears increased from 40 billion rubles to more than 3.2 trillion rubles during 1992. By accommodating interenterprise debt the central bank avoids the immediate consequences of enterprise failures, but it effectively reinstates the “soft budget” constraints demanded by leaders of the enterprises. The central bank justifies the accommodation of interenterprise debt as being necessary to provide working capital to enterprises. Without this working capital, the enterprise sector could implode, leading to massive unemployment and a radical collapse of output. The growth of interenterprise arrears has made it increasingly difficult to distinguish viable from nonviable enterprises.³⁶ Huge quasi-fiscal inter-enterprise bank debt has undermined the purpose of an austere budgetary policy, denying direct support to the economy. Under the old Gosbank clearance system, enterprise accounts had been credited when invoices were received. Unfortunately, many managers and bankers have continued to operate in the same old way. The banking system of the U.S.S.R. had begun to be reorganized in 1987-88 into a three-tier reserve system. The CPE Gosbank had essentially been a monobank that performed various monetary and control functions as directed by Gosplan and the Ministry of Finance. In 1988, the Gosbank’s role began to change toward that of a traditional central bank with duties for supervising the banking system and setting global parameters. Also beginning in 1988 with the emergence of co-operative banks and subsequently of joint-stock commercial banks, the state banking system began to have competition. U.S.S.R. legislation on banks and banking activity formalized the existing three-tier system in December, 1990.³⁷ Yet by 1991, the year the budgetary system was decentralized, central regulation of banking and credit policy for the whole U.S.S.R. was also fundamentally undermined. After the coup, negotiations among the republics to co-ordinate fiscal, monetary, and credit policies have repeatedly broken down, a major factor in destabilizing the ruble zone. After the U.S.S.R. Gosbank was terminated at the end of 1991, the CBR began to implement the radical economic programme through the macroeconomic levers it controlled.

III.18.ix. Moderating and Deepening Reform

Political pressures and deepening economic recession caused the Yeltsin-Gaidar team to moderate the austerity which was basic to their fiscal policy. Effort was made to broaden support by including pro-reform moderates from the managerial elite in the government as key actors in meeting critical immediate problems and preparing a second-stage reform programme to be implemented through 1996. To deal with the increasingly serious problem of insolvency, heavy additional commitments were made.³⁸ Effort was made to 'deepen' the reform programme by broadening practical activity to develop the institutions basic to a market economy. On July 3, 1992, Acting Premier Gaidar introduced a lengthy "Programme for Deepening Economic Reforms by 1995-1996." He made it clear that the budget would not be the source of salvation for weak enterprises - "our financial state is hopeless."³⁹ He asserted that major progress had been made during the first stage of liberalization and fiscal stabilization to deal with the immediate crisis. The second stage would be focused on building the economy on the basis of private property, i.e. implementing privatization. The third would be focused on reconstructing the main branches of the economy, attaining stable growth of 3-4 percent of GDP, and developing a positive balance of trade by stepping up exports. Many decrees were issued to deal with related fundamental reform issues and to thwart various crises. Loss-making businesses will be shut down and undergo privatization in a form that will develop owners with long-term stakes in industry and the power to make managerial decisions. The government clearly recognizes that the population lacks the resources to pay much into the treasury for these properties. Privatizing major enterprises will be at best a medium-term programme.⁴⁰ The latest development of the reform effort is given in Appendix III.18.1, where Michel Camdessus, the IMF's managing director, praised Russia's "bold and ambitious"⁴¹ economic reform programme, and said he believed the Russian economy may begin to grow again during the year 1995, after four years of steep decline.

III.18.x. Making the Ruble Internally Convertible

Another stabilization measure that was taken during the period of transition was making the ruble internally convertible. On July 2, 1992, the Russian government took the risky step of introducing limited internal convertibility at a floating unitary exchange rate for the ruble.⁴² (For details of internal convertibility, see Appendix III.18.2.) It was a key element of a comprehensive programme proposed in May by the Ministry of Foreign Economic Relations to restructure and liberalize foreign trade over the next eighteen months and also a guideline set in consultation with IMF.⁴³ Without fiscal and monetary discipline in place, stabilization of the currency's value is very unlikely. Inflation is approaching the hyperinflationary level; the balance of trade is seriously deteriorating. During the second half of June, 1992, hard currency in the central foreign exchange reserves has become so short that the CBR had to stop its interventions in the auction market, the Moscow Interbank Currency Exchange (MICE), aimed at bringing the value of the ruble up toward R80 per dollar. That had cost an estimated \$500 million through June.⁴⁴ Moscow is so short of funds that it has had to negotiate for a moratorium on the payment both of principal and of interest on its international debt in order to have the cash flow to maintain essential imports. Moreover, major disputes over co-ordinating fiscal, banking, credit, and monetary policies basic to maintaining a common ruble zone with other CIS states threaten to be more disruptive to commerce than was the breakdown of economic relations with Eastern Europe. In the last week of July, 1992, ruble stabilized around R161.⁴⁵ The rapidly accelerating inflation has resulted in part from the monetary expansion arising from the maintenance of a ruble zone without adequate monetary controls. Fiscal deficits continue to be financed by the creation of cash and noncash components of the money supply. This monetary expansion, and not the reforms themselves, has created a monetary system exhibiting symptoms of acute dysfunction. The ruble is not viewed as a viable store of value, and is rapidly being displaced as a medium of exchange by goods and foreign currencies. With inflation rampant, it became impossible to create the preconditions for establishing the ruble as a fully convertible currency.⁴⁶ As hyperinflation becomes more likely, the continued erosion of the ruble's value, both domestically and internationally, appears inevitable. The macroeconomic instability calls into question the ability and desirability of maintaining a common currency zone for the C.I.S. In short,

unless monetary stability and a functioning monetary system are rapidly re-established, the entire reform movement may be dealt a setback from which it is unlikely to recover. Moreover, the monetary instability reduces the likelihood that the ruble can attain the status of a convertible currency, and thereby denies the economy the benefits of international trade and competition.⁴⁷

III.18.xi. **International Trade**

Action was required to encourage international trade in order to increase the state's hard currency. During the early years of transition (especially from 1992 onwards) capital flight, estimated at \$5 billion-\$20 billion, had occurred because the previous hard-currency and export control system had cut heavily into profits and encouraged barter. Exporters of energy and raw materials, 70 percent of the total trade, were required to sell to the CBR for the foreign exchange reserve 40 percent of their foreign earnings at the commercial rate of R55 per dollar, far below the official quasi-market rate, which varied from R90 to R110 in 1992. Another 10 percent had to be surrendered by all exporters at the quasi-official rate to support CBR intervention in the auctions.⁴⁸ The new floating unitary rate is much more attractive to those involved in foreign trade and the proportion of hard currency coming onto the market is expected to be much greater than in the past. To ensure that the government gets its share of profits from international trade, new measures designed to centralize control of exports, have been put in force. Export licensing of "strategic commodities" has been streamlined so as to concentrate control of "specially registered foreign trade firms," most of which are state-owned.⁴⁹ Recentralization of the gold and diamond complex is estimated to have cost R500 million. Independent commercial firms are squeezed out.⁵⁰ However, requiring all to use the unitary rate may have a quite devastating impact on many producers dependent on supplies imported for the central reserves and heighten inflation. Until July 1, the charge of purchases of these goods and commodities by Russian enterprises was set at the special rate of R5.4 per dollar. "At current prices this rate is estimated to represent a hidden subsidy of R500 billion at the cost of the budget. Charging the unitary ruble rate will significantly raise the

costs of producers and, consequently, prices. Half of the food industry and 40 percent of light industry will have their costs increased four-to six-fold. Enterprises in most industrial sectors will have to reduce sharply reliance on imports.”⁵¹

III.18.xii. **Deterioration in CIS Economic Relations**

A major threat to fiscal and monetary stabilization is the increasing breakdown of economic ties among the CIS states. Already, the loss of markets and suppliers in Eastern Europe since 1990 has led to the disruption of production due to lack of key components. A similar breakdown within the CIS would be far more devastating. Gorbachev and his successors have all understood this reality. Since 1990, many general agreements have been signed with provisions for central institutions strong enough to ensure co-ordination of fiscal, banking, credit, and monetary policy in a “common economic space.”⁵² If several states sharing a common currency engage in major deficit-spending and large emissions of cashless credits, that can have significant inflationary impact on others that pursue austere policies. With economic resources shrinking due to the recession, all of the member states have reacted by instituting degrees of economic autarchy at the cost of their immediate CIS neighbours.

Examples of Russian policies that have alienated the other Republics are numerous. Division of assets of the former U.S.S.R. has been on the agenda of most of the summit meetings. Basically, the Russian Federation took over the central banks in November 1991. While under Russian control, all the hard currency of the other republics and their enterprises were spent servicing foreign debts. After the Gosbank went broke in December, these accounts were frozen. The new sovereign governments desperately need the foreign exchange to pay their dues to international organizations such as the IMF and World Bank as well as to stimulate foreign trade. Many of their enterprises have been seriously handicapped in conducting businesses due to their inability to draw funds frozen in their accounts. “The Russians acted unilaterally on this despite the obligation in basic CIS documents that major decisions should only be reached by consensus.”⁵³

III.18.xiii. The Ruble Zone

The other states also blame the current severe shortage of cash on unilateral Russian policy decisions on emission of currency. Since Russia has the only mint, its Central Bank was able to control its distribution. "The resulting shortage of rubles in the other states was proportionately greater than in Russia. Fearful of riots by unpaid workers, leaders of other republics introduced surrogate money in the form of coupons. So great has been the shortfall that even local authorities within Russia did so. As the situation continued to worsen, the determination of the leaders of other republics to control their own national money supply has grown stronger."⁵⁴ By June, Russian leaders in both the executive and legislative branch reached the decision that their Republic had to have its own national money. An article in *Commersant*, entitled, "The Ruble Zone: Rubleless and Rudderless", provides the details on the diversity of policies being pursued in the other states.⁵⁵ Budgetary, credit, and monetary differences are so great that it would be difficult to ensure co-ordination. It makes little sense to have a state like Tajikistan with its 40-percent deficit financing in the ruble zone when a conservative fiscal and monetary policy is the goal. Yeltsin signed a decree on June 21, mandating that states wishing to remain within the ruble zone must co-ordinate their fiscal, credit, and monetary policies with Russia.⁵⁶ This was a signal to most republics to leave the ruble zone. Not to do so would mean losing the right to control their own fiscal and monetary policy. The difficult task of organizing a new, reliable settlements system among the republics will for a time severely handicap trade just as it did with Eastern Europe.⁵⁷

With a fall since 1989 of 30 percent or more in GDP, political pressures from the populace and other vested interest groups are threatening to undermine the political stability gained by the first popular election of a Russian head of state. However, the regime is not yet nor about to attain budget and monetary stability. All this could have dramatic effects on the consumer cost-of-living index as well as on government expenditures and revenues. The banking and credit system is changing, but is far from having the capacity to provide the financial services for a modern, large-scale market

economy. A combination of Russian assertiveness and its poor fiscal and economic condition are major factors in the progressive break-up of the common CIS economic space. Due to an extraordinary degree of economic interdependence, trade among the states of the former Soviet Union will continue to be large-scale, but all the other republics are reaching out to foreign partners who have real money and world-level expertise. Their leaders recognize that, to be truly independent, they must have the means to control their fiscal and monetary policy. Thus the deterioration and disappearance of the ruble zone was imminent.⁵⁸

III.18.xiv. **Stabilization and Recovery**

The illusion that there is some “magic key” to prosperity is past. As stabilization happens, slight recovery begins. Major structural reforms will be under way to build the bases for a competitive economy on the basis of true market prices by 1996. The task that the citizens of the former Soviet states face in changing economic systems is one that will take decades to complete. “Despite the flaws in the reforms to-date, the change in the approach by the leadership to macroeconomic policy is remarkable. For the West, the challenge is to find ways to assist the process that are prudent and effective. Stabilization of the Russian fiscal and monetary system is an essential condition for large-scale aid from the West. However, aid for specific projects, humanitarian purposes, and technical assistance is essential to building a strong base for what is to the Russians a new economic system.”⁵⁹ As the process of stabilization and recovery takes root in the economies of transition, it is good to look at those economies who have tried to develop monetary and fiscal institutions to cope up with the growing demands of creating a market economy. The experience of the Baltic states is a good guide in this direction.

III.18.xv. **The Baltic Experience**

In our analysis we have pointed out the four components of transition as stabilization, liberalization, privatization and restructuring and developing of institutions. At various

stages we have briefly discussed the role of liberalization and privatization. In this chapter, we are looking at the stabilization process within the framework of the Russian-Baltic economies. As we enter into the Baltic experience, we are also privileged to place in a position to understand the mechanism and working of the fourth component of transition, namely, the restructuring and developing of the institutions; here, mainly fiscal institutions. Financial instability has emerged as perhaps the most burdensome problem associated with the transition from state socialism to market-oriented economies in Eastern Europe and the former U.S.S.R. "Because monetary and fiscal policies played only passive roles in the traditional Soviet-type economic systems, policymakers in the Soviet successor states have had a particularly difficult experience in designing and implementing prudent monetary and fiscal policies."⁶⁰ The three Baltic states represent a special example because they were afforded a significant measure of economic autonomy from the U.S.S.R. some two years before the formal dissolution of the Soviet Union. A survey of the Baltic experience with fiscal policy in the early stages of transition would enable us to deal with issues and problems that are likely to arise throughout the former Soviet region.

A major component of the economic reform programmes in the Baltic states is the development of new fiscal institutions and policies. Fiscal policy was primarily used as a tool for the allocation of resources toward national goals. A secondary goal was the redistribution of wealth from rich areas to poor.⁶¹ Almost totally neglected was the stabilization aspect of fiscal policy. All three of these aspects of fiscal policy take on heightened importance in market economies with significant private sectors. In fact, during the transition period from a Soviet-type to a market economy, fiscal policy is bound to play an especially important role that will shape the outcome of other policy issues later.⁶² The experience of reform in East/Central European countries confirms this notion.

III.18.xvi. The Creation of a Fiscal System

For the first time in nearly half a century the Baltic governments must manage their own national budgets and create fiscal systems that are both durable and flexible enough to see them through the difficult transitional stage. The development of fiscal policies and

institutions in Latvia, Lithuania, and Estonia from 1989 through 1991 is reviewed here. By late 1989, a decision had been taken in the Baltic states to design and implement totally independent fiscal systems. As the Baltic governments gradually took control over their republic budgets, they faced many policy problems and administrative tasks that previously had been Moscow's responsibility.⁶³ Among the most important of these were:

1. Projecting revenues and spending needs (As Moscow's agents, Baltic officials and bureaucrats were not, for the most part, experienced in the practice of financial analysis and programming.).
2. Re-establishing spending priorities and limits as well as revenue sources for each level of government (As national-level fiscal authorities, the Baltic governments had to establish a fiscal regime that promoted efficiency within the fiscal federal system).
3. Ensuring that planned revenues were adequate to cover planned expenditures (Macrostabilization is especially important in terms of government credibility. On one hand, three major all-Union spending programmes, financing capital investment, subsidizing non-food items - especially electricity, and subsidizing food items represented serious budgetary strains. On the other hand, it was already apparent in 1989-90 that the Baltic economies were beginning to show signs of serious economic downturn that would reduce output, profits, and hence tax remittances.)
4. Structuring taxes so that they were progressive (income elastic) and taxed taxpayers with like incomes and assets at the same rate (Meeting the tests for vertical and horizontal equity, respectively.)
5. Encouraging economic development from both domestic and foreign sources (This often involves tax holidays and public investment in the economic infrastructure, and perhaps above all, stability in the political and economic framework, including tax legislation.).
6. Creating convenient, transparent, payment systems to maximize compliance (This is very important given the primitive administrative and tax collection systems in the Baltic states and the large black markets in which incomes could be hidden.).

7. Creating the necessary tax administration institutions (This has proved at least as important as having the proper taxes.).

These seven points are not peculiar to the Baltic states. The two dynamics that defined the political-economic landscape in the Soviet region at the time (disintegration from the central command structure and radical economic reform) took their toll on fiscal policy formation throughout the U.S.S.R.⁶⁴

III.18.xvii. **The Two Key Issues: Insulation and Transfer**

In terms of economic disengagement from the Soviet Union, Baltic officials were constantly testing the waters with unilateral declarations of authority and jurisdiction over policy and real assets on their territories. The resolution of these questions naturally had a fundamental impact on both the size and structure of the potential revenue base and on spending requirements. Two key issues motivating Baltic policies at this time were: (1) insulating the Baltic economies from the economic and financial chaos exported from Moscow, and (2) negotiating acceptable amounts of transfer funds from the Baltic budgets to the all-Union budget. These issues resolved into the following considerations. Battling economic chaos:

1. Importing inflation and macro instability from Moscow.
2. Financing economic activity in the midst of a Union-wide economic depression.
3. Managing the various economic blockades and trade stoppages that occurred in 1989-91.
4. Meeting social obligations that Moscow either could not or would not fulfil.

Negotiating Transfers to the Union Budget:

1. Changing revenue and spending plans in mid-stream.
2. Dealing with a situation in which Moscow insisted on shares of various revenue sources, making it virtually impossible to negotiate a simple lump sum that would have given the Balts more freedom to determine spending and taxes internally.

The on-going efforts to establish independent fiscal systems in the Baltic states in 1990 and 1991 required a series of budgetary revisions. The inability to negotiate a satisfactory arrangement with Moscow provoked all three Baltic governments to withhold their contributions to the U.S.S.R. budget in 1991.⁶⁵

III.18.xviii. **Fiscal Policy Formation**

The Baltic drives toward establishing market-oriented systems have also created problems for fiscal policy formation. The two most important factors in this regard are the movement toward a private economy and the shift away from Soviet-administered prices toward market-oriented prices. The emergence of a private economy brings several challenges from the standpoints of economic development, economic stability, and the breadth and depth of the social safety net. First, encouraging the nascent private sector requires that disincentives to investment be avoided if possible. The corporate income tax is widely regarded as a drag on investment, but it carries several deceptively seduced advantages, especially for newer, less established economies. One advantage of the corporate tax is that corporations, as compared with other taxpayers, usually keep detailed financial records that can be used for audits.⁶⁶ There are also fewer corporations to keep track of than there are personal income taxpayers.⁶⁷ Finally, personal income taxpayers vote, while corporations do not, a nontrivial issue in emerging democracies. These factors often lead to the conclusion that corporations might tolerate higher tax rates relative to income than personal income taxpayers. Nevertheless, especially in poor economies trying to foster entrepreneurship and privatize state-owned enterprise, excessive corporate income taxes tend to hold back growth.⁶⁸ As a result, policies on corporate income taxes are still in flux in all three Baltic states.⁶⁹ While many Baltic officials charged with developing tax policy recognize the importance of guaranteeing low and stable corporate tax rates, political concerns dictate that they play “the corporate tax card” very carefully so as not to create the impression that business is enjoying tax benefits at the expense of individuals or social programmes. The emergence of a sizeable private sector also requires new tax policies and administrative (collection and audit) techniques. Likewise, the

emergence of a private sector suggests new considerations for government spending patterns. This shift of spending responsibilities has obvious implications for revenue generation as well. 70 Finally, shifting to an economy with a significant private sector also gives the Baltic governments a natural way to begin the process of integration with Western Europe. This process implies harmonizing fiscal policies with Western economies, especially those to which Balts become most open. An important, though problematic, dimension of Europe 92 was the fiscal harmonization and integration. If the Balts want to be part of this integration process, they cannot ignore the fiscal issues,71 like the introduction of VAT. The switch to free prices is beginning to have several consequences (both static and dynamic) for tax policy, but none of them need be difficult. After the initial price adjustment, however, it should be possible to stabilize tax revenues and expenditures in the absence of outside shocks.72

With the Baltic declarations of independence in August 1991, the complex issue of “who owns whom and who pays whom” became more immediate and practical, creating difficulties for the Baltic governments. Theoretically, all enterprises on Baltic territory are now subject to the Baltic states’ jurisdiction and should pay taxes to their Baltic governments. A comparison of the budgets of the three Baltic states is difficult because of the lack of symmetry in their budget formats. Budget income is easier to look at than expenditures. Table III.18.1 outlines the different tax schemes of the three Baltic states as they stood at the end of 1991.

Table III.18.1

Tax Schemes in the Baltic Countries in 1991

Type of Tax	Estonia	Latvia	Lithuania
Corporate income tax	70% State 30% Local	70% State 30% Local (20% in Riga)	Local Corps pay to local budgets. Others pay 80% to State, 20% to local budgets.
Personal income tax	Local	20% State 80% Local	40% State 60% Local
Value-added tax	No	No	No

Turnover tax	70% State 30% Local	State	State*
Excise tax	State	State	State*
Social security tax	State	State	
Natural Resource tax	State and Local	25% State 75% Local	State
Land tax	Local (very small)	Local	Local
Customs duties	State	few and small	few and small
Vehicle tax	Local	No	Local
Capital tax	In special cases Local	Property tax	No
Activity license	Off budget State	?	No
Pollution tax	Environment Fund	(Covered under natural resource tax.)	State
Performance tax	Local	No (under discussion)	No
Official filing tax	Local	No	No
Enterprise registration	No	No	State
Foreign investment tax	No	No	State
Oil products tax	State	Paid to the State road fund. 50% slated for State roads and determined by State government; 25% for regional roads; and 25% for rural roads.	No
Hard currency tax	No	No	State

Source: John E. Tedstrom: "Problems of Fiscal Policy Reform During The Transition: A Baltic Case Study" p. 231; Documentation from Finance Ministries of the three Baltic states and interviews with respective Balt officials.

* The Lithuanian budget does not distinguish between the excise and the turnover tax.

An important contribution to economic policy in the Baltic area would be the stabilization of fiscal and monetary reform legislation. The budgets of the Baltic states for 1991 are presented in Tables A, B, and C of Appendix III.18.3. Standardizing the reporting systems would be a significant contribution both to Balts concerned with Baltic tax policy and for outsiders, as well as contribute to Baltic economic integration.⁷³

III.18.xix. Considerations for the Future

Following the demise of the Soviet Union, all of the Soviet successor states face the formidable challenge of developing and implementing their own economic reform programmes. Fiscal policy reform constitutes one of the key elements in those programmes. Using fiscal policy as a stabilization tool is new to the Soviet successor states, but their experience with runaway budgets in the last three years of their Soviet period and the prospect of hyperinflation looming over the entire ruble zone has generated a good deal of appreciation on their part for the importance of a balanced budget. Unfortunately, the experience of reforming East/Central European countries is not encouraging and paints a picture of both falling output that constricts the real tax base and rising social needs that increase the requirement for spending. "Two chief pressure points for state spending are likely to emerge in the foreseeable future. One is local pressures. Public opinion in the Baltic states has already indicated the degree to which Balts believe that they deserve to have a standard of living on par with Scandinavia."⁷⁴ A second influence for public spending will come from the outside. Aid and investment will flow to the former republics only under certain conditions.

III.18.xx. Complicated Versus Simple Taxes

The basics of tax policy formation and not the nuances should guide the development of new tax systems in the Soviet successor states. Taxes should be broad to capture as many types of taxable incomes as possible. Tax rates should be low to encourage investment, increase productivity, and encourage compliance. Taxes should be simple and transparent

so that taxpayers know what they are paying and why. Taxes should meet tests for horizontal and vertical equity.

Experience in other emerging market economies has shown that developing appropriate tax administration institutions and systems is at least as important as the tax policies themselves. Without a comprehensive, unified budget, it is impossible to execute a unified fiscal policy. Effective tax assessment and collection is essential to the success of any budget programme. Once a culture of tax evasion develops, it is virtually impossible to overcome. Many small countries have neglected the problem of administering tax collection policies to guard against inflation. In high-inflation economies, this can be very costly to the budget as delinquent taxpayers pay the flat penalty in weaker currencies. The higher the rate of inflation, the more the need for inflation-sensitive penalties. Another concern for emerging or reforming economies is unemployment. Finally, it is important that the various departments of the Ministry of Finance that are concerned with tax administration have adequate communications with each other. In the Baltic states this may be a particular challenge given both the compartmentalism of the economic bureaucracy of the Soviet-type economy and the rapid pace at which the Baltic states are reforming their economic institutions and policies.⁷⁵

III.18.xxi. **The Primary Importance of Managing Fiscal Policy**

Fiscal policy affects and is affected by numerous other aspects of the overall reform effort, including privatization, price policy, and policy on industrial development in particular sectors of the economy. Fiscal policy was always of secondary importance in the Soviet-type economies. In many respects, fiscal policy in the Soviet period was based on political considerations and tended to ignore economics. To the extent that fiscal policy represents an essentially new field for both government bureaucrats and academic analysts, there is a good deal to learn before the world can expect competent fiscal management from the Baltic states. To date, Latvia, Lithuania, and Estonia have been careful not to mismanage the transitional period and have established a number of the cornerstones of a full, independent, and effective fiscal system, with the help of international and foreign

organizations to develop efficient tax administration institutions and competent tax administration personnel. Although many obstacles remain, there is good reason for taking an optimistic view of the outlook for the Baltic economies.⁷⁶

The experience of Russia and the Baltic States brings out the important role of macroeconomic stabilization as a strategy for economic transition from a command economy to a market economy. But a caution is to be noted. "A stabilization package in the context of inherited inertial inflation and increasingly rigid inflationary expectations can create *a vicious cycle* of policy-performance gap: budget deficit cuts, tight money, and currency devaluation → falling output (and employment) and higher inflation → "recession-induced" fiscal deficits and "inflation-driven" loss of price competitiveness (currency revaluation) → additional budgetary tightening, partial monetization of the deficit, and further currency depreciation → deeper recession and higher inflation → widening budget deficit and currency overvaluation → new rounds of macroeconomic tightening and currency devaluation → deeper economic contraction and higher inflation → ...?"⁷⁷ Furthermore, stabilization measures produce additional inflationary shocks in economies of transition. In a transitional economy with 'increasingly rigid inflationary expectations,' stabilization measures running ahead of enterprise and other institutional (e.g., fiscal, financial) reforms can further destabilize the economy - add to economic contraction, investment slump, inflationary spiral, and external deficits - so that eventually even stronger measures are necessary. The unique and complex conditions of Russia and other successor states of the Soviet Union call for significant modifications and extensions of the alternative strategy, especially at the stage of formulating concrete steps and implementing them. This strategy is designed on 'an imperfectly co-ordinated growth-oriented approach where demand-friendly stabilization and supply-friendly liberalization is encouraged.'⁷⁸ Obviously, capitalism in today's most advanced industrialized countries took centuries to develop, and even then the state always remained intimately involved in shaping its evolution and ensuring its survival. Our analysis outlines the relevance of macroeconomic stabilization as a primary condition for the emergence of capitalism. Once stabilization is in place, the other components of transition can be implemented much easily and that would

enable the dynamics of market mechanism to interact freely. At this stage, the economies in transition would be applying economic growth models that would bring about the desired growth. The economies in transition is a new phenomenon in the history of political economy. The transition is from a socialist system to a capitalist system. This is a new vision of economic growth and development and its realization depends on a new perspective of the knowledge sector of a new growth model. We shall proceed to design a vision-solution growth path.

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64. Ibid., pp. 223-224.
65. See John Tedstrom, *"Soviet Fiscal Federalism in a Time of Crisis,"* Report on the USSR, no. 31, August 2, 1991, pp. 1-5.

66. Though in the Baltic states as in the rest of the Soviet Union at the time, corporate accounting practices needed to be overhauled and codified by legislation. See the proceedings of the roundtable discussion led by V.F. Khritinin in *Finansy SSSR*, No. 2, 1989, pp. 18-24. This provides a comprehensive and illuminating overview of the problem at the republic, regional, and local levels; quoted in Tedstrom John E., *"Problems of Fiscal Policy Reform During the Transition: A Baltic Case Study,"* op. cit., p. 225; See also *Accounting Reform in Central and Eastern Europe*, OECD, Paris, 1991.
67. Tedstrom John E., *"Problems of Fiscal Policy Reform During the Transition: A Baltic Case Study,"* op. cit., p. 225.
68. Leechor, Chad, *"Tax Policy and Tax Reform in Semi-Industrialized Countries,"* World Bank, Washington, D. C., 1986.
69. Tedstrom John E., *"Problems of Fiscal Policy Reform During the Transition: A Baltic Case Study,"* op. cit., p. 226.
70. Ibid., p. 228. Even though the majority of production has not been privatized, many enterprises have been "corporatized," that is, the state has relinquished its control over decision making in favour of an independent management. As the enterprise moves further away from the state, its support of the social and cultural infrastructure will take the form of remittances to the state budget which will administer the various spending programmes.
71. See Peter Robson, *"The Economics of International Integration*, London, Allen and Unwin, 1987, Chapters 7-9.
72. Tedstrom John E., *"Problems of Fiscal Policy Reform During the Transition: A Baltic Case Study,"* op. cit., p. 229.
73. Ibid., pp. 230-234.
74. See Philip Hanson, *"The Baltic States, What Price Freedom?,"* London, Economist Intelligence Unit, April 1990.
75. Tedstrom John E., *"Problems of Fiscal Policy Reform During the Transition: A Baltic Case Study,"* op. cit., p. 236.
76. Ibid., pp. 237-238.
77. Islam, Shafiqul, and Mandelbaum, Michael, (eds.), *Making Markets: Economic Transformation in Eastern Europe and the Post-Soviet States*, Council on Foreign Relations Press, New York, 1993, p. 201.
78. Ibid., p. 206.

CHAPTER NINETEEN

THE VISION-SOLUTION GROWTH PATH

The foundation of the history of the political economy is based on a vision - a vision of the world where allocation of resources , production of goods and services, and distribution of wealth can be done for the benefit of all human beings. This vision often contradicts with the reality in which one finds himself or herself. While the vision provides the long-term objective, various solutions have to be designed to achieve this objective. The economic history is full of solutions to solve the economic problems and still we find ourselves in a world of huge gap between the developed and developing economies; we include here the economies in transition into the category of developing economies. We have tried capitalist economic growth models. We have also tried socialist growth models. There were some attempts with a mixed economy growth model. Besides the success-failure scenario of these models, we need to look a little farther. Of course, we need all the components of these models. Without those basic components, economic growth would have never taken place and any growth that we have is due to the availability of those basic components and its intelligent utilization. In our research work, we have termed all those basic economic growth models in relation to each of those components as micro knowledge and we have developed a new knowledge sector, namely, macro knowledge. In the following, we shall try to integrate these macro-micro knowledge into our vision-solution economic growth model.

III.19.i.

The Vision Growth Path

The composition of place of the former Soviet Union and other Eastern European economies shows us the emergence of transitional economies. There is a movement from an embryonic stage to the stage of birth; from a desire to be themselves to its historical fulfilment. Along with the vision of a new sovereign state, it needs to develop a new

economic thought; a new economic thought that resonates the way of thinking of the people. Each transition economy adopts a strategy with the various components of transition to varying degrees. Our analysis also reveals the success and limitations of each strategy and the effectiveness of the application of each of the components of transition. Any growth strategy has to be designed with a long-term vision. A vision provides a spectrum and a perspective.

We have seen in the final chapter of the section two, the introduction of an ideology (Marxist-Leninist) as a micro knowledge. The adherents of this ideology hoped that it would in course of time replace the macro knowledge. But, that did not happen. Not only macro knowledge proved successful and strong, but it dumped the micro knowledge as an alien element. The experience of micro knowledge as an oppressive ideological economic system did not fit into the normal way of thinking of the people. Not only it stagnated economic growth but it deprived human growth. It denied human dignity and human rights which are the corner stone of any economic success and foundations of socialist principles. Even after the overthrow of this micro knowledge as an ideology and as an economic system, we note the presence of the 'old guards.' They still adhere to the defunct micro knowledge. But it is a false attachment to the accustomed micro knowledge. Though it has proved its inability to provide any viable economic solution, 'the system-elite of the socialist bourgeois' class are finding it difficult to part with an economic system which strengthened their position. The success of macro knowledge became real due to the emergence of 'democrats and liberals', who represent the people. They were able to develop a true detachment from the accustomed micro knowledge. Though the clutch of the micro knowledge seemed so strong, it did not have the power to demoralize the macro knowledge on which the way of thinking of all people were built. That is how the democrats and liberals realized their hope of a new vision. This vision is based on the longing of the human person for freedom, democracy, and basic human rights. This vision challenged their views of the existing micro knowledge as an economic system which only degrades the person and stagnates any growth and development. This existential realization of a negative growth spurred the peoples' movements in all the oppressed economies. The liberative vision was provided by the macro knowledge. It is to this macro

knowledge that people unanimously responded with hands and feet; hearts and minds. This macro knowledge vision has to be integrated into the visionary growth model.

III.19.ii. **First Integration: New Freedom**

The foremost experience of transitional economies is the new fought-gained *freedom*. It is macro knowledge that provided this vision of freedom during the oppressive regimes of historical socialism. The concept of freedom as an inherent knowledge of all peoples and nations is particularly alive in proletarian regimes because of its conspicuous absence. Though the proletarian revolution was brought about by this peoples' longing for freedom, during the course of its institutionalization, it stifled this very longing to be free. When the concept of freedom becomes an institutionalized mockery of the way of thinking of the people, people bear it for a period but not too long. That is the power of macro knowledge. Whenever the inherent knowledge is stifled, it comes out with vengeance and repossesses itself. People, on the whole, begins to experience the freshness of new freedom. This freedom is social, economic, political, religious and cultural. The political expression of this freedom is the emergence of democratic institutions. This new found freedom enables an economic agent to grasp the economic vacuum of one's nation and makes one feel the necessity of being able to come out of this stagnant state and begin on a new vision of economic growth.

III.19.iii. **Second Integration: New Rights and Duties**

With the earned freedom of macro knowledge, comes the new rights and duties and responsibilities. The violation of human rights issues traumatizes anyone who dares to look into the historical socialist regimes. The socialist economic growth path denied the human rights and ultimately, human growth. (Though here we mention only the experience of historical socialism, we must not forget the dictatorial and other non-democratic forms of socio-political systems which constantly deny freedom, democracy, and human rights.) The awarding of human rights to human beings in the transitional economies is of absolute

importance. Denial of human rights results in deprived human conditions which stifle all forms of human growth. The potential of human capital formation is fully utilized in a person with endowed human rights. Only this person can consider the duties and responsibilities as a citizen. Slaves have no duty to the state unless it is imposed on them. Any form of human slavery deprives human capital formation of a nation. Only from a truly dignified human being, the state can expect a duty in return. The macro knowledge vision of any nation and people integrates well the human dignity and human rights and duties of a citizen. The micro knowledge which tries to eliminate this natural order of human dynamics retards economic growth. The economic growth of a nation depends very much on the acknowledgement and endowment of human dignity and human rights in all its varied dimensions.

III.19.iv. **Third Integration: New Initiatives**

A nation which experiences freedom and people who enjoys their rights begin to take initiatives as his/her duty. New initiatives in all forms of socio-economic and political decisions is the first step in this transitional stage. At this stage, the relevance of macro knowledge is very crucial. Old experience of micro knowledge could enable the economic agent to choose the new direction so that his/her choice is not in conflict with the macro knowledge. These initiatives strengthen the take-off dynamics. The dynamics of economic growth need all forms of new initiatives for further development especially to a market mechanism.

The role of macro knowledge in the transitional stages of growth process need to be outlined clearly. As we have outlined the format of macro knowledge in our earlier sections, it is of great significance to emphasize its influence on the economic behaviour. Economic growth happens as we integrate the elements of macro knowledge or it collapses sooner or later. We cannot ignore the relevance of this inherent knowledge in our economic decisions. The new pillars of transitional economies must be rooted and grounded on the macro knowledge of the nation, if it has to make the transition smoothly and into a healthier global atmosphere. In our solutionary growth model we shall outline

the elements of macro knowledge which are necessary for transition to a new economic world order.

As we emphasize the crucial role of macro knowledge, let us not ignore the role of micro knowledge. The role of micro knowledge in the transitional stages of growth process is of paramount importance. If macro knowledge is the pillar, micro knowledge is the beam that is going to build the economic structure. Therefore the length and breadth and weight and height of applied micro knowledge must be in relation to the foundation of macro knowledge. Therefore, as we have noted earlier, macro and micro knowledge are not competing genes in our model. They are not trying to overcome one over the other. Whenever that was the motive, the result was stagnation and negative growth and retarded development. The macro knowledge of a nation and the micro knowledge that is developed within or brought from outside ought to move unidirectionally to produce growth and long-term development. This interaction between macro and micro knowledge during the transitional period is to be monitored by policymakers, both of governmental and non-governmental entities, as they decide on the priority issues. The priority issues during the new stage of development is given in the Appendix III.19.1. The integral economic development of a nation is to be streamlined by opting for the new economic thought for integral economic growth. We shall proceed to build the new solution-growth economic model for transitional and developing economies.

III.19.v.

The Solution Growth Path

The vision of the people of the socialist political regime for a “common future” in a global village resulted in the collapse of the socialist economic system and the emergence of economies in transition. Their vision which grew out of the existing macro knowledge call for a new understanding of an economic system which would respect their freedom and human rights. Any introduction of a new micro knowledge for the promotion of the welfare of the people and for the economic growth and development must be based on these new, hitherto unintegrated, variables. We design the solutionary growth model by integrating these new variables into the model of economic growth. The insight and the

guide to venture into this economic modelling is derived from the works of Paul Romer and Janos Kornai. “The key point is the methodological conception itself, whereby we may introduce into macro-models and growth models, as appropriate, unconventional latent variables for the description and explanation of complex phenomena, even if it might not be possible to observe and measure them directly.”¹ The economic modelling that we undertake identifies a growth influencing knowledge sector and we integrate into this knowledge sector the hitherto unintegrated macro knowledge variables, namely, freedom, democracy and human rights. We hope this will also contribute to the new attempts at creating alternate economic growth models.

III.19.vi. The Premises

We divide the knowledge sector into two: *macro* knowledge sector and *micro* knowledge. sector.

While macro knowledge provides an inherent incentive for economic growth and development, micro knowledge account for the tangible (measured) progress. (In this sense, following Romer’s model², micro knowledge is endogenous rather than exogenous.) In an economic system, this would mean that micro knowledge as well as macro knowledge are endogenous. (If we consider macro knowledge as exogenous: This is because of the individuality of the human person and also because of his/her selfish motives. Rather than having a collective endogeneity, then, we notice an individualistic exogeneity.)

While micro knowledge is motivated by market incentives (following Romer), macro knowledge is not, because of its inherent nature. While the development of micro knowledge needs market incentives, integration of macro knowledge into economic policies does not incur market incentives.

While developing micro knowledge incurs cost, the nature of macro knowledge renders it costless. (Following Romer, developing new and better instructions is equivalent to incurring a fixed cost. This property is taken to be the defining characteristic of

technology.)³ But in our model, macro knowledge is not something to be developed and therefore it is neither income-incurring nor income-generating-public good. But it controls the minds and therefore the decisions of economic agents.

III.19.vii. Main Properties

The main characteristic features of the model are the following:

1. We describe a *dynamic-macro* system. The economy is examined at the national macro-level.

With the aid of the model we shall describe both *long-term* and *short-term* processes and shall examine their interactions.

2. While micro knowledge determines the *real sphere*, macro knowledge determines the *control sphere*. In its aggregate form the model describes the *real sphere*: production, investment, trade and consumption and their success or failure depends on the use of micro knowledge. At the same time it describes, exogenously, the *control sphere* which guides the real sphere. In other words, the macro knowledge elements in the model determines and represents the behaviour of decision-makers.
3. In describing the real sphere we apply several different simplifying assumptions; the growth of the real sphere of any economic system can be described using this particular block of the model. In contrast to this, the description of the control sphere is system-specific and country-specific.
4. The analysis is less normative but is descriptive. We shall try to understand - to describe and to explain - a few properties of the economies in transition as they venture into a new economic system. Economic policy is not considered as something existing outside the system and controlling it from there - listening to economists' recommendations, following the advice of normative models, or personal judgement. *Economic policy is an endogenous part of the system.*⁴ The model tries to reflect the reactions and behavioural regularities of the economic policy-maker and of the planner.

5. This is a study in *pure theory*. On the plane of pure theory a much greater degree of simplification is possible and necessary than that acceptable in a statistically based econometric model. (Actual analysis of the economic history of the country concerned would probably make it clear that further variables and equations need to be incorporated, certain relationships will have to be modified, the lag structure of the model transformed and so on.)
6. The structure of the model is suitable for representing endogenously the *transitions* from one historical period to the next. The *transition* to 'ordinary' or 'normal' conditions, is possible only within a stable institutional system and under more or less stable external conditions.⁵

For the construction of the model we shall employ several assumptions, in the course of the discussion.

III.19.viii. The Variables and Description of the Model

In the following we shall examine the model's variables and describe the dynamics. At the present stage of research it is *the model itself* that should be regarded as the main result of the work accomplished so far, much more so than the analysis based on it. We shall try to demonstrate that 'there exists a relatively simple formalism, which can be used to describe certain regularities of growth, and its self-regulation in the process of transition to a new free economy.' During the period of transition, the economic growth is determined by the people who prefers to opt for a market to a planned economy. As the force of the people changes an economic system, so the new model of economic growth would focus on people-oriented variables. The sequence is now adjusted to the logic of economic exposition and clarification.

The explanation of macro knowledge variables as economic variables is a new attempt. So far, while explaining economic growth and development models we have just concentrated on the basic economic variables. But a historical analysis of economic development pattern of nations prove that this approach does not tackle the problem.

Today's developmental problems are not merely economic. It is social and political and cultural too. Therefore the new growth economic models need to integrate these hitherto unintegrated variables into its framework. As we analyse the way of thinking of a people and a nation, we will come across various but unique macro knowledge variables. We shall consider in our model just three macro knowledge variables which have found consensus across nations. They are *freedom, democracy and human rights*. These variables have been appropriately interwoven into our model. Particularly, special preference has been given to the macro knowledge of freedom while modelling this new growth economic thought for the transitional and developing economies.

III.19.ix. Freedom as a Vital Component of Human Development

Societies all over the world have struggled for centuries to build consensus through systems of deliberation and negotiation. Almost every country has forms of community decision-making based on dialogue and consensus at the local level. At the national level, however, political systems are based more on majority rule. Almost half of the world's countries today have elected forms of government, and many other countries are moving in this direction. Democracy and freedom rely, however, on much more than ballot box. The expansion of democracy has been accompanied by a greater acknowledgement of human rights. Governments in every country are surrounded by a host of groups and institutions that help build and sustain the democratic process. "Such groups can survive even the severest forms of political repression. Trade unions in Eastern Europe, women's organizations in Latin America, students in Asia - all have helped keep freedom alive and played their part in the struggle for democracy. They have shown that freedom is something not just to be given or taken - it has to be lived."⁶ The concept of freedom has to be concretized, thus, through democracy by exercising political freedom and through protection of basic human rights.

III.19.x. The Freedom-Development Debate

The link between freedom and development is seldom in dispute. What is often disputed is the causality - whether more freedom leads to more development or more development leads to more freedom. This might reflect the diversity of historical experience and the many policy options available. If growth is seen, however, not an end in itself but as a part of human development, democracy cannot be set aside. Thus, political freedom is an essential element of human development. Some scholars have argued that freedom is a necessary condition to liberate the creative energies of the people and to pursue a path of rapid economic development. "What is clear is that the economically better-off countries today (as measured by GDP or the HDI) also have a large measure of freedom."⁷ People now see freedom as an essential element in human development, not as an optional extra. There exists a genuine desire across the world for both economic progress and political freedom. At the national level, people are becoming more educated and conscious of their rights. At the global level, human rights monitors and the rapidly expanding media networks provide a steady flow of information on human rights violations. Human cruelty can no longer be hidden in dark and distant corners of the planet.⁸ This changing international culture and public awareness also affects international development co-operation.

III.19.xi. A System of Classification of Freedoms

Societies clearly differ in their notions of freedom and in how they perceive and establish the link between freedom and development. One widely used distinction is that between individual and collective rights. One important difference concerns the emphasis societies may place on the freedom of the individual and that of collectives - as the family, the tribe, the community, or the country. While some rights are enjoyed by every person individually, others apply to specific groups of people, such as freedom from gender, ethnic or racial discrimination. All individuals freedoms need to be interpreted so that freedom for some does not curtail the freedom of others or impair collective national interests. Another form of classification of freedoms could be based on economic and social rights., which were endorsed in the Universal Declaration of Human Rights

(adopted in 1948). The International Covenant on Economic, Social, and Cultural Rights adopted in 1966 and the Declaration on the Right to Development adopted in 1986, emphasized both political rights and economic and social rights. For many people, economic and social rights are just as important as political freedom, or more so. Political democracy will always be fragile until basic economic rights are guaranteed. Therefore, economic and social rights should be included in any freedom index. It is certainly true that any comprehensive definition of human freedom must include economic, social, *and* political rights. The human development index (HDI) is an attempt to measure economic and social rights and the extent to which they are realized.

A new political freedom index (PFI) could look specifically at political rights. Many international agreements have been adopted on civil and political rights. Analysing the rights enshrined in these documents show considerable congruence. They can be grouped into five broad clusters, reflecting values common to all cultures, all religions and all stages of development. They are personal security, rule of law, freedom of expression, political participation, and equality of opportunity.¹⁰ An illustrative checklist of indicators of political freedom is given in Appendix III.19.2. These five clusters can also be related to the main institutions of society that protect - or abuse - human rights. The legislature represents political participation; the executive branch has a critical role in equality of opportunity; the judiciary is responsible for rule of law and the physical integrity of the individual; and the ‘fourth estate’, civil society and the press, are important barometers of freedom of expression, including freedom of association and movement. The relevance of human development, universal applicability, and freedom from any cultural bias could be considered as the criteria while creating indicators of political freedom.

A tentative attempt was made by different experts to construct a political freedom index. The overall conclusion is that “political freedom and human development seem to move in tandem.”¹¹ This conclusion is also supported by the following Table.

Table III.19.1
Table: Political Freedom Index (PFI) Aggregates

Aggregate	Personal	Rule of	Freedom of	Political Participatio	Equality of Opportunit	PFI
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	Security	Law	Expression	n	y	
Human developme nt levels						
High HDI	8.5	8.4	8.4	8.9	7.8	84.1
Medium HDI	4.8	4.8	4.7	5.0	5.5	49.6
Low HDI	4.5	4.6	4.9	4.3	5.8	48.2
Per Capita Income Levels						
High Income	8.7	8.6	8.3	8.7	7.6	83.7
Middle Income	5.8	5.8	6.0	6.3	6.4	60.8
Low Income	4.0	4.2	4.3	3.4	5.5	42.8
Political Freedom Levels						
High Political Freedom	9.0	9.1	9.1	9.5	8.2	89.7
Reasonable Political Freedom	5.6	6.1	6.6	6.5	6.3	62.0
Modest Political Freedom	3.8	3.3	3.0	2.6	5.2	35.8
Low Political Freedom	1.9	1.6	1.3	1.3	3.8	19.9
Global Profile						
World	6.0	6.0	6.1	6.1	6.4	61.0
Industrial Countries	9.2	9.2	9.1	9.5	8.1	90.1

Developing Countries	4.9	4.9	5.1	4.9	5.8	51.3
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Source: Human Development Report 1992.

The Distribution of Freedom: Data were collected for 104 countries representing 92% of the world’s population. Of these, about a third had high freedom (a 75% score or above), another third had reasonable freedom (50-75%), and the remaining third modest to low freedom (50% or less). But given the current political trends in the world, it is clear that an increasing number of countries will be moving to higher scores.

The Link with Human Development: Political freedom and human development do seem to move in tandem. Countries with a high HDI have an average PFI of 84%, while countries with a low HDI have an average PFI of 48%.

The Link with Levels of Income: There also appears to be a link between a country’s per capita income and the extent of its democratic freedoms. For high-income countries, the average PFI is 84%, for middle-income countries 61%, and for low-income countries 43%. But the Table also shows that, as income levels fall, freedom does not decline correspondingly. Even poor nations can enjoy a high level of political freedom.

Progress to Date: Political participation (through elected legislatures) and equality of opportunity are the areas in which the world has progressed the most. Physical integrity of the individual, on the other hand, is an area where human rights abuses still occur most frequently.¹²

The overall conclusions that flow from the Table and the analysis should be treated with great caution, since this was only a first step in this direction. More research is needed to investigate further the interrelationship of freedom and development; to investigate the interrelationship between individual and collective rights as well as that between political rights and economic and social rights. Appendix III.19.3. presents “the tide of freedom” as it happened recently, and it brings out the interrelationship as well. It is necessary to understand more fully how development relates to human rights, democracy and freedom and vice versa.

III.19.xii. Macro Knowledge of Freedom

...The phenomenon of the macro knowledge of freedom plays a central role in our way of thinking and therefore in the formulation of this model. Although the model analyses the national economy at the *macro*-level, we must set out from the *microeconomic* foundations in order to deal with this new economic growth variable, freedom. We could describe the ‘vocabulary’ freedom as a category comprising a large group of phenomena. Freedom is a summary expression referring to numerous elementary presence or absence of freedom events. Its measurement involves particular difficulties. Freedom is too precious to be reduced to a number. It cannot be done by straightforward summation, since it is obvious that we cannot directly add up the indicators of events and processes that are qualitatively totally different. Therefore, if we wish to represent freedom phenomena within a macromodel, we must use some indirect methods of measurement. The first task is to assemble a large number of *partial presence or absence of freedom indicators*. The political freedom index is a guide in this direction. We could also assemble a large number of *protection or abuse of human rights indicators*. In the present study, concerned with the formulation of a theoretical model, it is sufficient to observe that ‘a comprehensive and regular observation of partial presence or absence of freedom indicators is possible.’ There is no theoretical or methodological obstacle to the organization of such observation. All partial presence or absence of freedom indicators are measured in their own units. Only two general properties are stipulated in defining them.

1. Higher values of any partial absence of freedom indicator show more intensive oppression and mal-development, while lower values show less intensive economic growth.
2. Each partial presence of freedom indicator is non-negative, while the absence of freedom indicator is always negative.

In a real economic system the partial absence of freedom indicators are not, of course, perfectly correlated but there are several circumstances that create quite a strong positive correlation between them. For instance, the absence of a democratic process is positively

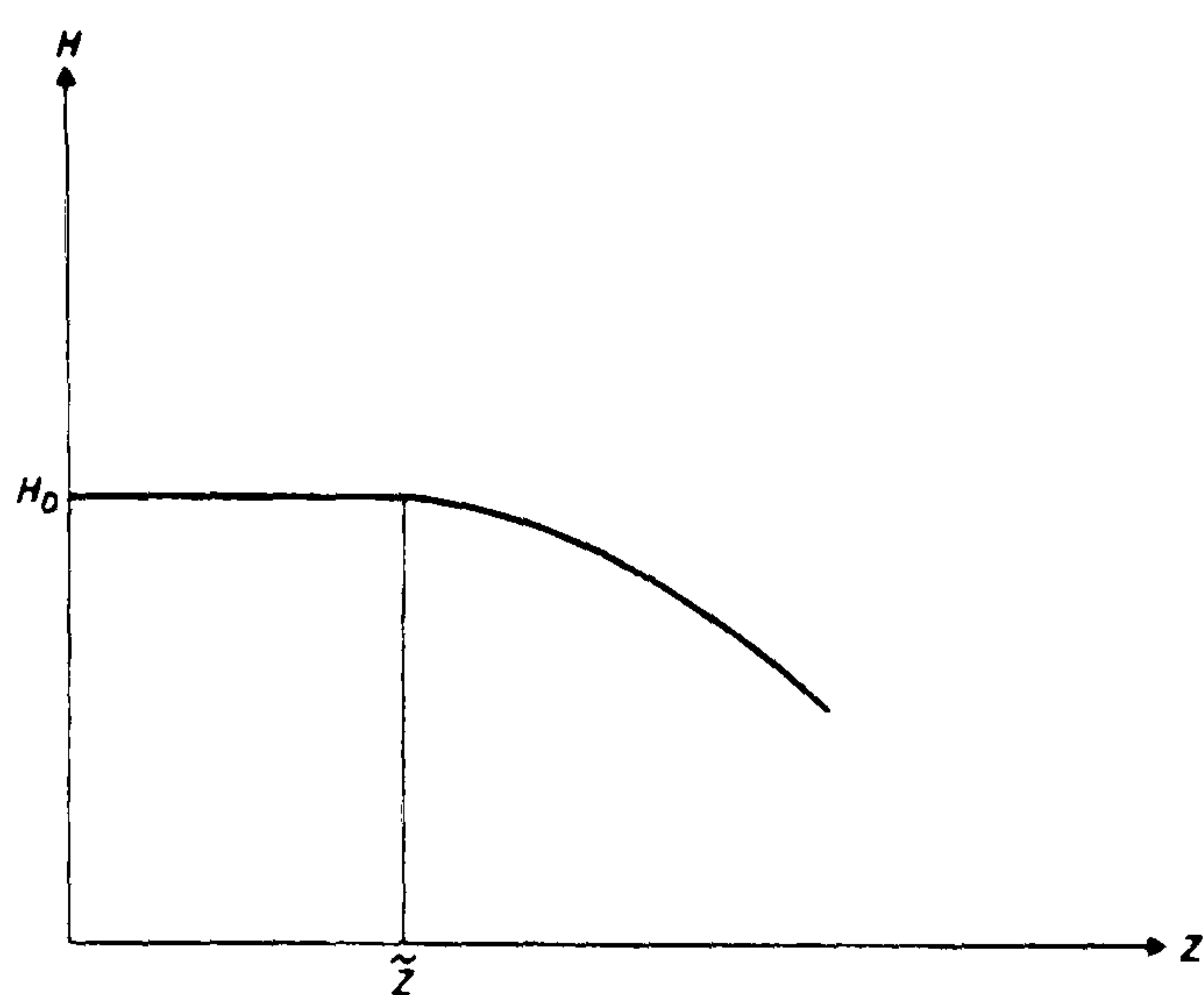
correlated to the absence of freedom. The violation of basic human rights is, again, positively correlated to the absence of freedom. For all these reasons, it is reasonable to expect that positive correlation between different units of absence of freedom and mal-development indicators should be considerable. If we could detect this correlation, then the economic policy could be redirected to enhance the relationship between economic growth and freedom. We shall proceed to analyse the microeconomic variables to understand the national economy at the macro-level.

III.19.xiii. **Household Demand and Purchases**

The demand of the household depends on a number of explanatory factors: consumer prices, past and present nominal incomes, the accumulated wealth of the household, expectations concerning the future etc.¹³ Let us consider all these factors as given and constant, so that we can express household demand as a function of a single explanatory variable, namely absence or presence of freedom. In Figure 1, we show the effect on the household demand and purchases as a function of absence of freedom.

Figure III.19.1

The Effect on the Household Demand and Purchases as a Function of Absence of Freedom



The demand of the
household sector = H_0

Its actual purchases = H

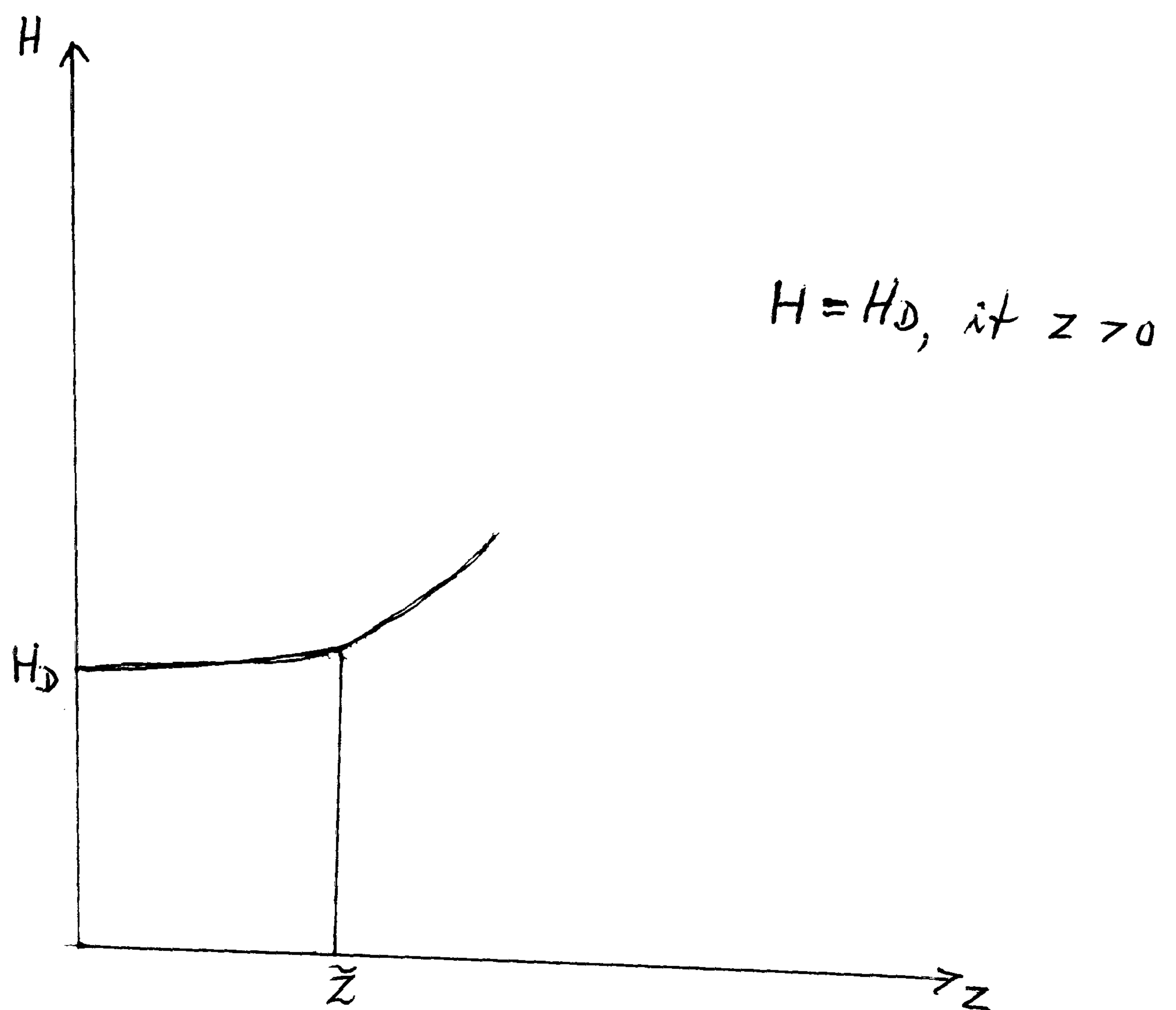
A critical 'absence of freedom'
intensity = \bar{z}

$H = H_0$, if $z = 0$

Household Demand and Purchases as
a function of the 'absence of freedom'.

Figure III.19.2

Effect on the Household Demand and Purchases as a Function of the Presence of Freedom



Household Demand and Purchases
as a function of the
'PRESENCE OF FREEDOM'

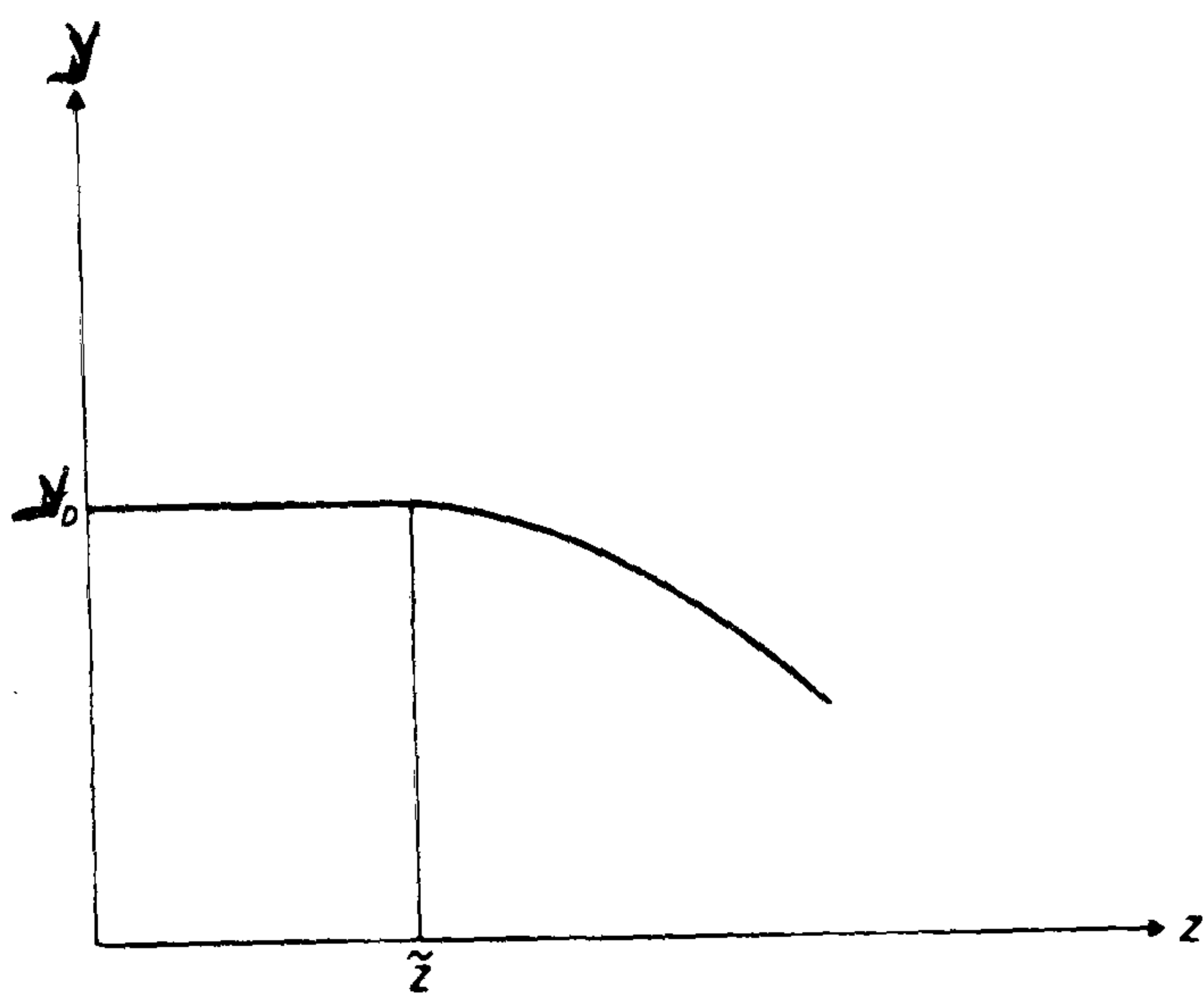
In Figure 2, we show the effect on the household demand and purchases as a function of presence of freedom. Let us denote the demand of the household sector by H_D , and its actual purchases by H . The freedom index is denoted by Z . In a regime where there is a conspicuous absence of freedom, the household demand and purchases fall because of the negativity approach to human living due to their denial of human rights and this in turn retards economic development. This is the experience of many under-developed economies. Therefore, it is imperative for the economies in transition to make sure that households experience a conspicuous presence of freedom as they go about fulfilling their economic activities. This is crucial because of the need to develop a positive approach to human living that would in turn give the oil necessary to ignite the engine of economic growth mechanism. During the transition period, this indicates that the household sector buys more than normal if presence of freedom is more intensive than normal, and conversely.

III.19.xiv. The Firms' Demand and Purchases

In a free-market economic model, firms' budget constraint is hard and therefore bind its purchasing intention. Survival of the firm depends on the rational decisions and choices. While this is a micro knowledge understanding of a firm's working dynamism, what we need to equally emphasize during the period of transition, is the necessity of creating a dynamic economic atmosphere where macro knowledge of freedom prevails for the entrepreneurs to engage in economic activities. As we have shown in the household's demand and purchases, we could depict the firm's demand and purchases as a function of absence or presence of freedom. Figure 3 shows the effect on firm's demand and purchases during a period of absence of freedom.

Figure III.19.3

Effect on the Firms' Demand and Purchases as a Function of the Absence of Freedom

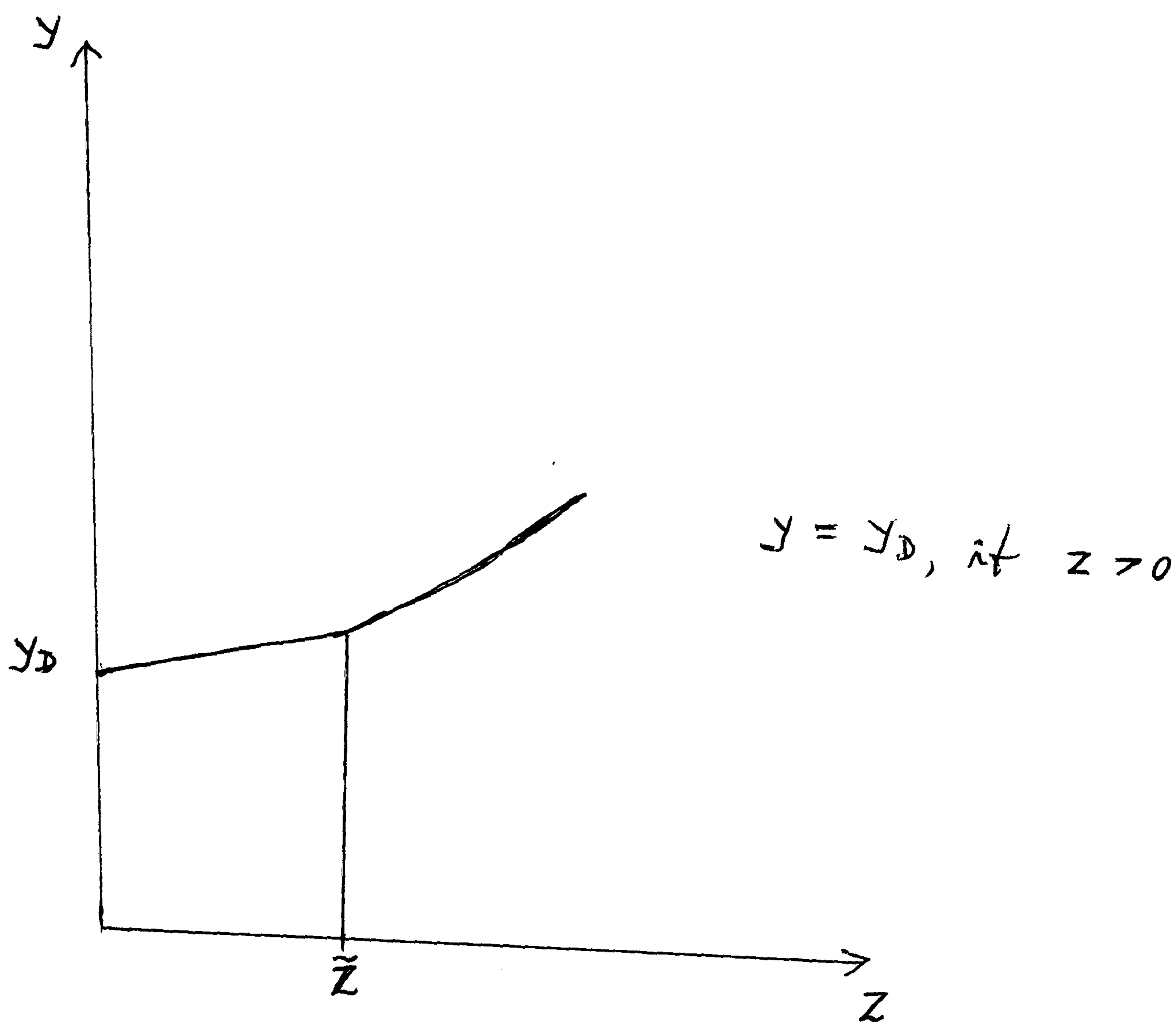


$$y = y_0, \text{ at } z = 0$$

Firms' Demand and Purchases as a
function of 'absence of freedom'

Figure III.19.4

Effect on the Firms' Demand and Purchases as a Function of the Presence of Freedom



FIRMS' DEMAND and PURCHASES
as a function of
'PRESENCE OF FREEDOM'

Similarly, we can show the effect on firm's demand and purchases during a period of presence of freedom, as shown in Figure 4. The resulting situation can be described as a positive correlation between freedom of the entrepreneurs and economic growth. The firm's demand for current inputs for production is rationalized but increases constantly in relation to the prevalence of free economic atmosphere.

From the theoretical point of view, there is a remarkable analogy with the familiar properties of demand functions as discussed in standard microeconomics.¹⁴ We have the downward-sloping purchases functions H and Y yet not as functions of the purchase price, but of a non-price variable, namely, the absence of freedom. The loss caused by the prevalence of the absence of the freedom is the 'price' the buyer has to pay. But during the transition period, this effect can be reversed by creating an atmosphere of freedom. Then, we will have an upward-sloping purchases functions and the non-price variable, namely, the presence of freedom will have a positive effect. The gain caused by the prevalence of the presence of freedom is the growth that the economy would be experiencing. The more intensive the absence of freedom, the higher this 'price' for development, therefore, the more the investor will refrain from his original investing intention. Conversely, as the intensity of the presence of freedom increases, the economic activity increases, and the economic growth would show an upward trend.

III.19.xv. Production

In our model, by *production* we mean the gross output; output produced to cover not only final consumption, but also the current inputs required for production. During the period of transition, there is a surge in the household demand for consumer goods as well as an increase in the firms' demand for inputs, especially as the economies in transition move from a tight centrally-command planned economy to a free-market economy. Though there is a general decline in the volume of production of goods and services in the initial stages of transition, as we have noticed in the newly formed republics of former Soviet Union and other East and Central European economies, we notice that production slowly picks up and economic growth becomes positive. This has happened in those

economies of transition where stabilization is pursued through democratic means. It is the macro knowledge of suffering for the newly won freedom that kept the transition going, rather than choosing for hasty options. The prevalence of political-social and economic freedom determines the production process. As a matter of fact, both explanatory factors, final consumption and current inputs, are adversely affected in a regime of production decisions where a conspicuous effect of the absence of freedom prevails. As impatient buyers press the producer to supply as much as possible and as soon as possible under a shortage economy of the socialist system, the same phenomena could be repeated in the initial stages of transition if the decision-makers do not give due weight to the macro knowledge of basic needs. During this cumbersome period, it is important to follow, on the one hand stringent stabilization policies and on the other hand, responding to the discontent of the public by turning the incompetent production apparatus to a competent production path. In this way, production grows as transition stabilizes and the result is economic growth.

We can notice a unique characteristic in the politics of the historical socialist regime, where, the politicians press the party-supporters to eliminate the enemies as many as possible and as soon as possible. This instilled fear that existed from top to bottom of this economic system crippled the people and their economic growth psychologically. During the period of transition a macro knowledge of reconciliation is to be introduced to replace this fear-complex which stifles any human growth (as is done in the new South Africa).¹⁵ As the absence of freedom coincides with the violation of human rights, the presence of freedom must not only endows people with human rights but enables them to regain the lost self-confidence. Though this is a political process, the economies in transition need to undertake this in order to put the production process in the hands of a confident nation. The social anarchy that we notice in many transitional, developing and developed countries is to be tackled by pursuing the macro knowledge of reconciliation between peoples of the various social strata of the population and between genders; this is imperative because of the nature of the social anarchy which leads to the destruction of the whole production process.

III.19.xvi. Investment

The analysis of investment is of prime importance in any discussion on economic growth models and is considered as the 'core' of the model. "It may not be exaggerating to say that all macro-theories that neglect a genuine investigation of investment effectively turn their back on the most important question."¹⁶ Investment is a dynamic process. The implementation of a project goes on for years and, therefore, a micro-level investment decision entails long-term obligations. This is why it is indispensable - even at the cost of some increased complexity in the model's structure - that we should try to represent the *lags* that characterize the investment processes and the associated production processes. This is particularly important in examining the growth problems of the economies in transition since, as is well known, the protracted implementation of investment projects would be quite frequent.¹⁷

The existing capitalist models of economic growth where investment plays a crucial role have been explained in the first section of our study. We have also analysed the socialist economic growth models where investment is considered as almost the only pillar necessary for development. Both of the economic systems considered the role of investment as crucial. Yet by following these models we could not bring about a better world. During the period of transition, the economies in transition, would be following a capitalist-market oriented growth economic model. As we have explained in section one, these models involve the introduction of a micro knowledge model which is based on physical capital, human labour, technological progress, human capital and research and development. We have been trying to develop the knowledge sector that resulted out of R&D. The existing R&D mostly concentrates on developing the micro knowledge sector. Our attempt here is to show the existence of the macro knowledge sector as *a priori* to micro knowledge sector and we try to synthesize both these parallel sectors in our model of economic growth. As is already pointed out and still not irrelevant for countries in transition that, huge investment is needed for capital formation and technology development. At the same time, recent research studies have shown that an equally huge

investment is needed for the formation of human capital. It is the formation and availability of human capital that is going to transform the countries in transition as well as developing and developed economies. We accept the new economic growth theories as has been explained in section one. Here, we shall not further elucidate those elements of growth economics. What we shall explain in relation with investment is the relevance of macro knowledge variables.

Economies in transition look for investment from internal and external sources. Capital flight from potential internal investors and investment into transitional economies from external investors remain as a paradox in the history of economic growth discussion.¹⁸ While capital flight has been huge, the external investment remained at a very low level in the transitional economies. As we have seen the positive or negative correlation between the household-firm demand function to the prevalence of the macro knowledge of freedom, we could also examine the phenomenon of investment within the background of the macro knowledge of freedom. Investment increases as the presence of freedom intensifies and decreases as the absence of freedom strengthens. As the stabilization process deepens, capital flight reverses into a form of re-investment. Foreign direct investment strengthens as the presence of freedom is concretised through democratic institutions. International assistance flows smoothly as the human rights record is straightened. On the whole, a general normal-ordinary prevalence of freedom is necessary for healthy growth of investment and thereby economic growth and development.

[In a sense, our model does not contain or explain the normal variables or elements of economic theory, like the aggregate capital, fixed and current assets, (and within the latter between input and output stocks). As regards fixed capital, it is represented by the well-known 'vintage' model. We do not aggregate fixed capital of different vintages, but treat each vintage separately.¹⁹ We assume that investments are only made by agents of market economy and are exclusively for productive purposes. All investments from other sources or for other purposes are disregarded. When we consider a single vintage, we note that the expenditure on each project has its own particular dynamics; one lasts longer, the other

one a shorter time; in one much expenditure is incurred at the beginning, in another in the middle of the gestation period, and so on.^{20]}

III.19.xvii. Investing in Human Capital

We shall make a few notes on the importance of investing in human capital. As has been discussed already, new research studies have shown that any economic growth depends directly on the formation of human capital and its availability. Development of technology and skilled labour result directly from investing in human beings. Therefore, investing in human capital formation could be considered as a dynamic investment which generates various forms of micro knowledge. At the same time it is important to note that human beings are not just a means to an end. They are an end in themselves. This teleological vision of a human person takes precedence over the mere objective of economic development. Therefore, while framing strategies for the formation of human capital, it should be done within the framework of the macro knowledge of freedom, democracy and human rights. While investing in human person enables one to grow and develop his/her potential, it must be done in an atmosphere of freedom. Coercive methods of human capital formation not only retards the economic growth but retards the dignity of the human person and thereby result in human rights violation. During the process of transition new educational and R&D policies must be framed so that the new generation may begin experiencing the prevalence of freedom in and out of the class rooms. This free thinking atmosphere is perennial to the strategies of human capital formation for economic growth.

We assume that technical progress is positively correlated with the human capital formation. While technical progress implies a constant rate of progress, it is the development of human capital that determines change in the employment and productivity *possibilities* latent in the techniques introduced by successive vintages. In reality, the *technical parameters* are not independent of each other. They grow together as human capital formation increases. Their interrelations are treated in detail in theories of production and growth. However, we do not deal with these interrelationships here.²¹ We

wish, with the aid of our model, to focus attention primarily on the development of the *volume* of investment. As the human capital formation takes momentum, the volume of investment increases in a free market economy.²²(ref. Barro) This is because of the endogenous nature of investment in a free market structure and the control that the prevalence of human capital can exert on the volume of investment. The deepening of human capital formation, technological progress and investment, during the period of transition, must happen within the prevalence of macro knowledge of freedom if it is to play a role in the progress of people oriented development.

The simple structure given above seems adequate for the present theoretical analysis, for it makes clear our main point about the solutionary growth path where a causal direction is described in the framework of macro knowledge to explain the necessity of integrating these new variables for economic growth and development. The inter-relations of the traditional economic variables and the new macro knowledge variables are appropriately interwoven into our model. Definitely, there would be many *signal-reactions* as we process this model into the transition-growth path. We could analyse the ‘signal-reaction’ that would emulate out of this model by following a mechanism of *feedback*. If we are able to read the signal-reactions, we could feed it back into the model so that the model could be corrected in case of necessity by a feedback praxis approach. Let us describe the feedback mechanism.

III.19.xviii. Necessity of Feedback Mechanism

We shall explain the feedback mechanism within the framework of the consumption function, investment function, and macro knowledge function. When we consider the *feedback* to understand the *consumption function*, we notice the following. In formulating economic policy, it must be taken into account that the population expects its consumption to rise, now and in the future, at the customary rate. Accordingly, the *first feedback* reflects the behaviour of the central economic policy-makers and planners. “If the growth of consumption remains below its usual rate, the scale of investment will be reduced so as to leave more of the national income for consumption. If, on the other hand,

the population 'lives too well', or the growth of consumption has accelerated unusually, larger volumes of investments can be started, since it is considered justified to divert some of the resources devoted to household consumption."²³ It can be verified empirically that this kind of feedback exists, though not necessarily in the very simple form that appears in the model. T. Bauer calls this kind of reaction 'a cycle symmetrical with consumption.'²⁴

When we consider the *feedback* to understand the *investment function*, we notice the following. The *second feedback* influences upper-, medium-, and lower-level decision-makers alike. It involves an understanding of the investment commitment. "If economic managers feel they have over-committed themselves in the past, they will now hold back new investment starts."²⁵ Above-normal shortage intensity therefore induces the decision-makers to restrain new investment starts. It is good to recall here the characteristics of the socialist system that we have discussed in section two of our study, and inquire whether socialist managers applied this feedback understanding into their economic decisions. When we consider the existence of an insatiable demand for investment goods in the socialist economies, the system-specific characteristics - like the expansion drive, and the concomitant investment hunger, and the lack of self-imposed limit, etc., - could be explained because of the insensitivity to signal-reactions and the inability to feed it back into the socialist economic system. In this socialist scenario, as we have seen, the volume of investment does not depend on the financial state of the firm's sector, its present and future profits, accumulated or additional savings, the condition of the state budget, or any expected constraints on sales. It would be a mistake to omit these factors from a growth model of a capitalist economy. The decision-makers and the policy implementers of the transition economies could apply this feedback mechanism of the investment function as they make investment decisions for economic growth.²⁶

When we consider the *feedback* to understand the *macro knowledge function*, we notice the following. The *third feedback* is based on the macro knowledge variables, namely freedom, democracy and human rights. "The positive experience of existential freedom, - by upholding democratic institutions, and by respecting basic human rights and by providing basic needs of the people - determines further growth." The negative experience

of freedom is detrimental to any growth. The integral economic development is directly related with the presence or absence of the macro knowledge variables. The household demand, firms' demand, consumption and investment functions etc. react positively to the prevalence of macro knowledge variables. As the macro knowledge variables are intensified, the economic growth takes an upturn, especially in economies which follow a transitional process.

The economies in transition as well as developing and developed countries must be sensitive to the signal reactions of the market as well as of the people. Responding to these signal reactions, after careful analysis of each issue, is important especially in the period of transition. Since this is a period of lot of experiments in socio-economic and political restructuring, this period is more vulnerable than in any other situation. The feedback mechanism enables the decision makers to respond to the signal reactions. What should be fed back into the system, how it should be done etc. are to be decided on the basis of macro knowledge variables.

III.19.xix. Employment

The fixed capital created by investment vintage starts and contributes and ends and this could be considered as the economic life of a fixed capital.²⁷ In this environment *labour demand* is determined by the job-creating effect of the various investment vintages, summing over the vintages in operation in a particular year. During the 'extensive growth period', as we have explained in the historical socialist regime, the labour supply-reserve could be considered practically unlimited. Accordingly actual employment, coincides with labour demand. Also as we have discussed, the 'intensive growth period' experiences the exhaustion of labour reserves. "It is a characteristic of the extensive period that while the market for products is a 'sellers' market' with chronic shortage, the market for labour is a 'buyers' market' with substantial labour reserves."²⁸

The economies in transition experienced a general decline in labour demand immediately after the collapse of the planned regime. Appendix III.19.4 gives details about the

problems related with labour demand; also it provides the number of official total employment and total unemployment in the transition countries. This is mainly due to the structural adjustment that these economies in transition were forced to undertake to transform their economies to a market economy. This is also due to the failure of the micro knowledge legacy of an economic system, where forced employment and irrational payment scheme kept a full employment model. In the new atmosphere of freedom, people choose to exercise their human rights by demanding the right wages and right atmosphere of employment. Transitional economies though fail initially to provide all these new demands, at least were able to provide a free atmosphere for the new economic system that would enable to address these demands in a more rational way. As investment environment is created through opting for the macro knowledge of freedom, employment opportunities too would rise in this same manner.

III.19.xx. Real Wages and Household Savings

The household does not react separately to nominal incomes and the consumer price level. Its decisions about spending and saving depend exclusively on their joint effect; that is, on real wages. (We disregard other types of incomes because we assume that during the early transition period the generation of other forms of incomes remain insignificant.) The normal value of real wage fund equals the initial real wage rate (i.e., the yearly total real wage per employee) multiplied by the growth factor of the normal real wage fund: The *per capita* normal wage fund multiplied by employment determines the normal real wage fund.²⁹

In the control of the real wage fund central policy on living standards and the pressure on real wages exerted by employees both have some effect. The actual real wage fund may deviate from its normal value as a consequence of a feedback mechanism. The logic of the feedback is then as follows: if in the previous year actual household consumption lagged behind its normal value, the present year's real wages would rise at a higher rate. The complement of the normal spending ratio of the household is the normal household savings ratio. In a socialist planned economy, this already includes a certain amount of

forced saving caused by shortage, since some forced saving occurs even at the normal level of shortage. "Household savings depend on the normal wage rate and its growth rate (these are exogenous parameters); in addition, savings depend on the adjustment of real wages determined by the difference between actual and of normal consumption paths, on employment, and finally, on shortage intensity."³⁰ Accumulated savings influence household demand and purchases. But as we have seen in our analysis that the socialist model is motivated by investment at the expense of consumption and saving. Above all, wages played only a passive role.

In our model, we place wages and household savings as playing a crucial role. The economies in transition need to develop financial institutions which would stabilize the economy in general and would help mobilize savings of the household for economic reconstruction. This is possible again within the framework of well-knit democratic institutions where free movement of stocks and assets is possible, as in a market economy. Savings is the key player in the transition period because of the nature of the household consumption at this stage.³¹

III.19.xxi. Input-Output Relations

Let us examine the relation of input-output in our model. If we had been content merely to use the standard macro-equation, $Y=C+I$ (national income is equal to consumption plus investment), with investment treated as exogenous, the model would certainly be much simpler. But then it could hardly be used satisfactorily as a description of the internal motion and regulation of economy, or for analysing interrelations between short-and long-term changes. Nor would it be suitable for demonstrating the specific inertia of the investment process, resulting from its characteristic reaction lags.³² In our analysis of the relation between input-output, the production/labour ratio could be termed as *technical productivity*. The determination of technical productivity depends not just on the availability of labour and technology, but as we notice in the economies of transition, it is very much related with the incentives that are provided in a free market economy. The feedback mechanism enables us to correct this measure of technical productivity; for

instance, according to whether the actual demand for goods and services is stronger or weaker than normal. In a planned socialist economy, if it is stronger, productivity declines because of the frequent disturbances in materials and spare-parts supply, technological improvisations entailed by forced substitutions, etc. This need not be the case in a transitional economy where market forces play a crucial role. If the demand for goods and services is stronger, productivity increases in a capitalist economy because of its ability to respond to the signal reactions in the market and its willingness to feed it back into the economic system. In this scenario, the technical productivity adjusted to allow for the real effects on demand could be called as *above-standard productivity*. We recall the fact that standard productivity, multiplied by actual employment, determines normal production.³³

III.19.xxii. Stocks

It is useful to explain here the importance of distinguishing between output and input stocks. This is not a distinction related to the physical properties of the product, but it is concerned with *who disposes* of the stock: whoever produced it as an output, or someone else wanting to use it as an input. As one of the properties of the model, we want the ‘interactions between stock and flow variables to be displayed consistently in the model.’³⁴ Therefore, in contrast to many other models, we strictly separate production and sales on the output side, and purchases and use (productive consumption) on the input side. This separation in terms of flow variables is reflected in the stock variables, by their separation into two different stocks: the output stock is inserted between production and sales, and input stocks come between purchases and productive consumption. Although in practice this separation is not always easy to make, experience suggests that it is not impossible.³⁵ Output stocks and input stocks play different roles in the signal system of the economy. The control of production responds to output stocks, while the control of purchases responds to input stocks. In different socio-economic systems we can observe fundamentally different regularities in the ratios of output and input stocks. In the socialist economy we note that conditions of ‘suction’ prevail: ‘pulling out’ the output stock from the warehouses of the producer-seller.³⁶ Under conditions of ‘suction’ output stocks are

usually no more than the minimum quantity implied by the time necessary to complete transactions, plus a barely saleable frozen stock. As opposed to this, input stocks are large as a consequence of the hoarding tendency stimulated by shortage and other characteristics of the socialist economic system. In a capitalist economy (on average over the cycle) the proportions tend to be different. The system is demand-constrained, and this may lead to the expansion of output stocks. At the same time, material purchases and the supply of other inputs are quite smooth; therefore, it is not usually necessary to hoard input stocks. (The capitalist firm may try to hoard input stocks if it expects a rise in input prices.) The above propositions are supported by empirical data, but they can also be confirmed by deduction from the behavioural regularities, that assert themselves in the two different mechanisms. Appendix III.19.5 shows that the share of output stocks in total stocks is two or three times larger in capitalist countries than in socialist countries. This is a guide to the transitional economies, as they try to integrate the macro knowledge variables. The economies in transition, as they follow market mechanisms, would have to follow the capitalist economy approach to stocks.

The characteristic element of *competition* is introduced into the model. During the period of transition, as the household's and firm's demand and purchases are subjected to the mechanisms of the market, it is natural to notice the emerging competition among the households and firms for goods and services. Here, we must draw attention to the fact that an *explicit 'rationing scheme' is not built into our model*. (During the transition period, though, there exists a rationing scheme). The share of consumption is greatly influenced by the two main distributional parameters in the model: the initial real wage rate and the normal growth factor of the real wage fund.³⁷ The share of accumulation is affected by a series of parameters: the normal growth factors of the investment volume and of the investment commitment, stock norms, etc. Aside from the effect of these parameters the "various feedback mechanisms functioning in the model ensure that the allocations cannot deviate persistently from its normal proportions."³⁸ If too much output is allocated to one area in some year, feedbacks ensure that in the following year less should be allocated there, and more to other areas. This kind of autonomous movement, including internal control mechanisms, takes place in our model. (We note that our macromodel can only

illustrate the extremely complicated reality in a very simplified way.) However, in connection with ‘autonomous movement’ and ‘internal control’, we must be beware of a ‘decentralized’ and one-sided interpretation of these concepts. In constructing the model we consider the economic policy-maker, the planner, and the central manager as endogenous parts of the system. Thus the behavioural regularities and feedback mechanisms described in the model represent the combined reactions of all the levels participating in multi-level control.³⁹ The above analysis enables the economies in transition to introduce their own ‘autonomous movement’ and ‘internal control’ that would fit with the new principles of market mechanism. Following the macro knowledge dimension of our model, it would be appropriate to introduce the various forms of micro knowledge as an autonomous movement based on the macro knowledge variables of internal control, that would lead the economy into a growth path.

III.19.xxiii. The Conditions for the Existence of a Growth Path

We have reached the end of the description and interpretation of the model. The micro knowledge and macro knowledge variables have been interwoven into the transition growth path. What we want to show now is that “the system is able to move along a feasible path and to grow.” This is possible if the following conditions are met. (Since we do not follow an econometric model, these conditions are to be understood theoretically. In mathematical form the model would be a set of non-homogeneous difference equations.) The system follows a *feasible path*, if each of its variables assumes a non-negative value for each year $t \geq 1$. This can be shown by considering a system that follows the *Harrod-Neumann path*⁴⁰ (the N-H path), if each of its reproducible stock and flow variables grows at a uniform and constant rate, (that is: volume of investment vintage, production, firms’ purchases, household purchases, output stocks and input stocks) and where the *general growth factor is* > 1 . (The system follows a normal path if the actual value of each control variable equals its normal value.) The name *Harrod-Neumann path* derives from the fact that it was Harrod for aggregate models, and von Neumann for disaggregated ones, who developed the pioneering models whose most characteristic

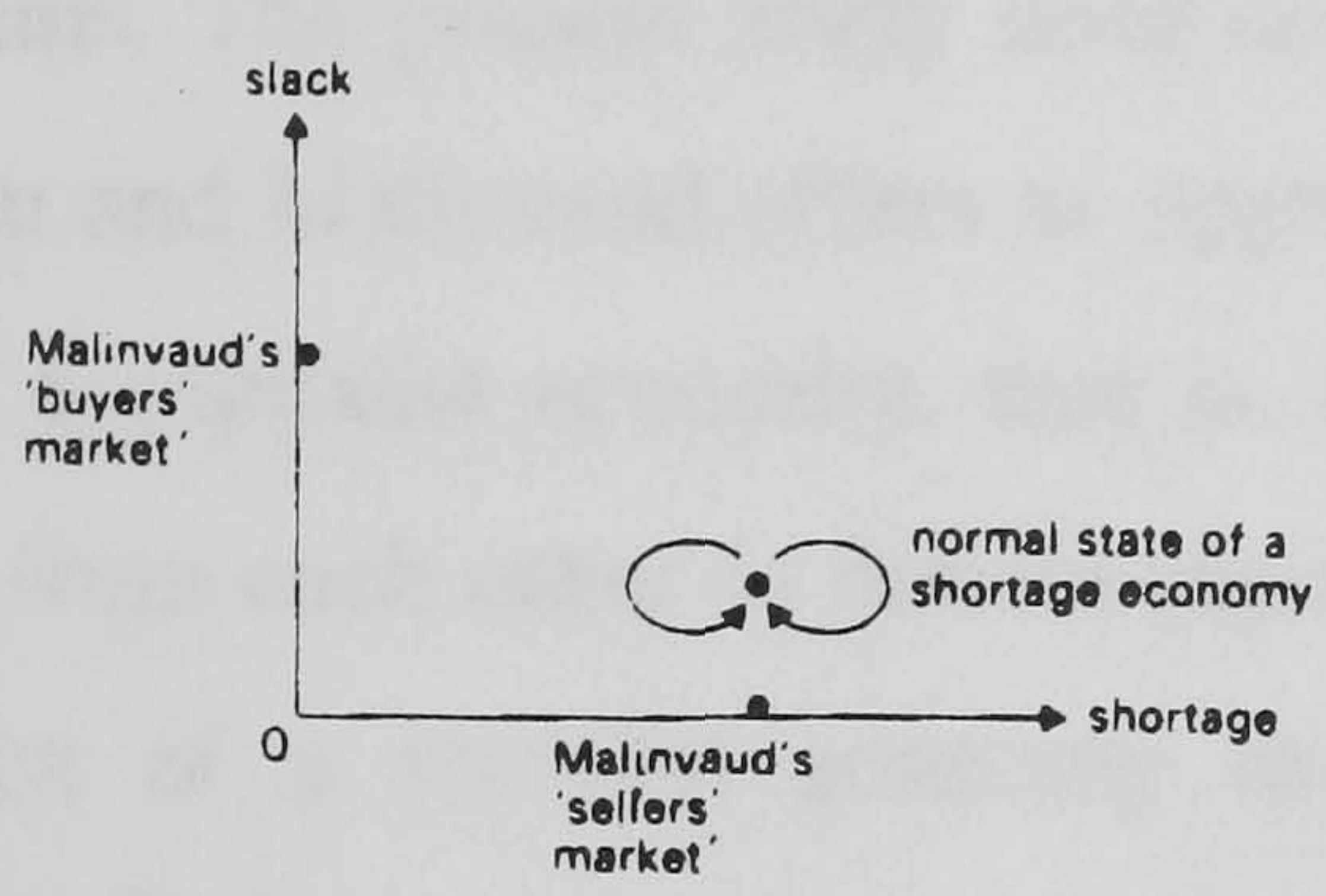
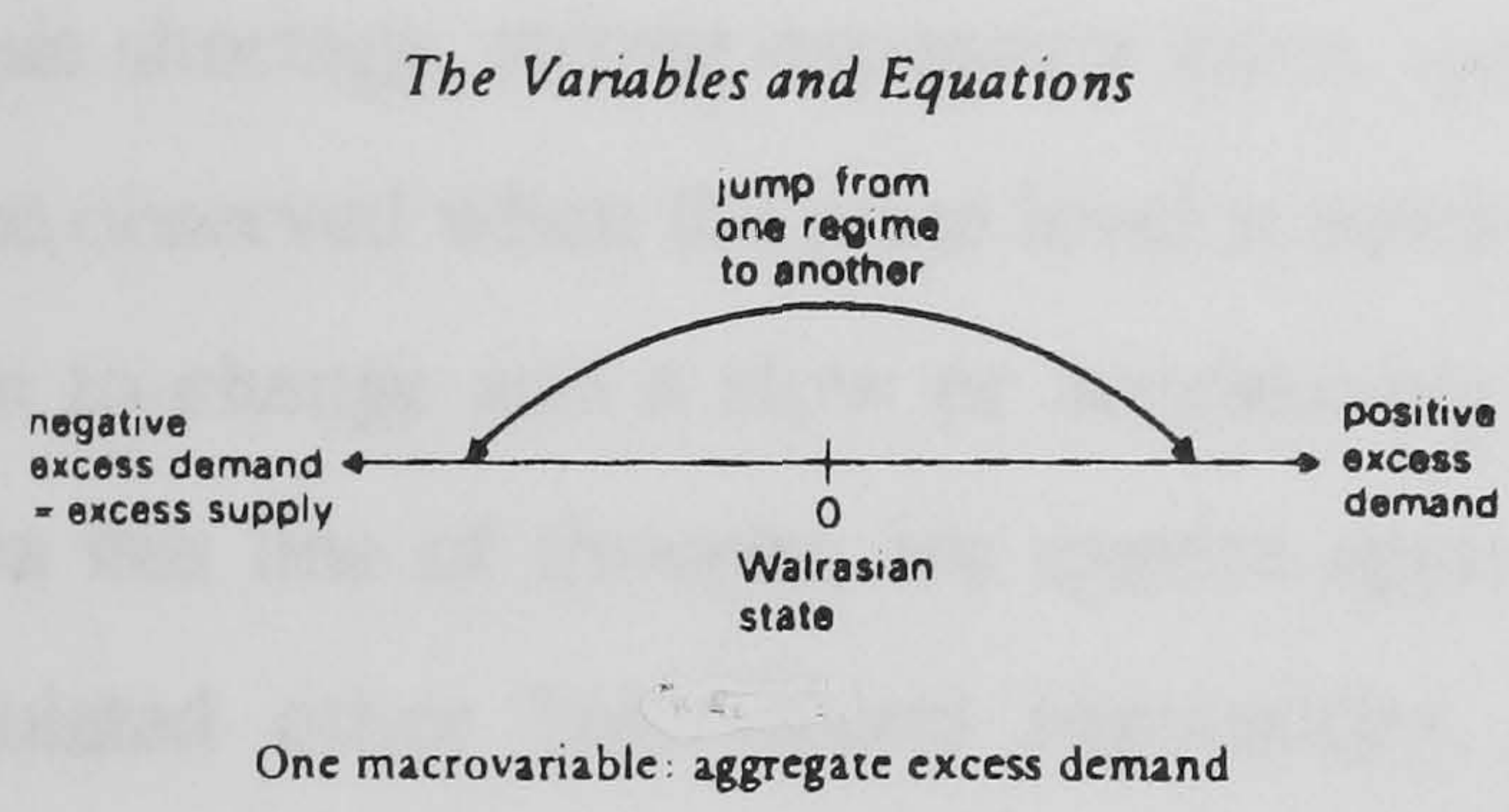
common feature is growth at a constant rate. As production and capital in Harrod's model, and as the production of all sectors in von Neumann's model grow at a uniform and constant rate, so, in the framework of the present model, all production, investment, trading and stock variables grow at a uniform and constant rate, when the system moves along the Harrod-Neumann path. The following proposition can be made. "Given the assumptions of our model there exists a feasible normal path and the normal path is necessarily a Harrod-Neumann path." It is the *specific property* of our model that its normal path is an H-N path. The underlying economic assumption is as follows: "We wish to use our model to describe a system in which a uniform rate of expansion of investment activity, and thereby economic growth, is regarded as normal during the period of transition from a socialist economic system to a capitalist economic system. Ultimately, this is possible, if and only if, the economies in transition opt to integrate micro knowledge and macro knowledge variables. It is especially the macro knowledge variables of freedom, democracy, and human-rights which would lead the many other normal variables in this growth model (and, under certain conditions, all of its reproducible stock and flow variables) along the Harrod-Neumann path." As we have shown in our model, the uniform and constant growth of the economy depends on the positive presence of macro knowledge variables. Even if the other micro knowledge variables deviate in the initial stage of transition from the growth path, (as we have noticed in our earlier analysis) as the intensity of the macro knowledge variables is felt, a convergence path emerges and ultimately becomes a H-N path.⁴¹

Another condition, in the language of our model, expresses the fact that 'technical progress is Harrod-neutral.'⁴² This means that a unit of investment creates fewer jobs from vintage to vintage, and this is compensated by the fact that productivity is higher for each newly created job than for the jobs created by earlier vintages due to the increasing intensity and prevalence of the presence of macro knowledge variables. Therefore, as the transition dynamics takes momentum, the incremental 'output-capital ratio' is constant. In other words, the ratio of the output-increment which can be produced by the investment vintage, to the estimated investment expenditure required to complete the investment vintage is constant over time. Harrod-neutrality also indicates that technical progress has a

'labour-augmenting' character. On the normal path the growth of the reproducible stock and flow variables (general growth factor) is equal to the product of the growth factor of the non-reproducible resource (that is of the employed population), and that of productivity.⁴³ Another condition that we should note is that the growth factor of the normal real wage rate must be equal to the growth factor of vintage productivity. This is necessary in order that along the normal path total household consumption should grow in accordance with the general growth factor.⁴⁴ These conditions support our proposition of the existence of a feasible normal path which has Harrod-Neumann properties. At the same time we note that macro knowledge variables as control process determine these movements.

Another characteristic of the nature of the model is that macro-variables represent collections of millions of microsignals.⁴⁵ In recent years it has become increasingly clear to theoretical economists that non-price signals play an important role in economic systems. In the present model, we have been trying to take a step forward by formalizing, in the framework of a macro-model, the generation of non-price signals and their 'feedback' as part of the decision control process. In this sense, within the scope of our model, the terms, 'normal path' and 'non-Walrasian long term equilibrium' are synonyms.⁴⁶ (It has to be recognized that value-judgements are bound to be associated with the concept of equilibrium: equilibrium is 'good', disequilibrium 'bad' in the eyes of most people, within or outside the profession. On the other hand, the terms 'normal state' or 'normal path' seem to be free of any value-judgement; that is, neutral.) Given the non-Walrasian character of the system, it is appropriate to comment on Malinvaud's diagram.

Figure III.19.5
Malinvaud's Diagram



It is an intellectually attractive experiment to present different 'regimes' on the same diagram, as different points in a given co-ordinate system, or as definite regions of the co-ordinate plane. Malinvaud identifies in his diagrams points or areas corresponding to Walrasian equilibrium, Keynesian and 'classical' unemployment, etc.⁴⁷ In this scenario, when we consider a socialist system we notice the following. "A semi-monetized economy in which prices and money do not genuinely influence the macrovariables of production, investment, and employment cannot properly be described in terms of its money being stable or inflated, or price increases being repressed or permitted."⁴⁸ The main characteristic features of this system, as we have summarized earlier in our study - chronic shortage, strong expansion drive, quantity drive, unrestrainable investment spirit - can be observed when the price level is stable. But they would also persist if the price level began to change and a slow or accelerating inflation evolved. Since our model does not follow this line of thought, we cannot apply Malinvaud's approach. Therefore, we have formulated other behavioural regularities, other signal systems, and other feedback mechanisms. The present study does not attempt to judge, whether the model of Barro, Grossman and Malinvaud offers an appropriate way of distinguishing between alternative states of a capitalist economy, that is, for developing a typology of capitalist 'regimes' differing from each other in certain essential features. It seems certain, however, that the description of a socialist economy can hardly be pressed into the same theoretical framework.⁴⁹ Since we concern ourselves with transition growth path, we shall try to understand the mechanism of the control and stability of our system in order to establish a feasible normal path.

III.19.xxiv. Control and Stability

...We advance the proposition that a feasible normal path exists in our system. Yet the structure of the model allows the system to move along other paths. 'Whether or not the system follows the normal path depends on the control process.' The model can be reformulated according to the standard terminology of mathematical control theory, but here we limit ourselves to the descriptive model that we develop. "Controllability means

that whatever state the system is in, there is a path for the control variables which drives the system to any assigned feasible state within a finite time period.”⁵⁰ Such an assigned state could be an appropriate point along the normal path. In this case controllability means that, if the system departs from its normal path, a suitable choice of the control variables can help to drive it back to the normal path within a finite period. The macro knowledge variables push it into the normal path.

We shall make an endogenous description of the control. A considerable volume of literature on growth theory deals with the question of control, yet in most cases the analysis is conducted ‘outside the model.’⁵¹ Therefore, these are not ‘fed back’ into the model: they do not act as feed back signals. The present model tries to take a step forward in this respect. As it evolves over time, the system itself generates signals which, ‘fed back’ into the same system, will influence its subsequent development. If it has any merits, it is rather the undertaking itself: to build a growth model with endogenous control of real process; and in such a way as to model the interactions between long and short-term control.⁵² The desirability of intensifying research along these lines has encouraged our present attempt. The division of the knowledge sector into micro and macro knowledge sectors and integrating the variables of both these sectors into an endogenous model of economic growth has been our main objective. While micro knowledge variables have been traditionally developed and endogenized into the growth models, macro knowledge sector remained an ‘outsider’. Though recently there has been an openness and attempt at speaking about the macro knowledge variables of freedom, democracy, human rights, etc. in the economic development discussions, no model has been developed yet along these lines. Our attempt at endogenizing the micro and macro knowledge variables into economic growth models would encourage further research into this area.

III.19.xxv. Control by Norms

The macro knowledge variables could be considered as *norms* that control the dynamism of an economic growth model, especially in the period of transition. In this sense, our model presents a specific form of control, which we call *control by norms*. “Studying the norms gives us a profound insight into the nature of the system. If we really know what is regarded as ‘normal’ in a system, we know quite a lot about that system.”⁵³ In our analysis of the historical socialism we have come across various *norms* that control its economic system. Generally speaking, those norms were anti-macro knowledge socialist principles. Our analysis of the macro knowledge variables helps us to understand this phenomenon as an ‘insider.’ *Norms are fixed by habit, convention, tacit or legally supported social acceptance, or conformity.*⁵⁴ In this sense, they are cultural and conventional and part of macro knowledge. They tend to perpetuate themselves, and the longer they are valid, the more deeply rooted they become; the inertia of society then ensures their effectiveness over an extended period. This has been the core problem with the developmental economics thinking. The economists were developing model after model based on the variables of micro knowledge designs. Even when the various applied micro knowledge designs were discarded or pronounced ineffective, by the macro knowledge standards, they continued in the same path. Here, macro knowledge encounters pseudo-macro knowledge through the medium of micro knowledge.

Our working hypothesis is as follows: ‘in a given historical period social norms are unchanged over time.’⁵⁵ Of course, this does not mean that they are, in the mathematical sense, uniquely defined. If they appear in the model as uniquely determined constants, this is only for the convenience of model construction. In practice, we ought to formalize them rather as intervals or as means of probability distributions. Norms are not fixed for ever, and sometimes they can change rather dramatically. This is what we experience in the emergence of transitional economies particularly. If that happens, it indicates a transition to a qualitatively different period, or, to another ‘regime.’ The logic can also be reversed: the constancy of the most important norms can be regarded as a basic criterion for periodizing history for constructing the typology of different ‘regimes.’ This is an

important task all economies should undertake irrespective of the level of economic growth and development. This praxis approach would allow economies to see for themselves past-present and future trends in their own history of economic development. Based on this experience they would know the macro knowledge variables that promoted their economic growth and those variables that retarded the process of development. They will know what to keep and what to reject for the purpose of integral growth and development. But for J. Kornai, “In this approach to social phenomena, we do ‘not ask’ what is useful, what is desirable, or what is optimal. We merely enquire about what *exists*. What is normal, ‘regular’, and ‘natural’ about this system? This is the typical way of formulating a question in a descriptive-explanatory theory.”⁵⁶ This existential approach of economic theorizing must be complemented by a readiness to reject concretely those norms that do not enhance the process of growth and development. This is what we have witnessed in the collapse of socialist regimes. The economies in transition are designing a new norm based on the macro knowledge systems of each nation and this is an ongoing process which policymakers must be aware while formulating policies for national development.

One of the attractions of this approach is that it suggests obvious possibilities for testing the theory empirically. Norms can be recognized, first of all by observing the means and trends exhibited by time series and cross-section data on various recurrent phenomena or on phenomena occurring in a number of different places. Of course, not all mean values should be regarded as norms. “A mean is justifiably treated as a norm only if there exists some control mechanism that drives the actual value of the variable toward its normal value.”⁵⁷ This idea introduces us to the subject of the stability of control that would be introduced by the policymakers. The model presents the joint outcomes of decision processes taking place at all the upper and lower levels of control, and does not separate the influence of the democratically elected central government from that of lower-level decision makers. During the transitional stage this form of stability must be achieved at all levels by the co-ordinating effort of legislative as well as executive measures. As for the resulting joint effect itself, the model describes it in a deterministic framework. The control process responds to the impulses affecting it by applying certain ‘rules of the

game.’ Reality, of course, is much more complicated than that. First, the effect exerted by the new central governments of economies in transition do not directly merge with the other components of control immediately; but their role is exceedingly important and responsible. Secondly, neither the centre, nor the lower-level decision-makers are mere executors of given rules, since they all have some scope for choice. As the scope for choice increases, the macro knowledge variables of freedom, democracy and human rights play a crucial role in determining policies for economic growth and development. While this control mechanism could assist, it could also inhibit the process of economic growth if there exists any conflicting interests.⁵⁸ The formulation of our model could be used for an examination of certain features of behaviour in the fields of economic policy and planning. During the transitional stage it would be appropriate to follow a praxis approach of observing, analysing and applying the macro knowledge variables of each nation to its chosen dynamic models of economic growth path.

III.19.xxvi. Examination of Stability

An examination of stability is suitable to understand the movement of an unstable economic growth path to a stable economic growth path or to understand the process of converging to the equilibrium path. Although the concept is borrowed from the mathematician’s vocabulary, stability in this sense is also of great importance for theoretical economics. In the framework of the model “an examination of stability answers the following question: do the control rules and the behavioural regularities formulated in the model guarantee that the system, having once departed from the normal path, will eventually return to it or approach it? If the answer is negative, it is doubtful whether there is any sense at all in talking about norms, normal values, or a normal path. If the answer is positive, and the system is stable in a wider or narrower sense, the use of these categories is both sensible and justified. Then can we say that the norms are asserted. The actual path is close to the normal path, fluctuates around it and cannot completely break away from it.”⁵⁹ As we have noted in our analysis, that the socialist economies swayed away from the equilibrium path notably because of the inability to integrate into their economic system

the macro knowledge variables. If we already have some understanding of stability conditions, it is also useful for us to know what can cause 'instability.' For example, what constellations of parameters lead the system, once it leaves the normal path, never to return to it? The economies in transition could converge to a stable economic path as the stability conditions grow deeper into its new systems of transformation in the socio-political and economic regularities.

After these introductory remarks, let us now examine the stability of our own model. The difficulty of making precise statements about the stability of 'imperfectly behaved' multivariable dynamic systems is well known.⁶⁰ What interests us is precisely the effect of feedback. Feedback is said to improve control if it is operative. With the introduction of suitable feedback this type of stability remains and 'convergence is accelerated.' If, for example, something causes the system to depart from its normal path, it will return to it more quickly with feedback than without it. The stability properties of the model are worth further study, with both analytical and simulation methods. In any case, nothing can be said that prevents us from using the model. The concepts of 'norm' and 'normality' can be interpreted within the framework of the model, since the control mechanisms built into it are - at least for suitable parameter values - able to keep the motion of the system in the neighbourhood of its own norms.⁶¹ For the economies in transition, this means that the feedback parameters must be based on the macro knowledge variables which constitute the framing of a workable norm.

III.19.xxvii. Remark on Methodology

We shall make an additional remark on methodology. In economic applications of mathematical control theory the following line of thought is usually pursued: "The description of a real sphere is given. Furthermore, the sets of economic policy targets and instruments are also given. The question is then to determine the control rules that best serve the given economic policy objectives. The control equations of the model are not specified in advance, but their determination is exactly the 'result' of the research."⁶² Accordingly, it is unnecessary to ask whether the control has such desirable properties as stability, rapid convergence etc. Of course it has, since the researcher was seeking a

control for which he postulated in advance that it should have these properties. This is the *normative* approach to the modelling of economic control. Yet we wish to develop a *descriptive approach*, in which the corresponding train of thought goes as follows: We observe in reality and seek to describe in the model not only the real sphere but also the control sphere. The model of the latter must reflect-in more or less detail- the way in which control takes place in reality. What are the decision rules, and how and to what signals do the decision-makers react? The composition of place that we have designed in the beginning of this section could be described as a real sphere while the control sphere would be the macro knowledge variables.⁶³

Thus, during the period of transition, we could build into the model some equations reflecting to some degree the empirically observable control mechanism, and then ask how the system functions and study its stability properties. We do not put the rabbit in the top hat beforehand just to be able to pull it out triumphantly afterwards. We do not construct a control block knowing in advance that it could ensure stability. But what we would like to do is to describe the existential economic reality and then introduce the macro knowledge variables as a control system that would bring about the stabilization and that would put the economy into the path of economic development. In the circumstances, therefore, our stability results must be considered all the more valuable.

Finally, the most important property of the model is the way in which it describes the economies in transition. What happens in the system depends on the economic management. The philosophy of the present model enables a new venture into economic management. The operation of the economic systems of the republics of former Soviet Union, Eastern and Central European countries, reveals some characteristic regularities. They are democratically elected governments and therefore represents the public aspirations for a better economic management. There is a general consensus among these people about the need of a market economy. This new awareness is built upon the macro knowledge system of each nation. Therefore, at each level of decision-making "the behaviour of the decision-maker is in a certain sense 'regular': definite impulses and signals lead to definite consequences."⁶⁴ At the time of the collapse of the socialist regime,

the decision-maker was the people and their collective will. During the period of transition it is the responsibility of the newly elected governments to bring about the necessary transformation. In this sense, the governments are not lifeless screws in a piece of machinery. They have a choice and a responsibility. The economies in transition would succeed or collapse according to the fulfilment of their choice and responsibility. Therefore, the economic policy and planning operate on an economy-wide basis and exert extremely strong social effects particularly during the period of transition.

That is why two different approaches are necessary in economics: the normative and the descriptive. Normative models have a say in economic policy and in the determination of national economic plans *before* definite decisions are made. They help to reveal the alternatives for choice and to forecast the consequences of decisions. On the other hand, for the descriptive-explanatory theory a series of *past* decisions is already available: by analysing these, it tries to discover whether they exhibit any common regularities.⁶⁵ What our model has to offer in this respect is only partially satisfactory. We need to develop an in-depth transitional analysis to see a better description. What is really important is actually to undertake the task of describing, with a formalized theoretical model, the internal regularities in the growth of a transitional economy under the guidance of the macro knowledge system. This would result in the integration of micro and macro knowledge sectors in the process of economic growth and development.

III.19.xxviii. Comparative Perspectives

Here, we shall clarify clearly the perspective that our model develops. Our objective is to develop a complementary model that would enhance the growth models that we have designed in section one of our study. Therefore, our perspective does not deviate from the relevant determinants of economic growth; rather we stress the need to have a strong physical capital accumulation, technological progress, human capital formation. Our model has no reason to compete with other models which have proposed these determinants of economic growth. Our model differs only when regimes opt to accumulate the ingredients of economic growth at the expense of democratic principles based on the macro

knowledge of freedom and human rights. A comparative perspective based on a general scenario of economic growth may be useful.

The description of our vision-solution growth model challenges the prevailing perception of alternative options of development. Often while raising the eye-brows, politicians debate the issue of freedom; economists the issue of economic growth and development. While some critiques opt for development under any form of political structure, others abhor it. Anti-critiques of these proponents suggest freedom first, followed by economic growth.⁶⁶ As our model suggests, what we need is a closely knit parallel structure. It is neither thesis-anti-thesis or critique-anti-critique scenario. Somehow, a few economists have developed the view, either under pressure or as a beneficiary of the system, that under military-dictatorial regimes and distorted political structures, economic growth is possible. And they point to East-Asian tigers or dragons as examples.⁶⁷ This is a distorted understanding of the Asian development strategies. This is an unacceptable legitimization of oppressive regimes. If such political structures were so benevolent, how is it that people rejected such structures and their leaders. If we want to understand the Asian development strategies, it would be better to look into their cultural legacies, rather than branding the regimes with a narrow rod of measurement and upholding it as victorious. As social scientists, economists and other academicians have a duty to correct these mistaken acceptance of such regimes as an excuse for promoting development. As we have seen in our analysis of former Soviet Union, East and Central European states, merely judging economic performance on the basis of published data would not bring out the negative social cost of publicized success stories. Should we continue to promote such regimes as models of economic growth and development? Lessons from history point to the opposite. Intolerable human suffering and environmental catastrophes that we have had during this century under these wrong regimes cannot be supported even in the name of economic development. The question is: *development for whom?* If it is for people and human good, it is time that we firmly design models that would engage in a form of dialogue between development and freedom, democracy and human rights. This is the new path suggested by the United Nations Development Organizations and other non-governmental grass-root, and international organizations

.The new philosophy of political economy is based on these macro knowledge determinants of growth economics. Eastern Europe has opted to be on this growth path. "If Eastern Europe successfully negotiates development, willingly accepting the necessary austerity that the process calls for, without recourse to authoritarianism, then the implications for the rest of the globe will be enormous. Knowledge that economic success and political liberty can together grow from the otherwise unhappy condition of underdevelopment will be greeted with great acclaim."⁶⁸ We have followed in our research this new direction of the political economy. This new direction has to be strengthened by the following internalization strategy of development.

III.19.xxix. **Primary-Secondary-Tertiary Growth Path**

Our solutionary growth path has attempted to integrate micro knowledge sector and macro knowledge sector into the general framework of a knowledge sector as a component of economic growth. While various forms of micro knowledge have been developed by economists concerned with the theory of growth, there was really no attempt made on the macro knowledge sector. We design the solutionary growth path by giving particular attention to the macro knowledge sector. Throughout our study we have noticed the almighty power of macro knowledge. Therefore we could consider the macro knowledge variables of freedom, democracy and human rights as primary solutions in our solutionary growth path. Any people-oriented development path has to be treaded on these new crucial variables. As the economy is set on the primary solutionary path, there emerges the secondary solutionary path. The role of privatization, stabilization, liberalization, and legalization are to be concretized through the implementation of land reform, investment initiatives, provision of employment opportunities, etc. Once the economy is set on the secondary solutionary path, there emerges the need for tertiary solutionary path as a supportive system to the primary and secondary paths. The role of conscientization process, empowering mechanism, and welfare dynamics could be considered as tertiary solutions at this stage of development. We cannot explain here these dynamics in detail. The conscientization process could be described as an immersive educative dynamics whereby people become more and more aware of their rights and

responsibilities as a citizen; this in itself could be described as a mechanism of empowerment. Welfare dynamics need to be designed according to the fulfilment of people's duties and responsibilities. The primary, secondary and tertiary solutions just described could be expanded and interpreted according to the demands of the economies in transition and the various stages of development of developing countries.

The new model of solutionary growth path that we have developed enables us to understand the process of economic development from one's own culture. There is no imperialist or colonialist or utopian ideological approach. (The economic theories of Adam Smith, Ricardo, Malthus, Marx and Keynes, while on the one hand enlightened the interrelations and complexities of economic dynamism, on the other hand they have helped to justify the creation of a culture of colonization and enslavement and exploitation of the many, of the human and non-human resources, for the economic advantage of the very few.) The process of understanding the dynamism of applied economic and non-economic variables must happen, if integral development is the objective of a nation. Though we have placed enormous emphasis in our model on macro knowledge variables, a word of caution is necessary. Our development efforts would be futile if the macro knowledge sector is not sufficiently supported by the introduction of micro knowledge sector. The economies in transition in their early stage though lag in investing in R&D, they must give a special consideration in developing R&D particularly in the key sectors of production. The role of R&D is crucial not only for developing various forms of micro knowledge but it helps tremendously to strengthen the macro knowledge variables. The knowledge sector of every nation is composed of micro and macro knowledge sectors. The understanding of the macro knowledge sector and the development of micro knowledge sector as the new engines of economic growth would determine the further pace of the development of nations.

NOTES

1. Kornai, Janos, "Growth, Shortage and Efficiency: A Macrodynamic Model of the Socialist Economy," tr. Ilona Lukacs, Basil Blackwell, Oxford, 1982, p. 124.
2. The New Growth Theory (NGT) is associated with the various authors as we have mentioned in Section One, and their research papers, published recently, in various Economic Journals. Here we mainly follow the research papers, notably of Paul M. Romer.
Romer, Paul M., Increasing Returns and Long-Run Growth, The Journal of Political Economy, vol. 94, 1986, pp. 1002-1037.
Endogenous Technological Change, The Journal of Political Economy, vol. 98, 1990, pp. S71-S102.
3. Romer, Paul M., "Endogenous Technological Change," op. cit., p. 72.
4. See, Assar Lindbeck, "Stabilization Policy in Open Economies with Endogenous Politicians," American Economic Review, 66, 1976, Papers and Proceedings, 1-19.
5. Kornai, Janos, "Growth, Shortage and Efficiency," op. cit., p. 7.
6. Human Development Report 1992, United Nations Development Programme (UNDP), Oxford University Press, Oxford, p. 26.
7. Human Development Report 1992, UNDP, op. cit., p. 27.
8. Ibid.
9. For details about the notions of freedom and other related issues, see, Puthenkalam, John J., "The Comprehension of Freedom: Eastern and Western Ways of Thinking," Excalibur Press, London, 1995.
10. Human Development Report 1992, UNDP. op. cit., p. 29.
11. Ibid., p. 32.
12. Human Development Report 1992, UNDP, op. cit., pp. 32-33.
13. Kornai, Janos, "Growth, Shortage and Efficiency," op. cit., p. 24.
14. Ibid., p. 29.
15. The democratically elected government of South Africa designed a policy of reconciliation rather than to punish the apartheid defects and failures.
16. Kornai, Janos, "Growth, Shortage and Efficiency," op. cit., p. 38.
17. Ibid., p. 38.
18. See, Tauno Tiusanen, and Richard Berry, "The Eastern Market: The Investment Climate in Transitional Economies," Rastor-Julkaisut, Helsinki, 1995.
19. For details about the vintage models, see R. M. Solow, T. W. Swan, N. Kaldor, J. A. Mirlees, Ragnar Frisch, and Joan Robinson's criticism of the neo-classical aggregate capital concept.
20. Kornai, Janos, "Growth, Shortage and Efficiency," op. cit., pp. 38ff.

21. Ibid., p. 43. See theories of growth as we have described in Section One and particularly of R.M. Solow.
22. Barro, Robert J., Economic Growth in a Cross Section of Countries, *Quarterly Journal of Economics*, vol. 106, 1991, pp. 407-444.
23. Kornai, Janos, "Growth, Shortage and Efficiency," op. cit., pp. 47-48.
24. Baur, Tamas, "Investment Cycles in Planned Economies," *Acta Oeconomica*, 21 (3), pp. 243-60. The same idea is confirmed by the investigations of several authors covering other socialist countries. See, for example, B. Mieczkowski, "The Relationship between changes in Consumption and Politics in Poland," *Soviet Studies*, 30 (1978), 262-9; and V. Bunce, "The Political Consumption Cycle: a comparative analysis," *Soviet Studies*, 32 (1980), 280-90.
25. Kornai, Janos, "Growth, Shortage and Efficiency," op. cit., p. 48.
26. Kornai, Janos, "Growth, Shortage and Efficiency," op. cit., p. 53.
27. Kornai, Janos, "Growth, Shortage and Efficiency," op. cit., p. 54.
28. Kornai, Janos, "Growth, Shortage and Efficiency," op. cit., p. 55.
29. Ibid.
30. Ibid., p. 57.
31. The role of domestic savings in the development of emerging economies of Asia is a good example. For more details, see, *Human Development Report 1994*, UNDP, Oxford, p. 180.
32. Lags play an important role in explaining the investment cycle.
33. Kornai, Janos, "Growth, Shortage and Efficiency," op. cit., p. 60.
34. Kornai, Janos, "Growth, Shortage and Efficiency," op. cit., p. 61.
35. Kornai, Janos, "Growth, Shortage and Efficiency," op. cit., p. 62.
36. Ibid.
37. Kornai, Janos, "Growth, Shortage and Efficiency," op. cit., p. 63.
38. Ibid.
39. Kornai, Janos, "Growth, Shortage and Efficiency," op. cit., p. 64.
40. Kornai, Janos, "Growth, Shortage and Efficiency," op. cit., p. 68ff.
41. Ibid.
42. See Harrod-Domar model of growth theory in Section One. On the Harrod-type neutrality of technical progress see, for example, the well-known survey of F.H. Hahn and R. C. O. Matthews, "The Theory of Economic Growth: a survey," *Economic Journal*, 74 (1964), 825-32.
43. Kornai, Janos, "Growth, Shortage and Efficiency," op. cit., p. 73.
44. Kornai, Janos, "Growth, Shortage and Efficiency," op. cit., p. 74.

45. Kornai, Janos, "Growth, Shortage and Efficiency," op. cit., p. 91.
46. We recall here the equilibrium and anti-equilibrium debate. Works of Barro, Grossman, Kornai etc. belong to the 'disequilibrium school.' One typical work is that of H. R. Varian, "On Persistent disequilibrium," *Journal of Economic Theory*, 12 (1975), 218-28. Also, see, J. Kornai, "Anti-Equilibrium," North-Holland, Amsterdam, 1971; J. Kornai, *Economics of Shortage*, North-Holland, Amsterdam, 1980; J. Kornai and B. Martos (eds.), "Non-Price Control," North-Holland and the Publishing House of the Hungarian Academy of Sciences, Amsterdam and Budapest, 1981.
47. Kornai, Janos, "Growth, Shortage and Efficiency," op. cit., pp. 91;37.
48. Kornai, Janos, "Growth, Shortage and Efficiency," op. cit., p. 91.
49. Ibid., p. 92.
50. Ibid., p. 76. For details about mathematical control theory, see, for example, D. G. Luenberger, "Introduction to Dynamic Systems," Wiley, New York; or A. E. Bryson and Yu-Chi Ho, "Applied Optimal Control," Ginn, Waltham, 1969.
51. Kornai, Janos, "Growth, Shortage and Efficiency," op. cit., p. 76.
52. Kornai, Janos, "Growth, Shortage and Efficiency," op. cit., p. 77.
53. Kornai, Janos, "Growth, Shortage and Efficiency," op. cit., p. 79.
54. Kornai, Janos, "Growth, Shortage and Efficiency," op. cit., p. 79.
55. Kornai, Janos, "Growth, Shortage and Efficiency," op. cit., p. 79.
56. Kornai, Janos, "Growth, Shortage and Efficiency," op. cit., p. 79.
57. Kornai, Janos, "Growth, Shortage and Efficiency," op. cit., p. 80.
58. Kornai, Janos, "Growth, Shortage and Efficiency," op. cit., p. 81.
59. Kornai, Janos, "Growth, Shortage and Efficiency," op. cit., p. 82.
60. Kornai, Janos, "Growth, Shortage and Efficiency," op. cit., p. 82.
61. Kornai, Janos, "Growth, Shortage and Efficiency," op. cit., p. 87.
62. Kornai, Janos, "Growth, Shortage and Efficiency," op. cit., p. 87.
63. Kornai, Janos, "Growth, Shortage and Efficiency," op. cit., p. 88.
64. Kornai, Janos, "Growth, Shortage and Efficiency," op. cit., p. 126.
65. Kornai, Janos, "Growth, Shortage and Efficiency," op. cit., p. 126.
66. Frank, Gunder A., "Critique and Anti-Critique: Essays on Dependence and Reformism," 1984, Macmillan, London.
67. Weller, Robert, P., "Cultural Legacies and Development: A View from East Asia," in Kovacs, Janos. M., (ed.), 1994, "Transition to Capitalism: The Communist Legacy in Eastern Europe," Transaction Publishers, London, pp.309ff.
68. Levine, Barry B., "Watching Eastern Europe, Thinking about Latin America," in "Transition to Capitalism" op. cit., pp.306ff

SECTION Ω

CONCLUSION

Ω.i. THE GLOBAL GROWTH PATH

Our survey of economic growth models, with a view to understand the prospects and policies, projections and analysis, is necessitated by the demand of having a comprehensive review of world economic developments since the collapse of historical socialism. Our surveillance of economies in transition as part of a global economic system is based on the experiences of nations that followed either market economy models or planned economy models. The analysis has benefited from the research works of so many scholars of both capitalist and socialist convictions and of their critiques. The vision-solution growth model that we have developed is rooted and grounded on the historical experiences of peoples and nations. As the economic gap between peoples and nations widens on a global scale, the prospects of human development looks bleak and gloom as has been pointed out in the 1994 *Human Development Report*. “Behind the blaring headlines of the world’s many conflicts and emergencies, there lies a silent crisis - a crisis of underdevelopment, of global poverty, of ever-mounting population pressures, of thoughtless degradation of environment. This is not a crisis that will respond to emergency relief. It requires a long, quiet process of sustainable human development. Sustainable human development is development that not only generates economic growth but distributes its benefits equitably; that regenerates the environment rather than destroying it; that empowers people rather than marginalizing them. It is development that gives priority to the poor, enlarging their choices and opportunities and providing for their participation in decisions that affect their lives. It is development that is pro-people, pro-women, pro-jobs and pro-nature.”¹ There is an urgent need today to establish a more integrated, effective and efficient development system to promote the world-wide movement towards sustainable human development. It is this vision that resulted in the formulation of our model that

would enable economies in transition to restructure and strengthen their transformation goal and formulate their own operational development strategies.

Our objective of modelling a new economic growth thought for developing economies with particular reference to economies in transition, is based on the conviction that the global crisis that we face today is not merely economic but it is socio-political and religio-cultural. We cannot address the economic development issues just by having an economic policy whitepaper. As a social science, economics, has to integrate other areas of human development process, if it is to have a lasting development impact. An alienated and isolated approach to economic development issues, though promote the welfare of a few, leaves a large majority of a global village underdeveloped. Industrial, developing and transition economies of a global economic system need to cooperate to strengthen the global expansion as has been pointed out in the report of the forty-third meeting of the Interim Committee of the Board of Governors of the IMF. The following points of the “Declaration on Cooperation to Strengthen the Global Expansion” of IMF are relevant to explain the global growth path. The immediate prospects for economic growth in the world economy are better than they have been at any time in this decade. But serious policy challenges remain. For the industrial countries the most important are to sustain economic growth, reduce unemployment, and prevent a resurgence of inflation. Growth in the developing countries (and in particular, in the poorest countries) must be maintained and extended. The economies in transition must be integrated into the international economy and set firmly on the path of sustainable growth. If the signatories of the Uruguay Round trade agreements abide by their commitments, it would enhance world economic prospects by deepening global economic integration. The recent success of many developing economies illustrates once again the validity of a strategy based on steadfast implementation of strong programmes of macroeconomic adjustment and structural reform. The impressive turnaround in several economies in transition also attests to the benefits of macroeconomic discipline and structural reforms. As we have noted in our analysis, experience has demonstrated the central importance of early fiscal reform and firm monetary discipline in the early stages of the transformation process to achieve financial stability. This needs to be accompanied by institution building, price and external

sector liberalization, enterprise restructuring and privatization, and financial sector reform. Social safety nets that are well targeted and cost efficient are also necessary, to alleviate the adverse impact of higher open unemployment.² The improved economic outlook is a sign of the recovery of world activity and trade. Overall, world output is projected to expand by 3.5 percent in 1995, twice as rapidly as in 1990-93. Progress in the implementation of policies consistent with the strategy for sustained global expansion has helped to strengthen conditions for a revival of world activity.

While the world economic activity is designed according to the capitalist-socialist systems based on certain forms of ideologies, it is relevant to inquire into the missing link of development. Neither capitalism nor socialism were able to bring about an equitable global village. The emergence of economies in transition and their desire to be on the capitalist path called into question the viability of historical socialism. The experience of industrial economies shows that capitalist mode of allocation, production and distribution better address the need of the people. More and more developing economies and new-born economies in transition place themselves in this capitalist path of growth. This would mean that the capitalist market economic mechanism would force these economies to adopt economic growth models that resonates the theoretical growth path that we have followed in the first section and would abandon the applied growth models that we have discussed in the second section of our investigation. This would also mean a deeper understanding of the knowledge sector that we have identified in our research. The new global growth path of *all* economies would have to be based on this dual knowledge sectors of micro knowledge and macro knowledge. While the development of various forms of micro knowledge is having a greater impact on the research intensive sector of growth strategies, it is of paramount importance that we turn our attention equally to the development and integration of macro knowledge variables into the growth models of our new times. Our attempt at identifying macro knowledge variables of freedom, democracy and human rights and their integration into a vision-solution growth model is a step towards this new direction. The intensity of the presence of freedom, practice of democracy and experience of human rights would enhance the economic growth and therefore permanent development. Our desire for further economic growth must be based

on a vision of a common future that would enhance the human development of all peoples in our planet.

NOTES

1. UNDP, Human Development Report 1994, Oxford, p. iii.
2. IMF, World Economic Outlook, October 1994, Washington, D.C., p. x.

APPENDICES

Appendix I.1.1.

Comparative Indicators of Economic Development Based on the 1994 UNDP Report

The People

Economy	Population (000) 1993	Growth rate (% p.a.) 1985-93	Life expectancy at birth (years) 1992
Afghanistan	22,143	2.5	43
Albania	3,421	1.8	73
Algeria	26,882	2.6	67
American Samoa	53	..	..
Andorra	63	4.6	..
Angola	10,020	3.0	46
Antigua and Barbuda	67	0.7	74
Argentina	33,483	1.2	71
Armenian/h	3,731	1.4	70
Aruba	67	0.4	..
Australia	17,707	1.5	77
Austria	7,937	0.7	77
Azerbaijan/h	7,435	1.4	71
Bahamas, The	266	1.8	72
Bahrain	544	3.1	70
Bangladesh	116,702	2.2	55
Barbados	260	0.3	75
Belarus/h	10,319	0.4	71
Belgium	10,061	0.3	76
Belize	205	2.6	69
Benin	5,194	3.2	51
Bermuda	62	1.3	..
Bhutan	1,532	2.2	48
Bolivia	7,064	2.3	59
Bosnia and Herzegovina	4,383	0.1	71
Botswana	1,402	3.4	68
Brazil	156,406	1.9	66

Brunei	281	3.2	74
Bulgaria	8,459	-0.8	71
Burkina Faso	9,830	2.8	48
Burundi	5,974	2.9	48
Cambodia	9,633	3.2	51
Cameroon	12,611	3.0	56
Canada	27,815	1.3	78
Cape Verde	398	2.6	68
Caymen Islands	30	..	..
Central African Republic	3,249	2.7	47
Chad	6,131	2.5	47
Channel Islands	144	1.0	77
Chile	13,813	1.6	72
China	1,175,359	1.4	69
Colombia	35,682	..	69
Comoros	528	3.7	56
Congo	2,508	3.3	51
Costa Rica	3,267	2.7	76
Cote d'Ivoire	13,358	3.8	56
Croatia	4,788	0.4	73
Cuba	10,896	1.0	76
Cyprus	726	1.1	77
Czech Republic	10,323	0.0	72
Denmark	5,191	0.2	75
Djibouti	572	4.9	49
Dominica	72	-0.3	72
Dominican Republic	7,447	1.9	68
Ecuador	11,258	2.4	67
Egypt, Arab Rep.	55,745	2.3	62
El Salvador	5,479	1.8	66
Equatorial Guinea	447	2.3	48
Eritrea/i	*	..	..
Estonia/h	1,546	0.1	70
Ethiopia/i	53,297	3.0	49
Faeroe Islands	48	..	..
Fiji	759	0.9	72
Finland	5,072	0.4	75
France	57,650	0.6	77

French Guiana	133	..	..
French Polynesia	213	2.7	68
Gabon	1,235	2.7	54
Gambia, The	1,019	3.7	45
Georgia/h	5,456	0.4	72
Germany/j	80,769	0.6	76
Ghana	16,261	3.2	56
Gibraltar	32	..	..
Greece	10,376	0.5	77
Greenland	57	..	..
Grenada	91	-0.1	71
Guadeloupe	405	1.7	74
Guam	142	2.0	72
Guatemala	10,021	2.9	65
Guinea	6,269	2.9	44
Guinea-Bissau	1,043	2.1	39
Guyana	812	0.3	65
Haiti	9,839	1.9	55
Honduras	5,581	3.0	66
Hong Kong/k	5,865	0.9	78
Hungary	10,280	-0.5	69
Iceland	264	1.2	78
India	900,543	2.1	61
Indonesia	187,151	1.8	60
Iran, Islamic Rep.	61,422	3.6	65
Iraq	19,755	3.2	64
Ireland	3,569	0.0	75
Isle of Man	71	..	..
Israel	5,281	2.9	76
Italy	57,840	0.2	77
Jamaica	2,415	0.8	74
Japan	124,845	0.4	79
Jordan/l	4,102	5.9	70
Kazakhstan/h	17,169	1.0	68
Kenya	25,376	3.0	59
Kiribati	76	2.0	58
Korea, Dem. Rep.	23,051	1.9	71
Korea, Rep.	44,056	1.0	71

Kuwait	1,461	-2.9	75
Kyrgyz Republic/h	4,512	1.6	66
Lao PDR	4,511	2.9	51
Latvia/h	2,588	-0.1	69
Lebanon	3,855	2.3	66
Lesotho	1,899	2.6	60
Liberia	2,373	0.9	53
Libya	5,039	3.6	63
Lithuania/h	3,747	0.7	71
Luxembourg	397	1.0	76
Macao	391	3.2	73
Macedonia, FYR/m	2,191	1.0	72
Madagascar	12,728	3.1	51
Malawi	9,303	3.3	44
Malaysia	19,032	2.4	71
Maldives	236	3.3	62
Mali	9,234	2.8	48
Malta	362	0.7	76
Marshall Islands	53	3.9	..
Martinique	369	1.0	76
Mauritania	2,137	2.7	48
Mauritius	1,111	1.1	70
Mayotte	98	..	..
Mexico	86,712	1.8	70
Micronesia, Fed. Sts.	110	2.4	63
Moldova/h	4,356	0.5	68
Mongolia	2,372	2.8	64
Morocco	26,721	2.4	63
Mozambique	16,916	2.6	44
Myanmar	44,704	2.2	60
Namibia	1,565	3.0	59
Nepal	20,390	2.6	54
Netherlands	15,277	0.7	77
Netherlands Antilles	196	0.9	77
New Caledonia	177	2.0	70
New Zealand	3,462	0.8	76
Nicaragua	3,985	2.6	67
Niger	8,440	3.2	46

Nigeria	104,893	2.9	52
Northern Mariana Is.	53	..	..
Norway	4,310	0.5	77
Oman	1,719	3.9	70
Pakistan	122,829	3.1	59
Panama	2,563	2.0	73
Papua New Guinea	4,148	2.3	56
Paraguay	4,651	2.9	67
Peru	22,801	2.1	65
Philippines	65,775	2.3	65
Poland	38,446	0.4	70
Portugal	9,848	-0.6	74
Puerto Rico	3,608	0.8	74
Qatar	520	5.3	71
Reunion	620	1.5	74
Romania	22,761	0.0	70
Russian Federation/h	148,537	0.4	69
Rwanda	7,490	2.9	46
San Marino	24	..	..
St. Kitts and Nevis	41	-0.4	68
St. Lucia	158	1.8	70
St. Vincent	110	0.9	71
Sao Tome and Principe	125	2.4	68
Saudi Arabia	17,392	4.4	69
Senegal	8,054	3.0	49
Seychelles	70	0.9	71
Sierra Leone	4,468	2.6	43
Singapore	2,867	1.9	75
Slovak Republic	5,345	0.4	71
Slovenia	1,993	0.6	73
Solomon Islands	346	2.9	62
Somalia	8,543	3.1	49
South Africa	40,677	2.4	63
Spain	39,125	0.2	77
Sri Lanka	17,622	1.3	72
Sudan	27,255	2.8	52
Suriname	405	0.0	69
Swaziland	888	3.8	57

Sweden	8,712	0.6	78
Switzerland	6,977	1.0	78
Syrian Arab Republic	13,394	3.3	67
Tajikistan/h	5,684	2.8	69
Tanzania/n	26,743	3.0	51
Thailand	58,824	1.6	69
Togo	4,026	3.6	55
Tonga	93	-0.3	68
Trinidad and Tobago	1,282	1.3	71
Tunisia	8,609	2.1	68
Turkey	59,461	2.1	67
Turkmenistan/h	3,949	2.5	66
Uganda	18,026	3.2	43
Ukraine/h	52,141	0.3	70
United Arab Emirates	1,723	3.2	72
United Kingdom	58,040	0.3	76
United States	258,063	0.9	77
Uruguay	3,147	0.6	72
Uzbekistan/h	21,969	2.4	69
Vanuatu	161	2.8	63
Venezuela	20,780	2.5	70
Viet Nam	70,881	2.4	67
Virgin Islands (U.S.)	99	-1.1	75
West Bank and Gaza	1,769	3.8	67
Western Samoa	163	0.5	65
Yemen, Rep.	13,436	4.4	53
Yugoslavia, Fed. Rep.	10,675	0.8	72
Zaire	40,997	3.3	52
Zambia	8,527	3.1	48
Zimbabwe	10,638	3.1	60

The Economy

Economy	GNP/a (millions of US\$/a 1992 US\$) 1993	US\$/a 1993	GNP per Real growth (%) 1980-1993
Afghanistan	..	c	..

Albania	1,167	..	340	-7.0
Algeria	44,347	1,850	1,650	-2.2
American Samoa	..	..	e	..
Andorra	..	..	f	..
Angola	..	..	g	-0.9
Antigua and Barbuda	425	6,100	6,390	2.4
Argentina	244,013	6,170	7,290	1.4
Armenian/h	2,471	870	660	-11.7
Aruba	..	..	e	..
Australia	309,967	17,730	17,510	1.1
Austria	183,530	22,790	23,120	2.1
Azerbaijan/h	5,424	880	730	-9.4
Bahamas, The	3,059	11,670	11,500	-0.2
Bahrain	4,283	7,940	7,870	-1.0
Bangladesh	25,882	220	220	1.8
Barbados	1,620	6,210	6,240	-0.4
Belarus/h	29,290	3,210	2,840	-0.2
Belgium	213,435	21,360	21,210	2.4
Belize	499	2,380	2,440	5.7
Benin	2,189	410	420	-1.1
Bermuda	..	..	f	..
Bhutan	253	170	170	4.5
Bolivia	5,472	750	770	1.4
Bosnia and Herzegovina	..	..	c	..
Botswana	3,630	2,450	2,590	5.7
Brazil	471,978	2,810	3,020	-0.6
Brunei	..	..	f	..
Bulgaria	9,773	1,410	1,160	-2.8
Burkina Faso	2,928	310	300	0.0
Burundi	1,102	210	180	0.6
Cambodia	..	..	c	..
Cameroon	9,663	830	770	-7.3
Canada	574,884	21,070	20,670	0.4
Cape Verde	347	840	870	2.1
Caymen Islands	..	..	f	..
Central African Republic	1,263	410	390	-3.0
Chad	1,249	220	200	0.5
Channel Islands	..	..	f	..

Chile	42,454	2,780	3,070	6.1
China	581,109	480	490	6.5
Colombia	50,119	1,350	1,400	2.3
Comoros	272	530	520	-2.2
Congo	2,318	1,110	920	-1.9
Costa Rica	7,041	2,010	2,160	2.6
Cote d'Ivoire	8,397	680	630	-5.2
Croatia	..	..	g	..
Cuba	..	..	g	..
Cyprus	7,539	10,300	10,380	5.2
Czech Republic	28,192	2,590	2,730	-2.0
Denmark	137,610	26,310	26,510	1.1
Djibouti	448	..	780	..
Dominica	193	2,570	2,680	4.8
Dominican Republic	8,039	1,070	1,080	0.3
Ecuador	13,217	1,100	1,170	0.8
Egypt, Arab Rep.	36,679	650	660	0.7
El Salvador	7,233	1,200	1,320	1.2
Equatorial Guinea	161	340	360	1.5
Eritrea/i	..	..	c	..
Estonia/h	4,703	3,170	3,040	-5.2
Ethiopia/i	..	110	100	-1.8
Faeroe Islands	..	..	f	..
Fiji	1,626	2,050	2,140	2.5
Finland	96,220	22,690	18,970	-0.3
France	1,289,235	22,630	22,360	1.8
French Guiana	..	..	e	..
French Polynesia	..	..	f	..
Gabon	5,004	4,220	4,050	-1.7
Gambia, The	372	370	360	1.0
Georgia/h	3,071	1,020	560	-16.4
Germany/j	1,902,995	23,360	23,560	1.9
Ghana	7,036	460	430	1.3
Gibraltar	..	..	e	..
Greece	76,698	7,390	7,390	1.3
Greenland	..	..	f	..
Grenada	219	2,350	2,410	4.1
Guadeloupe	..	..	e	..

Guam	..	..	e	..
Guatemala	11,092	1,000	1,110	0.8
Guinea	3,170	490	510	1.3
Guinea-Bissau	233	220	220	1.6
Guyana	285	320	350	0.6
Haiti	..	..	c	-3.4
Honduras	3,220	570	580	0.0
Hong Kong/k	104,731	15,710	17,860	5.3
Hungary	34,254	3,190	3,330	0.0
Iceland	6,236	24,300	23,620	0.1
India	262,810	310	290	3.0
Indonesia	136,991	680	730	4.8
Iran, Islamic Rep.	..	2,230	..	-0.7
Iraq	..	..	g	..
Ireland	44,906	12,850	12,580	4.8
Isle of Man	0	..	e	..
Israel	72,662	13,460	13,760	2.3
Italy	1,134,980	20,790	19,620	1.9
Jamaica	3,362	1,390	1,390	3.1
Japan	3,926,668	28,690	31,450	3.6
Jordan/l	4,893	1,130	1,190	-5.9
Kazakhstan/h	26,490	1,880	1,540	-4.6
Kenya	6,743	330	270	0.3
Kiribati	54	710	710	-1.3
Korea, Dem. Rep.	..	..	g	..
Korea, Rep.	338,062	7,220	1,670	8.1
Kuwait	34,120	18,380	23,350	0.8
Kyrgyz Republic/h	3,752	1,020	830	-2.1
Lao PDR	1,295	260	290	2.1
Latvia/h	5,257	2,610	2,030	-4.5
Lebanon	..	..	g	..
Lesotho	1,254	610	660	0.8
Liberia	..	..	c	..
Libya	..	..	e	..
Lithuania/h	4,891	1,710	1,310	-6.4
Luxembourg	14,233	35,800	35,850	2.7
Macao	..	..	e	..
Macedonia, FYR/m	1,709	..	780	..

Madagascar	3,039	230	240	-1.7
Malawi	2,034	230	220	0.4
Malaysia	60,061	2,830	3,160	5.7
Maldives	194	700	820	..
Mali	2,744	310	300	-4.3
Malta	..	..	e	..
Marshall Islands	..	..	g	..
Martinique	..	..	e	..
Mauritania	1,087	540	510	-0.1
mauritius	3,309	2,800	2,980	5.8
Mayotte	..	..	e	..
Mexico	324,951	3,510	3,750	0.9
Micronesia, Fed. Sts.	..	..	g	..
Moldova/h	5,160	1,450	1,180	-5.4
Mongolia	943	..	400	-0.3
Morocco	27,645	1,050	1,030	0.9
Mozambique	1,375	70	80	1.9
Myanmar	..	..	c	..
Namibia	2,594	1,670	1,660	2.3
Nepal	3,174	170	160	1.8
Netherlands	316,404	20,850	20,710	2.0
Netherlands Antilles	..	..	e	..
New Caledonia	..	..	e	..
New Zealand	44,674	12,660	12,900	0.2
Nicaragua	1,421	350	360	-6.2
Niger	2,313	290	270	-2.1
Nigeria	32,988	330	310	3.2
Northern Mariana Is.	..	..	g	..
Norway	113,527	26,280	26,340	0.5
Oman	9,631	6,380	5,600	1.2
Pakistan	53,250	420	430	1.5
Panama	6,621	2,470	2,580	-0.7
Papua New Guinea	4,637	990	1,120	1.1
Paraguay	6,995	1,410	1,500	1.3
Peru	34,030	1,350	1,490	-3.5
Philippines	54,609	790	830	1.6
Poland	87,315	1,950	2,270	-1.8
Portugal	77,749	7,510	7,890	407.0

Puerto Rico	25,817	6,700	7,020	1.8
Qatar	7,871	15,760	15,140	-0.7
Reunion	..	..	e	..
Romania	25,427	1,170	1,120	-6.5
Russian Federation/h	348,413	2,820	2,350	-5.0
Rwanda	1,499	250	200	-3.5
San Marino	..	..	f	..
St. Kitts and Nevis	185	4,120	4,470	5.2
St. Lucia	480	2,900	3,040	4.3
St. Vincent	233	2,040	2,130	4.6
Sao Tome and Principe	41	370	330	-1.8
Saudi Arabia	..	7,780	..	-0.9
Senegal	5,867	780	730	-0.3
Seychelles	444	5,750	6,370	4.0
Sierra Leone	647	160	140	-0.6
Singapore	55,372	16,970	19,310	6.1
Slovak Republic	10,145	2,040	1,900	-2.6
Slovenia	12,566	6,700	6,310	..
Solomon Islands	261	720	750	2.5
Somalia	..	..	c	-2.3
South Africa	118,057	2,830	2,900	-1.5
Spain	533,986	14,230	13,650	3.1
Sri Lanka	10,658	560	600	2.6
Sudan	..	..	c	-0.2
Suriname	488	1,280	1,210	2.2
Swaziland	933	1,080	1,050	3.8
Sweden	216,294	27,500	24,830	0.1
Switzerland	254,066	36,730	36,410	0.7
Syrian Arab Republic	..	..	g	-2.1
Tajikistan/h	2,686	600	470	-7.8
Tanzania/n	2,521	100	100	1.4
Thailand	120,235	1,840	2,040	8.4
Togo	1,325	400	330	-3.4
Tonga	150	1,510	1,610	1.5
Trinidad and Tobago	4,776	3,990	3,730	-2.7
Tunisia	15,332	1,760	1,780	2.2
Turkey	126,330	2,030	2,120	3.0
Turkmenistan/h	..	1,380	..	-1.6

Uganda	3,486	180	190	1.9
Ukraine/h	99,677	2,360	1,910	-3.9
United Arab Emirates	38,720	22,640	22,470	0.5
United Kingdom	1,042,700	18,110	17,970	1.3
United States	6,387,686	23,830	24,750	1.2
Uruguay	12,314	3,470	3,910	3.0
Uzbekistan/h	21,100	1,000	960	-1.6
Vanuatu	198	1,230	1,230	0.2
Venezuela	58,916	2,920	2,840	1.0
Viet Nam	11,997	..	170	4.8
Virgin Islands (U.S.)	..	..	f	..
West Bank and Gaza	..	..	g	..
Western Samoa	159	960	980	-0.1
Yemen, Rep.	..	..	c	..
Yugoslavia, Fed. Rep.	..	..	g	..
Zaire	..	..	c	-0.8
Zambia	3,152	370	370	1.8
Zimbabwe	5,756	580	540	-1.1

GNP per capita, 1993	Number economies	of GNP (US\$000,000) 1993	Population (000,000) 1993	GNP per capita, (US\$) 1993
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Low	59	1,165,000	3,094	380
Lower-middle	69	1,635,000	1,099	1,490
Upper-middle	42	2,153,000	498	4,320
High	39	19,304,000	834	23,150
World	209	24,257,000	5,525	4,390

GNP per capita growth rate, 1985-93	Number economies	of GNP (US\$000,000) 1993	Population (000,000) 1993	GNP per capita, (US\$) 1993
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Less than 0%	63	1,862,000	995	1,870
0% - 0.9%	24	1,757,000	328	5,360
1.0% - 1.9%	30	12,803,000	1,048	12,220
2.0% - 2.9%	16	890,000	112	7,950
3.0% or more	31	6,711,000	2,853	2,350
No data	45	233,000	189	1,230

Share of investment in GDP,1985-93	Number of economies	GNP (US\$000,000) 1993	Population (000,000) 1993	GNP per capita, (US\$) 1993
Less than 15%	28	131,000	336	390
15% - 19%	48	11,566,000	1,149	10,060
20% - 24%	36	5,280,000	793	6,650
25% - 29%	26	1,559,000	1,293	1,210
30% or more	28	5,429,000	1,785	3,040
No data	43	291,000	167	1,740

Population growth rate, 1985-93	Number of economies	GNP (US\$000,000) 1993	Population (000,000) 1993	GNP per capita, (US\$)
More than 3%	37	518,000	437	1,180
2.2% - 3.0%	57	737,000	976	750
1.5% - 2.1%	26	1,962,000	1,571	1,250
1.0% - 1.4%	20	2,321,000	1,372	1,690
Less than 1%	58	18,664,000	1,129	16,530
No data	11	55,000	40	1,390

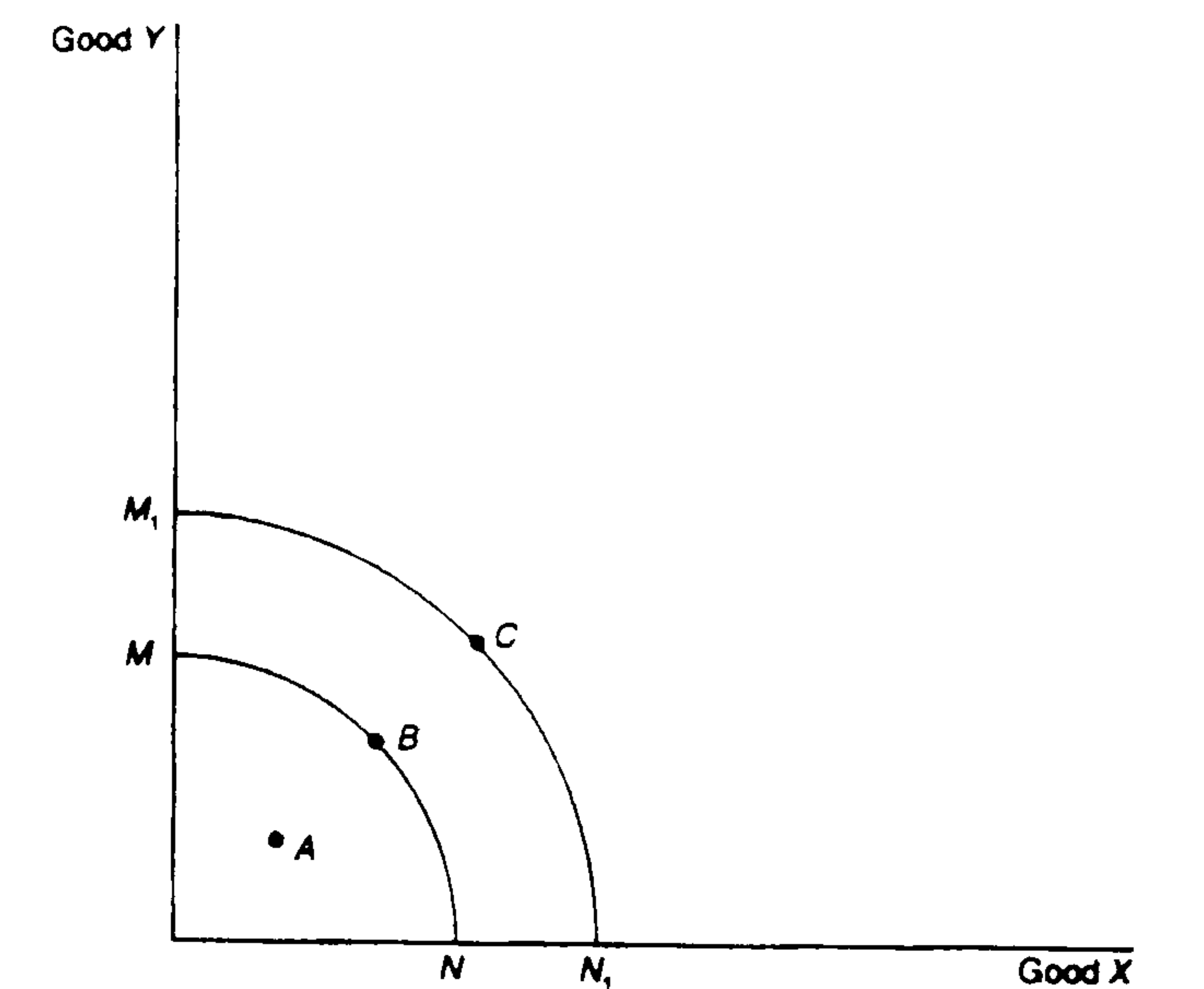
Life expectancy from birth, 1992	Number of economies	GNP (US\$000,000) 1993	Population (000,000) 1993	GNP per capita, (US\$) 1993
Less than 55	37	142,000	495	290
55 - 64	29	814,000	1,628	500
65 - 69	41	2,269,000	2,050	1,110
70 - 72	40	1,520,000	462	3,290
72 or more	48	19,503,000	886	22,000
No data	14	8,000	4	1,900

Source: UNDP, Human Development Report, 1994.

Appendix I.2.1

A Production Possibility Curve

A Production Possibility Curve



The Figure shows all the possible combinations of two goods which can be produced at any one time, given existing resources. If all resources are devoted to producing good X , then ON can be produced. If, however, all resources are used to produce good Y , then OM units can be produced. If a combination of X and Y is desired, then all possible combinations are shown by the line MN which is drawn convex to the origin. This line shows both *factor combination* and *factor substitution*. It shows how a country's factors of production can be combined in different ways in order to vary the pattern of output. It also shows how factors can be substituted for each other in order to produce less of one good and more of another. For example, suppose good Y represents 'tanks' and good X represents 'tractors'. The *PPC* can now be used to give some interesting insights into the 'peace dividend' resulting from the end of the cold war and the switching of war industries into peaceful uses. Producing half as many tanks will not necessarily double the amount of tractors. In the language of economics, we can say this is because the factors of production are not 'perfectly mobile', or that one factor is not a 'perfect substitute' for another. In other words, tank factories, machines designed for tank production, and people trained to build tanks, cannot be instantly switched to tractor production: factories will need reorganizing, machines will need redesigning, modification or even rebuilding, and workers will need to be retrained. Thus the law of 'diminishing returns' operates as factors are switched from one use to another, and the output of tractors rises less than proportionately to the falling output of tanks.

The *PPC* represents a 'frontier' or 'boundary' in the sense that given the current availability of resources and technical knowledge, a country cannot produce on a point to the right of the *PPC*. The *PPC* is therefore a 'short-run' diagram: in the long run the productive capacity of a country can be increased, thus shifting the *PPC* to the right. It is often assumed that the natural tendency is for the *PPC* of any country to shift in this way, but there are circumstances when it could shift to the left--where a country is laid waste by warfare, disease or natural disasters, for instance.

The *PPC* can also be used to examine the output of more than two goods. The vertical axis could, for instance, represent 'all capital goods' and the horizontal axis could represent 'all consumption goods'. The *PPC* then becomes a useful tool for examining the opportunity cost of investment; that is, the sacrifice necessary for a country's citizens to be willing to invest. A greater expenditure on capital goods involves the sacrifice of present consumption, and depends on people being willing to wait for consumption goods. The extent to which people are willing to make this sacrifice depends on what sociologists call 'deferred gratification patterns' or what economists call people's 'time preferences'. Do people prefer consumption immediately, or would they prefer consumption at a higher level tomorrow? Some bars of chocolate now, or more bars of chocolate in the future? If the promise of 'chocolate tomorrow' is convincing enough, then people might be willing to invest in chocolate-making machinery now in order to enjoy a higher rate of consumption later. It could be argued that this is what has enabled planned economies such as the former Soviet Union to industrialize so rapidly in the twentieth century. Power stations, railways, hospitals and nuclear weapons were built at the expense of chocolate bars, denim jeans, hamburgers and conditioning shampoo. It could further be argued that the recent move towards a market economy results partly from the strain of the central planners attempting to impose time preferences which were not always shared by the mass of the population. A movement from point A to point B on the *PPC* diagram would represent actual economic growth; a shift of the *PPC* to M_1N_1 would represent potential growth, but

would not represent actual growth unless the combination goods being produced moved from *B* to *C*.

Source: Charles Smith, *Economic Development, Growth And Welfare*, (1994), pp. 5-8)

Appendix I.2.2

Indicators of economic development

	Population (mid-1987) millions	GNP per cap. (1987) US\$	PPP-adj. GDP per cap. (1987) US\$	Life expect- ancy at birth (1987) years	Adult literacy rate (1985) percent	Human Dev. Index scale 0-1
<i>High-income economies</i>						
Switzerland	6.5	21,330	15,403	77	99	0.986
United States	243.8	18,530	17,615	76	96	0.961
Norway	4.2	17,190	15,940	77	99	0.983
United Arab Emirates	1.5	15,830	12,191	71	60	0.782
Japan	122.1	15,760	13,135	78	99	0.996
Sweden	8.4	15,550	13,780	77	99	0.987
Canada	25.9	15,160	16,375	77	99	0.983
Denmark	5.1	14,930	15,119	76	99	0.971
Kuwait	1.9	14,610	13,843	73	70	0.839
Finland	4.9	14,470	12,795	75	99	0.967
Germany,* Fed. Rep.	61.2	14,400	14,730	75	99	0.967
France	55.6	12,790	13,961	76	99	0.974
Austria	7.6	11,980	12,386	74	99	0.961
Netherlands	14.7	11,860	12,661	77	99	0.984
Belgium	9.9	11,480	13,140	75	99	0.966
Australia	16.2	11,100	11,782	76	99	0.978
United Kingdom	56.9	10,420	12,270	76	99	0.970
Italy	57.4	10,350	10,682	76	97	0.966
Hong Kong	5.6	8,070	13,906	76	88	0.936
Singapore	2.6	7,940	12,790	73	86	0.899
New Zealand	3.3	7,750	10,541	75	99	0.966
Israel	4.4	6,800	9,182	76	95	0.957
Saudi Arabia	12.6	6,200	8,320	64	55	0.702
Ireland	3.6	6,120	8,566	74	99	0.961
Spain	38.8	6,010	8,989	77	95	0.965
<i>Middle-income economies</i>						
Oman	1.3	5,810	7,750	57	30	0.535
Libya	4.1	5,460	7,250	62	66	0.719
Trinidad and Tobago	1.2	4,210	3,664	71	96	0.885
Greece	10.0	4,020	5,500	76	93	0.949
Venezuela	18.3	3,230	4,306	70	87	0.861
Portugal	10.2	2,830	5,597	74	85	0.899
Gabon	1.1	2,700	2,068	52	62	0.525
South Korea	42.1	2,690	4,832	70	95	0.903
Algeria	23.1	2,680	2,633	63	50	0.609
Yugoslavia	23.4	2,480	5,000	72	92	0.913
Argentina	31.1	2,390	4,647	71	96	0.910
Panama	2.3	2,240	4,009	72	89	0.883
Hungary	10.6	2,240	4,500	71	98	0.915
Uruguay	3.0	2,190	5,063	71	95	0.916
Brazil	141.4	2,020	4,307	65	78	0.784
Poland	37.7	1,930	4,000	72	98	0.910
South Africa	33.1	1,890	4,981	61	70	0.731
Mexico	81.9	1,830	4,624	69	90	0.876
Malaysia	16.5	1,810	3,849	70	74	0.800
Syrian Arab Rep.	11.2	1,640	3,250	66	60	0.691
Costa Rica	2.6	1,610	3,760	75	93	0.916
Jordan	3.8	1,560	3,161	67	75	0.752
Mauritius	1.0	1,490	2,617	69	83	0.788
Peru	20.2	1,470	3,129	63	85	0.753
Chile	12.5	1,310	4,862	72	98	0.931
Colombia	29.5	1,240	3,524	65	88	0.801
Turkey	52.6	1,210	3,781	65	74	0.751
Tunisia	7.6	1,180	2,741	66	55	0.657
Botswana	1.1	1,050	2,496	59	71	0.646
Ecuador	9.9	1,040	2,687	66	83	0.758
Paraguay	3.9	990	2,603	67	88	0.784
Cameroon	10.9	970	1,381	52	61	0.474
Guatemala	8.4	950	1,957	63	55	0.592
Jamaica	2.4	940	2,506	74	82	0.824
Congo, People's Rep.	2.0	870	756	49	63	0.395
El Salvador	4.9	860	1,733	64	72	0.651
Thailand	53.6	850	2,576	66	91	0.783
Nicaragua	3.5	830	2,209	64	88	0.743
Honduras	4.7	810	1,119	65	59	0.563
Ivory Coast	11.1	740	1,123	53	42	0.393
Dominican Rep.	6.7	730	1,750	67	78	0.699
Papua New Guinea	3.7	700	1,843	55	45	0.471
Egypt	50.1	680	1,357	62	45	0.501
Morocco	23.3	610	1,761	62	34	0.489
Yemen Arab Rep.	8.5	590	1,250	52	25	0.328
Philippines	58.4	590	1,878	64	86	0.714
Zimbabwe	9.0	580	1,184	59	74	0.576
Bolivia	6.7	580	1,380	54	75	0.548
Senegal	7.0	520	1,068	47	28	0.274
Albania*	3.1	..	2,000	72	85	0.790
Bulgaria*	9.0	..	4,750	72	93	0.918
Cuba*	10.3	..	2,500	74	96	0.877
Czechoslovakia*	15.6	..	7,750	72	98	0.931
Iran	47.0	..	3,300	66	51	0.660
Iraq	17.1	..	2,400	65	89	0.759
Lebanon	2.8	..	2,250	68	78	0.735
Mongolia	2.0	..	2,000	64	90	0.737
North Korea*	21.4	..	2,000	70	90	0.789
Romania	22.9	..	3,000	71	96	0.863
USSR*	283.1	..	6,000	70	99	0.920
<i>Low-income economies</i>						
Liberia	2.3	450	969	55	35	0.333
Indonesia	171.4	450	1,660	57	74	0.591
Mauritania	1.9	440	840	47	17	0.208
Yemen, PDR	2.3	420	1,000	57	47	0.360
Sri Lanka	16.4	400	2,053	71	87	0.789
Ghana	13.6	390	481	55	54	0.360
Nigeria	106.6	370	668	51	43	0.322
Lesotho	1.6	370	1,585	57	73	0.580
Haiti	6.1	360	775	55	38	0.356
Pakistan	102.5	350	1,585	58	30	0.423
Sudan	23.1	330	750	51	23	0.255
Kenya	22.1	330	794	59	60	0.481
Central African Rep.	2.7	330	591	46	41	0.258
Benin	4.3	310	665	47	27	0.224
Sierra Leone	3.8	300	480	42	30	0.150
Rwanda	6.4	300	571	49	47	0.304
India	797.5	300	1,053	59	43	0.439
Togo	3.2	290	670	54	41	0.337
Somalia	5.7	290	1,000	46	12	0.200
China	1,068.5	290	2,124	70	69	0.716
Uganda	15.7	260	511	52	58	0.354
Niger	6.8	260	452	45	14	0.116
Zambia	7.2	250	717	54	76	0.481
Burundi	5.0	250	450	50	35	0.235
Mali	7.8	210	543	45	17	0.143
Madagascar	10.9	210	634	54	68	0.440
Burkina Faso	8.3	190	500	48	14	0.150
Tanzania	23.9	180	405	54	75	0.413
Mozambique	14.6	170	500	47	39	0.239
Laos	3.8	170	1,000	49	84	0.506
Nepal	17.6	160	722	52	26	0.273
Malawi	7.9	160	476	48	42	0.250
Bangladesh	106.1	160	883	52	33	0.318
Zaire	32.6	150	220	53	62	0.294
Chad	5.3	150	400	46	26	0.157
Bhutan	1.3	150	700	49	25	0.236
Ethiopia	44.8	130	454	42	66	0.282
Afghanistan	15.2	..	1,000	42	24	0.212
Angola*	9.2	..	1,000	45	41	0.304
Burma	39.3	..	752	61	79	0.561
Guinea	6.5	..	500	43	29	0.162
Kampuchea, Dem.	7.7	..	1,000	49	75	0.471
Namibia*	1.7	..	1,500	56	30	0.404
Vietnam	65.0	..	1,000	62	80	0.608

Notes: PPP-adj = converted into US\$ by purchasing power parties rather than by official exchange rates; * = not listed in the World Bank source (for the non-market economies GNP comparisons are especially difficult and my classification is approximate); other entries with .. are listed but reliable GNP per capita data are unavailable (classification by group is by the World Bank); *, German data are for the pre-unification Federal Republic.

Sources: col. 1 United Nations, *Demographic Yearbook 1987*, pp. 193-7; col. 2 World Bank, *World Development Report 1989*, pp. 164-5; cols 3-6 United Nations Development Programme, *Human Development Report 1990*.

TABLE 5.3
HDI ranking for developing countries

	HDI value	HDI rank	GNP per capita rank	GNP per capita rank minus HDI rank ^a		HDI value	HDI rank	GNP per capita rank	GNP per capita rank minus HDI rank ^a
Barbados	0.894	20	34	14	Morocco	0.549	111	101	-10
Hong Kong	0.875	24	22	-2	El Salvador	0.543	112	97	-15
Cyprus	0.873	26	30	4	Bolivia	0.530	113	119	6
Korea, Rep. of	0.859	32	36	4	Gabon	0.525	114	42	-72
Uruguay	0.859	33	53	20	Honduras	0.524	115	123	8
Trinidad and Tobago	0.855	35	46	11	Viet Nam	0.514	116	150	34
Bahamas	0.854	36	26	-10	Swaziland	0.513	117	96	-21
Argentina	0.853	37	43	6	Maldives	0.511	118	132	14
Chile	0.848	38	66	28	Vanuatu	0.489	119	93	-26
Costa Rica	0.848	39	75	36	Lesotho	0.476	120	124	4
Singapore	0.836	43	21	-22	Zimbabwe	0.474	121	118	-3
Brunei Darussalam	0.829	44	29	-15	Cape Verde	0.474	122	112	-10
Venezuela	0.820	46	55	9	Congo	0.461	123	100	-23
Panama	0.816	47	70	23	Cameroon	0.447	124	111	-13
Colombia	0.813	50	91	41	Kenya	0.434	125	146	21
Kuwait	0.809	51	28	-23	Solomon Islands	0.434	126	115	-11
Mexico	0.804	52	51	-1	Namibia	0.425	127	84	-43
Thailand	0.798	54	82	28	São Tomé and Príncipe	0.409	128	138	10
Antigua and Barbuda	0.796	55	40	-15	Papua New Guinea	0.408	129	108	-21
Qatar	0.795	56	20	-36	Myanmar	0.406	130	149	19
Malaysia	0.794	57	61	4	Madagascar	0.396	131	162	31
Bahrain	0.791	58	33	-25	Pakistan	0.393	132	140	8
Fiji	0.787	59	74	15	Lao People's Dem. Rep.	0.385	133	157	24
Mauritius	0.778	60	65	5	Ghana	0.382	134	133	-1
United Arab Emirates	0.771	62	10	-52	India	0.382	135	147	12
Brazil	0.756	63	52	-11	Côte d'Ivoire	0.370	136	117	-19
Dominica	0.749	64	62	-2	Haiti	0.354	137	141	4
Jamaica	0.749	65	87	22	Zambia	0.352	138	134	-4
Saudi Arabia	0.742	67	31	-36	Nigeria	0.348	139	145	6
Turkey	0.739	68	78	10	Zaire	0.341	140	160	20
Saint Vincent	0.732	69	77	8	Comoros	0.331	141	131	-10
Saint Kitts and Nevis	0.730	70	47	-23	Yemen	0.323	142	126	-16
Syrian Arab Rep.	0.727	73	94	21	Senegal	0.322	143	114	-29
Ecuador	0.718	74	102	28	Liberia	0.317	144	130	-14
Saint Lucia	0.709	77	57	-20	Togo	0.311	145	136	-9
Grenada	0.707	78	67	-11	Bangladesh	0.309	146	159	13
Libyan Arab Jamahiriya	0.703	79	41	-38	Cambodia	0.307	147	164	17
Tunisia	0.690	81	85	4	Tanzania, U. Rep. of	0.306	148	170	22
Seychelles	0.685	83	39	-44	Nepal	0.289	149	166	17
Paraguay	0.679	84	90	6	Equatorial Guinea	0.276	150	154	4
Suriname	0.677	85	48	-37	Sudan	0.276	151	137	-14
Iran, Islamic Rep. of	0.672	86	64	-22	Burundi	0.276	152	158	6
Botswana	0.670	87	58	-29	Rwanda	0.274	153	152	-1
Belize	0.666	88	69	-19	Uganda	0.272	154	168	14
Cuba	0.666	89	110	21	Angola	0.271	155	120	-35
Sri Lanka	0.665	90	128	38	Benin	0.261	156	142	-14
Oman	0.654	92	38	-54	Malawi	0.260	157	156	-1
South Africa	0.650	93	60	-33	Mauritania	0.254	158	127	-31
China	0.644	94	143	49	Mozambique	0.252	159	173	14
Peru	0.642	95	98	3	Central African Rep.	0.249	160	135	-25
Dominican Rep.	0.638	96	107	11	Ethiopia	0.249	161	171	10
Jordan	0.628	98	99	1	Bhutan	0.247	162	165	3
Philippines	0.621	99	113	14	Djibouti	0.226	163	125	-38
Iraq	0.614	100	59	-41	Guinea-Bissau	0.224	164	167	3
Korea, Dem. Rep. of	0.609	101	109	8	Somalia	0.217	165	172	7
Mongolia	0.607	102	103	1	Gambia	0.215	166	144	-22
Lebanon	0.600	103	83	-20	Mali	0.214	167	155	-12
Samoa	0.596	104	105	1	Chad	0.212	168	161	-7
Indonesia	0.586	105	121	16	Niger	0.209	169	148	-21
Nicaragua	0.583	106	139	33	Sierra Leone	0.209	170	163	-7
Guyana	0.580	107	151	44	Afghanistan	0.208	171	169	-2
Guatemala	0.564	108	106	-2	Burkina Faso	0.203	172	153	-19
Algeria	0.553	109	72	-37	Guinea	0.191	173	129	-44
Egypt	0.551	110	122	12					

a. A positive figure shows that the HDI rank is better than the GNP per capita rank, a negative the opposite.

Top performers

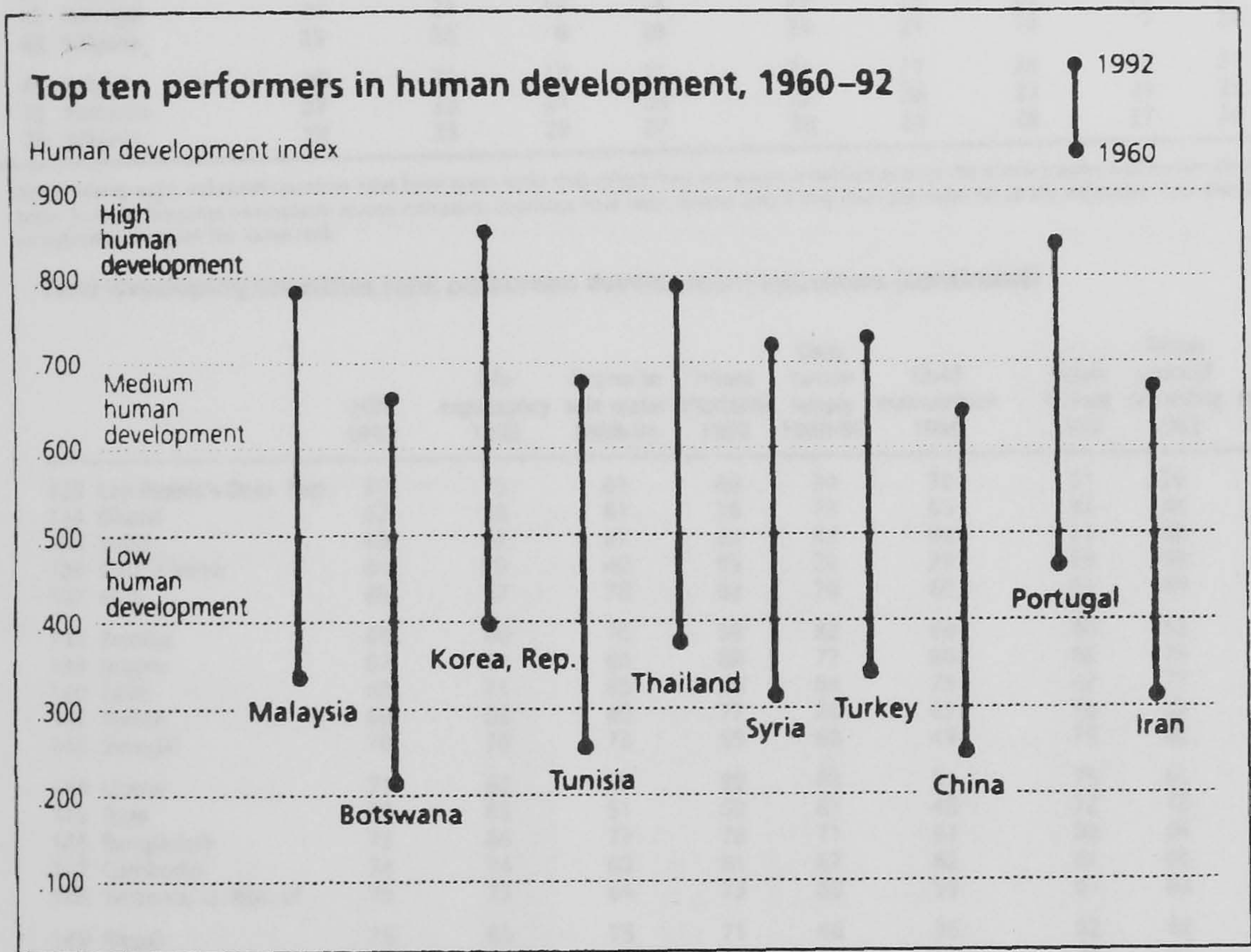
Top performers 1960-70	ten Absolute increase in HDI value	Top performers 1970-80	ten Absolute increase in HDI value	Top performers 1980-92	ten Absolute increase in HDI value	Top performers 1960-92	ten Absolute increase in HDI value
Japan	0.19	Syrian Arab Rep.	0.239	Botswana	0.256	Malaysia	0.463
Spain	0.184	Malaysia	0.216	Thailand	0.247	Botswana	0.463
Hong Kong	0.176	Malta	0.187	Korea, Rep. of	0.196	Korea, Rep. of	0.462
Singapore	0.163	Brazil	0.166	Tunisia	0.191	Tunisia	0.432
Cyprus	0.154	Tunisia	0.159	Egypt	0.191	Thailand	0.424
Greece	0.15	Algeria	0.153	Turkey	0.19	Syrian Arab Rep.	0.408
Barbados	0.146	Portugal	0.148	Iran, Islamic Rep. of	0.175	Turkey	0.406
Malaysia	0.141	Jordan	0.148	China	0.169	China	0.396
Jamaica	0.132	Korea, Rep. of	0.143	Indonesia	0.168	Portugal	0.378
Portugal	0.128	Hungary	0.133	Morocco	0.166	Iran, Islamic Rep. of	0.366

HDI values by region, 1960-92

	1960	1970	1980	1992	Absolute increase in HDI value 1960-92
All developing countries	0.26	0.347	0.428	0.541	0.281
Least developed countries	0.165	0.209	0.251	0.307	0.142
Industrial*	0.799	0.859	0.889	0.918	0.119
World	0.392	0.46	0.519	0.605	0.213
Sub-Saharan Africa	0.2	0.255	0.306	0.357	0.156
Middle East and North Africa	0.277	0.363	0.480+	0.631	0.354
South Asia	0.202	0.248	0.29	0.376	0.174
South Asia excl. India	0.188	0.231	0.27	0.358	0.17
East Asia	0.255	0.379	0.484+	0.653	0.397
East Asia excl. China	0.416+	0.547	0.686>	0.861	0.446
South-East Asia and Oceania	0.284	0.373	0.469	0.613	0.329
Latin America and the Caribbean	0.467+	0.568	0.682	0.757	0.29
Latin America and the Caribbean excl. Mexico and Brazil	0.504	0.586	0.654	0.735	0.231

TABLE 5.6
Top performers in human development, 1960-92

Top ten performers 1960-70	Absolute increase in HDI value	Top ten performers 1970-80	Absolute increase in HDI value	Top ten performers 1980-92	Absolute increase in HDI value	Top ten performers 1960-92	Absolute increase in HDI value
Japan	0.190	Syrian Arab Rep.	0.239	Botswana	0.256	Malaysia	0.463
Spain	0.184	Malaysia	0.216	Thailand	0.247	Botswana	0.463
Hong Kong	0.176	Malta	0.187	Korea, Rep. of	0.193	Korea, Rep. of	0.462
Singapore	0.163	Brazil	0.166	Tunisia	0.191	Tunisia	0.432
Cyprus	0.154	Tunisia	0.159	Egypt	0.191	Thailand	0.424
Greece	0.150	Algeria	0.153	Turkey	0.190	Syrian Arab Rep.	0.408
Barbados	0.146	Portugal	0.148	Iran, Islamic Rep. of	0.175	Turkey	0.406
Malaysia	0.141	Jordan	0.148	China	0.169	China	0.396
Jamaica	0.132	Korea, Rep. of	0.143	Indonesia	0.168	Portugal	0.378
Portugal	0.128	Hungary	0.133	Morocco	0.166	Iran, Islamic Rep. of	0.366



ANNEX TABLE A5.2

How industrial countries rank on human development indicators

	HDI 1992	Life expectancy 1992	Population per doctor 1990	Maternal mortality 1988	Mean years of schooling 1992	Overall enrolment 1991	Tertiary enrolment 1990	News- paper circulation 1990	Televi- sions 1990	Real GDP per capita (PPP\$) 1991	GNP per capita (US\$) 1991
1 Canada	1	6	17	9	2	1	2	19	2	5	8
2 Switzerland	2	2	25	6	7	10	21	6	19	2	1
3 Japan	3	1	24	23	15	11	20	2	3	4	2
4 Sweden	4	3	10	9	9	20	15	4	10	10	3
5 Norway	5	9	20	2	3	7	5	1	14	11	4
6 France	6	11	8	16	4	5	6	20	18	6	10
7 Australia	7	10	16	5	5	17	11	16	8	14	15
8 USA	8	17	15	16	1	2	1	16	1	1	7
9 Netherlands	9	6	13	18	12	17	10	13	7	13	13
10 United Kingdom	10	13	27	14	6	15	19	8	13	15	16
11 Germany	11	16	10	13	8	11	8	9	4	3	8
12 Austria	12	15	2	14	10	25	12	11	9	8	11
13 Belgium	13	14	4	2	11	9	7	14	11	9	12
15 Denmark	14	20	12	2	13	7	13	10	5	7	6
16 Finland	15	18	13	21	14	3	3	3	6	16	5
18 New Zealand	16	19	22	24	16	5	4	12	12	17	18
19 Israel	17	12	8	6	17	11	14	15	23	18	19
21 Ireland	18	21	25	1	20	11	18	22	22	20	20
22 Italy	19	8	1	6	22	15	17	25	15	12	14
23 Spain	20	4	3	9	26	4	9	26	20	19	17
25 Greece	21	5	22	9	25	15	22	23	25	22	21
27 Czechoslovakia	22	24	4	18	19	21	25	5	16	23	24
31 Hungary	23	27	7	25	18	25	26	18	17	24	23
42 Portugal	24	22	18	18	27	23	23	28	27	21	22
48 Bulgaria	25	25	6	26	24	21	16	7	24	25	25
49 Poland	26	26	18	21	21	17	24	24	21	26	26
72 Romania	27	28	21	28	23	28	27	21	25	27	28
76 Albania	28	23	28	27	28	23	28	27	28	27	27

Note: Twenty-eight industrial countries have been given ranks that reflect their comparative performance in the selected aspects of human development illustrated in this table. To make the ranks comparable across indicators, countries have been ranked only if they have estimates for all the indicators. Countries with equal performance in an indicator are given the same rank.

How developing countries rank on human development indicators (continued)

	HDI 1992	Life expectancy 1992	Access to safe water 1988-91	Infant mortality 1992	Daily calorie supply 1988-90	Child malnutrition 1990	Adult literacy 1992	Mean years of schooling 1992	Radios 1990	Real GDP per capita (PPP\$) 1991	GNP per capita (US\$) 1991
133 Lao People's Dem. Rep.	61	75	81	69	34	78	61	50	63	55	80
134 Ghana	62	58	61	56	79	65	52	44	26	75	63
135 India	63	52	67	64	43	96	71	56	74	68	72
136 Côte d'Ivoire	64	70	40	65	22	29	60	66	57	58	48
137 Haiti	65	57	78	62	70	60	61	69	86	76	68
138 Zambia	66	90	70	59	82	64	40	52	74	72	59
139 Nigeria	67	67	66	68	77	80	66	75	51	62	70
140 Zaire	68	71	85	66	64	75	42	72	71	95	80
142 Yemen	69	68	40	77	76	67	76	82	93	61	55
143 Senegal	70	76	73	55	69	49	79	82	65	56	47
144 Liberia	71	62	59	89	63	51	75	61	35	78	57
145 Togo	72	63	51	60	61	46	72	73	43	82	62
146 Bangladesh	73	66	77	78	71	97	82	64	88	67	80
147 Cambodia	74	74	80	81	67	82	81	65	65	64	87
148 Tanzania, U. Rep. of	75	73	64	73	80	59	61	63	93	91	95
149 Nepal	76	65	75	71	46	95	92	62	93	69	88
151 Sudan	77	72	74	71	88	77	91	87	30	66	63
152 Burundi	78	77	52	76	86	70	66	89	82	89	83
153 Rwanda	79	83	45	79	91	72	65	79	82	85	78
154 Uganda	80	96	95	74	87	62	68	76	65	70	91
155 Angola	81	89	84	88	92	79	74	74	82	73	91
156 Benin	82	87	58	63	51	56	95	88	72	59	67
157 Malawi	83	92	62	93	83	56	73	68	38	79	79
158 Mauritania	84	80	40	82	37	40	85	89	57	74	56
159 Mozambique	85	83	91	95	94	94	87	70	86	77	97
160 Central African Rep.	86	81	96	75	93	73	78	78	78	88	66
161 Ethiopia	87	85	89	84	96	88	69	77	48	97	93
162 Bhutan	88	79	87	90	55	83	77	93	97	90	88
164 Guinea-Bissau	89	94	79	92	65	54	80	89	88	81	88
165 Somalia	90	85	49	84	90	86	93	93	88	80	95
167 Mali	91	91	76	96	39	53	84	89	88	94	77
168 Chad	92	82	97	84	97	71	88	93	34	96	83
169 Niger	93	88	55	87	62	93	90	96	82	92	73
170 Sierra Leone	94	97	67	94	84	63	96	82	38	71	83
171 Afghanistan	95	94	93	97	95	89	89	82	65	84	93
172 Burkina Faso	96	78	38	82	68	68	97	96	93	86	76
173 Guinea	97	93	46	91	58	58	94	82	88	93	60

Note: Ninety-seven developing countries have been given ranks that reflect their comparative performance in the selected aspects of human development illustrated in this table. To make the ranks comparable across indicators, countries have been ranked only if they have estimates for all the indicators. Countries with equal performance in an indicator are given the same rank.

Appendix I.2.2.A.

The Human Development Index and Some Other Indicators,

Selected Countries, 1992

(Rank out of 160 countries)

Country	HDI	GNP pc (US \$)	Rank on HDI	Rank on GNP pc	Rank out of 160 countries		Adult literacy rate 1990 (%)	Average annual inflation rate 1980-90 (%)	Life expectancy at birth 1990 (years)
					HDI	GNP pc			
Japan	0.981	25 430	1	1	2	3	99.0	1.5	78.6
UK	0.962	16 100	2	3	10	21	99.0	5.8	75.7
Germany	0.955	22 320	3	2	12	10	99.0	2.7	75.2
Rep. of Korea	0.871	5 400	4	6	34	39	96.3	5.1	70.1
Singapore	0.848	11 160	5	4	40	25	88.0	1.7	74.0
Brazil	0.739	2 680	6	7	59	54	81.1	284.3	65.6
Saudi Arabia	0.687	7 050	7	5	67	33	62.4	-4.2	64.5
Thailand	0.685	1 420	8	8	69	79	93.0	3.4	66.1
Sri Lanka	0.651	470	9	10	76	120	88.4	11.1	70.9
China	0.612	370	10	11	79	130	73.3	5.8	70.1
Cameroon	0.313	960	11	9	118	88	54.1	5.6	53.7
Tanzania	0.268	110	12	14	126	158	65.0	25.8	54.0
Uganda	0.192	220	13	13	133	141	48.3	107.0	52.0
Sierra Leone	0.062	240	14	12	159	145	20.7	56.1	42.0

SOURCE: UNDP, *Human Development Report*, 1992.

HDI values by region, 1960-92

	1960	1970	1980	1992	Absolute increase in HDI value 1960-92
All developing countries	0.260	0.347	0.428	0.541	0.281
Least developed countries	0.165	0.209	0.251	0.307	0.142
Industrial ^a	0.799	0.859	0.889	0.918	0.119
World	0.392	0.460	0.519	0.605	0.213
Sub-Saharan Africa	0.200	0.255	0.306	0.357	0.156
Middle East and North Africa	0.277	0.363	0.480+	0.631	0.354
South Asia	0.202	0.248	0.290	0.376	0.174
South Asia excl. India	0.188	0.231	0.270	0.358	0.170
East Asia	0.255	0.379	0.484+	0.653	0.397
East Asia excl. China	0.416+	0.547	0.686>	0.861	0.446
South-East Asia and Oceania	0.284	0.373	0.469+	0.613	0.329
Latin America and the Caribbean	0.467+	0.568	0.682	0.757	0.290
excl. Mexico and Brazil	0.504	0.586	0.654	0.735	0.231

+ Region moving from low to medium human development.

> Region moving from medium to high human development.

a. Excluding Eastern Europe and the former Soviet Union.

Distribution of countries by human development group, 1960-92

	1960	1970	1980	1992
High human development	16	23	30	40
Medium human development	22	26	28	32
Low human development	76	65	56	42
Total	114	114	114	114

Main HDI Rankings, 1993

Overall Top Ranked Countries	Top Developing Countries
1. Japan	1. Barbados
2. Canada	2. Hong Kong
3. Norway	3. Cyprus
4. Switzerland	4. Uruguay
5. Sweden	5. Trinidad and Tobago
6. United States	6. Bahamas
7. Australia	7. S.Korea
7. France	8 Chile
9. Netherlands	9. Costa Rica
10. Britain	10. Singapore
11. Iceland	11. Brunei
12. Germany	12. Argentinian
13. Denmark	13. Venezuela
14. Finland	14. Dominica
15. Austria	15. Kuwait
16. Belgium	16. Mexico
17. New Zealand	17. Qatar
18. Luxembourg	18. Mauritius
19. Israel	19. Malaysia

Source: UNDP, Human Development Report, 1993.

HDI ranking for industrial countries

	HDI value	HDI rank	GNP per capita rank	GNP per capita rank minus HDI rank*
Canada	0.932	1	11	10
Switzerland	0.931	2	1	-1
Japan	0.929	3	3	0
Sweden	0.928	4	4	0
Norway	0.928	5	5	0
France	0.927	6	13	7
Australia	0.926	7	18	11
USA	0.925	8	9	1
Netherlands	0.923	9	16	7
United Kingdom	0.919	10	19	9
Germany	0.918	11	12	1
Austria	0.917	12	14	2
Belgium	0.916	13	15	2
Iceland	0.914	14	8	-6
Denmark	0.912	15	7	-8

Finland	0.911	16	6	-10
Luxembourg	0.908	17	2	-15
New Zealand	0.907	18	24	6
Israel	0.9	19	25	6
Ireland	0.892	21	27	6
Italy	0.891	22	17	-5
Spain	0.888	23	23	0
Greece	0.874	25	35	10
Czechoslovakia	0.872	27	56	29
Hungary	0.863	31	55	24
Malta	0.843	41	32	-9
Portugal	0.838	42	38	-4
Bulgaria	0.815	48	76	28
Poland	0.815	49	79	30
Romania	0.729	72	89	17
Albania	0.714	76	86	10

Successor states of *the former Soviet Union*

Lithuania	0.868	28	63	35
Estonia	0.867	29	43	14
Latvia	0.865	30	47	17
Russian Fed.	0.858	34	48	14
Belarus	0.847	40	49	9
Ukraine	0.823	45	68	23
Armenia	0.801	53	73	20
Kazakhstan	0.774	61	71	10
Georgia	0.747	66	80	14
Azerbaijan	0.73	71	92	21
Moldova, Rep. of	0.714	75	81	6
Turkmenistan	0.697	80	88	8
Kyrgyzstan	0.689	82	95	13
Uzbekistan	0.664	91	104	13
Tajikistan	0.629	97	116	19

Source: UNDP, Human Development Report, 1994.

APPENDIX II.8.1

Models: The task is to generalize the experience of the socialist countries. Like so many other scientific works, it employs models for the purpose of generalization. {The word “model” must be understood here in a wider sense. Economists of today are inclined to reserve this technical term of the philosophy of science exclusively for models expressed in the language of mathematics. While a mathematical formalization is one possible way of creating a model, it is certainly not the only one, and it has both advantages and drawbacks. There is a trade-off between accuracy and rigor, on the one hand, and the wealth of the description of reality, on the other. ‘Verbal’ models (“ideal-types” or “prototypes”), provides richer descriptions and analyses closer to real life, because it is able to build on the reader’s association of ideas. It makes it simpler to make the frequent change between the various levels of abstraction and the various combinations of simplifying assumptions.} (In J. Kornai, 1992.)

APPENDIX II.8.2.

THE SOCIALIST COUNTRIES, 1987

Serial Number	Country	Year Power was Attained ^a	Population, 1986 (million)	Area, 1986 (1,000 sq. km)	Level of Economic Development, GNP or GDP per Capita, 1985 (USA=100)	Share of People Employed in Agriculture, ca.1985 (percent)
1.	Soviet Union	1917	281.1	22,402	50.0	19
2.	Mongolia	1921	2.0	1,565	-	53
3.	Albania	1944	3.0	29	-	50
4.	Yugoslavia	1945	23.3	256	40.4	30
5.	Bulgaria	1947	9.0	111	40.8	23
6.	Czechoslovakia	1948	15.5	128	59.2	12
7.	Hungary	1948	10.6	93	46.0	20
8.	Poland	1948	37.5	313	39.2	30
9.	Romania	1948	22.9	238	34.1	28
10.	North Korea ^b	1948	20.9	121	-	48
11.	China	1949	1,054.0	9,561	19.5	74
12.	East Germany ^b	1949	16.6	108	-	10
13.	Vietnam ^c	1954	63.3	330	-	70
14.	Cuba	1959	10.2	115	-	25
15.	Congo	1963	2.0	342	8.7	90
16.	Somalia	1969	5.5	638	3.1	82
17.	South Yemen ^b	1969	2.2	333	-	44
18.	Benin	1972	4.2	113	4.1	60
19.	Ethiopia	1974	43.5	1,222	2.4	86
20.	Angola	1975	9.0	1,247	4.5	60
21.	Kampuchea	1975	7.7 ^c	181	-	90 ^d
22.	Laos	1975	3.7	237	-	76
23.	Mozambique	1975	14.2	802	4.1	85
24.	Afghanistan	1978	18.6 ^c	648	-	83 ^d
25.	Nicaragua	1979	3.4	130	15.6	65

26.	Zimbabwe	1980	8.7	391	7.6	35
1-26.	All Socialist Countries ^a		1,692.6	41,654		
	Socialist countries as a percentage of world figures		34.4%	30.7%		

Source: J. Kornai (1992, pp.6-7), based on the following sources: Columns 4-5: *World Development Report* (1988, pp. 221-23) and Kozponti Statisztikai Hivatal (Central Statistical Office, Budapest) (1989, pp.9, 14-15). Coloumn 6: R. Summers and A. Heston (1988, Tables 3 and 4). Coloumn 7: G. Baló and I. Lipovecz, eds. (1987).

^aThe year of attaining power in armed uprisings has been defined either by the year the uprising began (e.g., Soviet Union, 1917) or the year of its victory (e.g., Yugoslavia, 1945; North Vietnam, 1954). In the case of the Eastern European systems formed in a peaceful way it has been defined by the year of the fusion of Communist and Social Democratic parties.

^bCountries are referred to by the names that reflect their geographical position, not by their official names. For instance, the country officially called the Democratic People's Republic of Korea is referred to as North Korea; the German Democratic Republic, as East Germany; and so on.

^cFigure for 1987.

^dRural population.

^eCertain countries (e.g., Burma, Cape Verde, Guinea, Madagascar, Sao Tome, and Seychells) are borderline cases and are not included in the table. It is difficult to say whether or not they could have been counted as socialist countries in 1987 according to the criterion applied by J. Kornai, in his research.

APPENDIX II.9.3.

Extensive and Intensive Methods

Let us now examine the relations between the production factors and output in the growth process. There is a vast amount of general theoretical writing on this field. Several important attempts have been made to clarify the extent to which methods of analysis devised for the capitalist system, primarily aggregate production functions and the growth models based upon them, can be applied to the socialist system. The greatest difficulty is caused by the lack of data, or the unreliability of them.

Let us list the factor-output relationships under two main groups. The first group contains the effects caused by the growth of some factor. For instance, the stock of capital or the total labour expended on production grows, and that causes output to grow proportionally. The second group covers the effects caused by the growth of the productivity of some factor. For instance, more efficient use is made of capital or labour, and that causes output to grow. "This distinction and the accompanying terminology are quite widespread among Western writers, but writers in the socialist countries prefer to use another pair of expressions, distinguishing between 'extensive' and 'intensive' methods. The two pairs of expressions are synonymous: factor growth equals extensive methods, and factor-productivity growth corresponds to intensive methods." In what follows, the "Eastern" terminology is usually adopted. Strict dividing lines between various extensive or intensive methods can only be drawn in the framework of abstract analysis. In practice, they normally appear together.

The Dominance of Extensive Methods

The dominance of extensive methods is explained primarily by the fact that the socialist system usually comes to power in backward, slow-growing countries that make poor use of their resources from the extensive point of view. Therefore, there are numerous opportunities for extending the utilization of them.

1. Growth in the number of employed: The number of people employed quickly grows. The two phenomena combined, namely, a high investment ratio plus a constant, fast growth of employment, are the two main factors explaining the high growth rate under the classical system, especially in the first one or two decades.
2. More shifts and lengthening of working hours: Although the volume of investment is huge, fixed capital is comparatively scarcer than manpower, which is abundantly available for a while. The lengthening of working hours can also be one of the factors that help to speed up the rate of growth.³ After a time, the reserve of labour runs out. When this happens, it becomes the most important factor behind the deceleration of growth. (The formulation, that when the reserve of labour is exhausted, the “period of extensive growth” ends and the “intensive period” begins, is now considered as inaccurate.)
3. Growth in the area farmed: Hitherto uncultivated areas can be turned to farmland. This potential likewise runs out after a while.
4. Wider exploitation of mineral wealth: extensive expansion in the use of mineral wealth; but the potential eventually runs out.

The situation that results resembles war-time conditions under other systems. Even in peace-time, classical socialism has a ‘mobilization economy’. A “war-consciousness” is instilled constantly by the official ideology: building the economy is a battle against backwardness and enemies without and within, from which no one and nothing can withdraw. The struggle demands mobilization of all able-bodied men and all material resources.

The Discussion of Intensive Methods

Let us now turn to the discussion of various intensive methods, with the advance comment that they appear in combination with each other in the practice of forced growth.

1. Intensity of labour: Socialists before and after the revolution believe that workers freed from the rule of capitalism will work far more willingly, industriously, and intensively than the hired wage-earners of capitalism. There are signs of this, at least, in the revolutionary-transitional period of socialist rule. But in many people this initial enthusiasm gives way to apathy and an expectation that they will have to work only as much as they are paid for. At this point effective operation of the material and moral incentives designed to prompt the workers to more intensive work and discipline becomes the deciding factor. There are many serious problem with this. The system does not find sufficiently effective incentive schemes.
2. Technical progress: Considerable technical progress takes place under the classical socialist system. Thorough examinations have shown that although technical development really takes place, its contribution to growth is rather modest. Even this moderate progress slows down in the later stages of the classical system. New

technologies and products introduced in the capitalist countries are taken over, imitated, usually after a long delay.

3. Development of manpower skills: Although part of technical progress in a sense, manpower development is worth considering as a separate point. It is typical under forced growth that production, primarily industry, absorbs large masses of unskilled, inexperienced labour. Although ultimately, in the longer term, skill increases, the qualitative development of manpower lags much behind the fast-growing demand for it in production.

4. Organizational improvement: the more organized and disciplined the production and product flow to users are, the less time is lost in this way. Under classical socialism, the standard of management and the internal organization of production are backward. So this is an intensive method that contributes little to production growth.

5. Quantity at the expense of quality: The capitalist property forms and market co-ordination provide a strong incentive to improve quality. As Schumpeter's theory points out, entrepreneurs are in a winning position if they can capture the market with a new, better, and more modern product. The quality improvement is provided by internal incentives on a micro level, not by central measures. These inner motive forces are absent from the classical socialist system. Everything pushes an economic leader toward quantity in this quantity-quality trade-off. Both the plan and direct, bureaucratic control place the quantitative instructions at the fore: quantity is measured, where possible, in physical indices or aggregate, crudely weighted indices of volume with no capacity to reflect finer distinctions. Improvement of quality is customarily mentioned in official statements, but bureaucratic co-ordination is neither able nor very eager to enforce it. Certainly, quantitative growth at quality's expense is among the intensive methods that contribute greatly to the high rate of growth that features in the official statistics.

6. Overintensive use of service capacity: More residents are squeezed into a housing area, more patients into a hospital ward, and more students into a classroom than is desirable for a good standard of provision. The development of transportation and telecommunications is badly neglected, which means that the trains and roads are overcrowded, and there are too few telephone lines. As just one example to illustrate the overintensive use of capacity, the following table shows the load on the railroad systems of certain socialist and certain capitalist countries. The difference is remarkable. The overburdening of transportation and service capacities, coupled with the perpetuation or enhancement of congestion, allows the economic leadership to provide investments and other resources to the service sector as meagrely as possible and to allocate investment funds to sectors with a high priority.

Table.II.9.3.A

Overloading of the Railroad Systems: International Comparison, 1979

Freight Traffic Densities
(millions of ton-kms per km)

Socialist Countries	
Bulgaria	4.07
Czechoslovakia	5.56

Poland	5.55
Romania	6.84
Capitalist Countries	
Finland	1.21
Greece	0.34
Ireland	0.32
Italy	1.14
Portugal	0.24
Spain	0.78
Turkey	0.71

Source: J. Kornai (1992, p.185), compiled by G. Kwon on the basis of United Nations (1981, tables 6, 8B).

Note: The index means the volume of freight carried per total length of railroad lines measured in km. The volume of freight is measured in units of 1 ton carried a distance of 1 km.

To sum up, under conditions of forced growth, extensive methods predominate, complemented by intensive methods, which have sometimes harmful effects. This general qualitative conclusion is supported by numerous econometric analyses. (In. J. Kornai. 1992, pp. 180-86).

APPENDIX II.9.4

Phenomenon of Cycles-Fluctuations in Growth

The following are the three kinds of fluctuation:

1. “Calendar” pulsation. This is connected most directly with the annual plans. Since there is a strong material and moral incentive to fulfill the quantitative targets of the annual plan, the pace of work speeds up toward the end of the year. The following Table gives figures for the end-of-year spurt, when production is speeded up irrespective of cost, human exhaustion, and the decline of quality. At the start of the following year, performance suddenly dives again.

Table II.9.4.A

End-of-Year Spurt: International Comparison Table

Country	December Production as a Proportion
(Years of Observation)	of Average Monthly Production ^a in
	Following year (percent)

<i>Socialist Countries</i>	
Czechoslovakia (1968-82)	102.4
Hungary (1968-82)	114.0
Poland	106.7

(1971-81)	
Capitalist countries	
Austria (1955-81)	99.9
Finland (1976-81)	94.5
Israel (1958-77)	93.4
Italy (1974-82)	92.8
Portugal (1968-81)	98.1

Source: J. Rostowski and P. Auerbach (1986, pp. 297, 301).

Note: The data refer to manufacturing.

^a Average for months 1-11 of the following year.

2. Endogenous investment fluctuation: This is more pronounced in the smaller Eastern European countries, in China, and in Cuba in certain periods. The following Table and the Figure show a conspicuously high degree of fluctuation in investment.

Table II.9.4.B.

Fluctuation of Total Investment in Fixed Assets in China

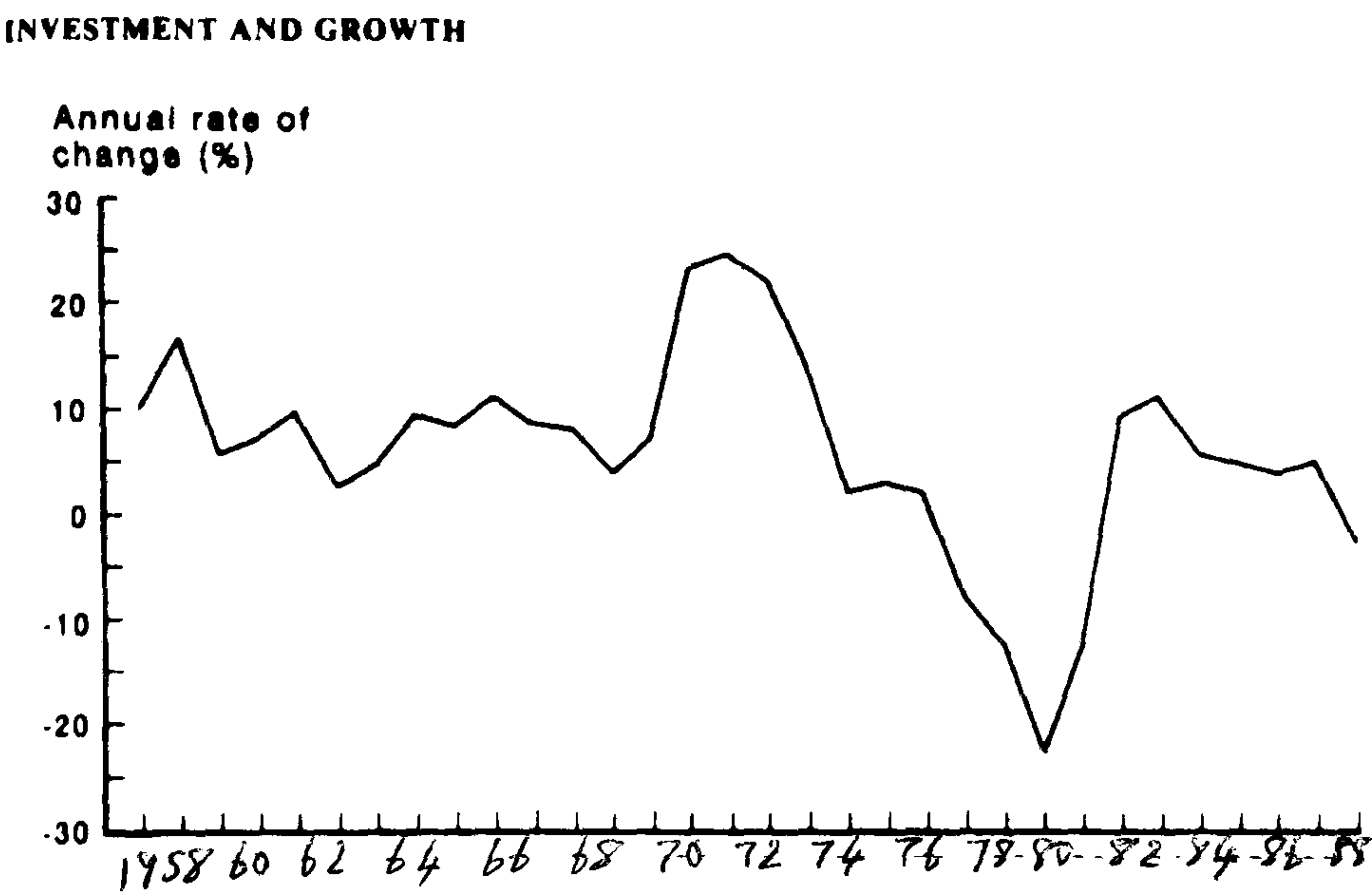
Year	Annual Rate of Change (percent)	Year	Annual Rate of Change (percent)
1951	106.9	1969	62.9
1952	85.7	1970	49.1
1953	110.3	1971	13.4
1954	12.1	1972	-1.1
1955	2.5	1973	6.1
1956	52.8	1974	5.7
1957	-6.0	1975	17.6
1958	84.5	1976	-3.9
1959	31.9	1977	4.6
1960	13.2	1978	22.0
1961	-62.5	1979	4.6
1962	-44.1	1980	6.7
1963	33.7	1981	-10.5
1964	42.2	1982	26.6
1965	30.7	1983	12.6
1966	17.5	1984	24.5

1967	-26.3	1985	41.8
1968	-19.3	1986	12.2

Source: J. Kornai (1992, p. 190), calculated on the basis of of the following sources: 1950-82: H. Chang (1984, p. 1287); 1983-86: Statistical Bureau, Peoples’s Republic of China (1987, p. 60).

Figure II.9.4.A

Fluctuation of Invest in Poland: Figure



Source: Period : 1958 - 76, T. Bauer (1981, pp. 156, 176, 187);
Period : 1977 - 89, Główny Urząd Statystyczny
(1990, pp. xxxiv - xxxv) in J. Kornai (1992, p. 189).

The following Table offers an international comparison of variation coefficients that is used as a measure of fluctuation around the long-term average growth rate.

TABLE II.9.4.C
Fluctuation of Investment: International Comparison, 1960-89

Coefficient of Variation of Annual Average Growth Rate of Investment (percent)	
<i>Socialist Countries</i>	
Czechoslovakia	131
East Germany	98
Hungary	171
Poland	187
Soviet Union	47
Yugoslavia	278
<i>Capitalist Countries</i>	
Austria	127
Canada	94
France	106
Ireland	159
Japan	90
Spain	122
Sweden	130

Source: J. Kornai (1992, p. 191), calculation by P. Mihalyi, based on data from the United Nations Economic Commission for Europe, Common Data Bank.

Note: The coefficient of variation is the ratio of standard deviation and the mean. Western figures are based on data expressed at constant 1985 prices and U.S. dollar exchange rates. Eastern data are calculated at constant prices of various years.

There are successive stages of sudden braking, slowdown and stagnation, cautious revival, and unbridled expansion, after which the braking and a similar succession of phases return. Then the cycle recommences, repeating itself constantly. At first sight, there are marked similarities between the cyclical fluctuations of the capitalist and socialist systems, but more careful examination reveals profound differences. In capitalist economies the slowdown and contraction is usually connected with the inadequacy of demand. Production has expanded too fast for the present and the predicted future demand. Business prospects become uncertain. The economic decision makers, when they realize this, suddenly slow down. This braking is a decentralized process; no one “above” gives an order. The panic spreads horizontally, on the market.

In socialist economies, however, the process is centralized. The brake is applied by central control, and the instruction to decelerate passes vertically down the levels of the hierarchy. Inadequate demand is not among the factors that provoke it. On the contrary, the leaders deciding to apply the brake sense an inadequacy of resources available to the accelerated process of growth. The entire cycle takes place amid conditions of rush,

expansion drive, investment hunger, investment tension, and chronic shortage. These mark the conduct of decision makers at all levels in the bureaucracy. They would like to invest as much and as fast as possible; meanwhile, they meet constraints at the peak of the cycle that rule out further acceleration. One might put it like this: the top leaders receive signals notifying them of the obstacles to further acceleration.

Three groups of signals can be identified. “First, imports and indebtedness cannot increase limitlessly. In many cases, particularly in the smaller countries of Eastern Europe, they have proved to be effective limits to further acceleration. Second, the investment tension becomes intolerable. Economic and technical leaders, feel that ever more common interruptions, delivery problems, and delays are unbearable. Third, the expansion of investment cuts deeply into personal consumption, exceeding the public’s tolerance limits. Discontent grows, becoming audible, and endangers the power of the ruling elite.”¹² Then the panic is strongest and the braking most drastic.

3. Changes in political line: A change in the political power relations or the stance taken by the leader can lead to sudden, dramatic turns even during the same person’s period in power. Examples include the transition from War Communism to the NEP under Lenin, from slow development of co-operatives to swift and aggressive collectivization under Stalin, from the liberal policy of “letting a hundred flowers bloom” to the “Great Leap Forward” under Mao. In other cases the sharp change comes when an old leader dies and his successor takes a new policy course. Whatever the case, these sudden changes of line have far-reaching effects on the economy, producing great swings in a whole range of indices.

The various kinds of fluctuation just described are not mutually exclusive. One thing can certainly be said: socialist planning has belied the hope that it would produce smooth growth free of the fluctuations, standstills, and setbacks of capitalism. Although the fluctuations under socialism are induced by different mechanisms and have different consequences than those under capitalism, wave motions exist and cause damage of a great many kinds.(In J. Kornai, 1992, pp. 186-193).

APPENDIX II.14.5

Measurement of Aggregate Output

The official statistics of the socialist countries contain numerous distortions. These are not merely caused by inaccuracies of measurement; they are tendentious in seeking to present a more favourable result than the true one. The concern here is primarily with the main factors distorting the aggregate indices of output measured by value. The difficulties are surveyed in the following Table, which gives the calculations for the total output of several socialist countries.

Table II.14.5.A

Official and Alternative Estimates of Growth

International Comparison

	1961-70	1971-80	1981-85	1986	1987	1988	1989
Bulgaria							
NMP (official)	7.7	7.0	3.7	5.3	4.7	2.4	-2.0
GDP	-	6.8	3.4	4.2	6.0	2.6	-1.9

(extended official) GNP (alternative)	5.8	2.8	0.8	4.9	-0.9	2.0	-
China NMP (official)	4.0	5.8	10.0	7.7	10.2	11.1	3.5
GDP (official)	-	5.5	10.1	8.3	11.0	10.9	3.6
GNP (alternative)	-	5.8	9.2	7.8	9.4	11.2	-
Czechoslovakia a NMP (official)	4.4	4.7	1.8	1.8	2.7	2.6	1.2
GDP	-	4.7	1.7	3.2	2.7	2.2	1.2
(extended official) GNP (alternative)	2.9	2.8	1.2	2.1	1.0	1.4	-
East Germany NMP (official)	4.3	4.8	4.5	4.3	3.6	2.8	2.0
GDP	-	4.8	4.3	3.9	3.3	3.1	2.3
(extended official) GNP (alternative)	3.1	2.8	1.9	2.2	1.1	1.1	-
Hungary NMP (official)	5.4	4.6	1.2	0.9	4.1	-0.5	-1.6
GDP (official)	5.3	4.7	1.8	1.5	4.1	-0.1	0.2
GNP (alternative)	3.4	2.6	0.7	2.2	1.1	1.1	-
Poland NMP (official)	8.4	5.4	-0.8	5.2	2.0	4.8	0.1
GDP	-	5.3	0.1	4.2	2.0	4.1	-1.0
(extended official) GNP (alternative)	4.2	3.6	0.6	2.7	-1.7	2.1	-
Romania NMP (official)	8.4	9.4	3.0 ^a	3.0 ^a	0.7 ^a	-2.0 ^a	-7.9 ^a
GDP	-	9.1	3.2	2.3	0.9	-0.5	-5.8
(extended official) GNP (alternative)	5.2	5.3	-0.1	2.9	-0.9	-1.5	-
Soviet Union NMP (official)	6.9	5.0	3.2	2.3	1.6	4.4	2.4
GNP (official)	7.6 ^b	5.5	3.7	3.3	2.9	5.5	3.0
GNP (alternative)	4.9	2.6	1.9	4.0	1.3	1.5	-

Source: J. Kornai (1992, pp. 194-195), compiled by J. Arvay, based on P. Marer et al. (1991).

Note: *Official* data originate from the statistical yearbooks of the given country or from reports submitted by national authorities to the World Bank. *Extended Official* estimates were made by consultants to the World Bank, taking into account the level and growth rate of official NMP and the relation between NMP and GDP in periods where such data were available for a given country or the

ratio in other countries. Therefore, any distortions embedded in official growth rates are included in the extended GDP growth rates, too. *Alternative* estimates are from Central Intelligence Agency (1989). These estimates in most cases use officially published physical quantity indicators that are then weighted by factor costs or adjusted factor costs of the products. The CIA volume is based on several sources, including the data of T. Alton and his associates in the Research Project on National Income in East Central Europe.

^a In Romania the national accounts data for 1980-89 are the considerably revised figures published in 1990.

^b1966-70.

Row 1 contains the official statistics, and the other rows alternative estimates. It is enough to point out one common characteristic: all the alternative estimates show a lower rate of growth than the official figures. Numerous quantitative examinations will have to be re-examined in light of the new, more accurate data. (In J. Kornai, 1992, pp. 193-197).

Appendix III.15.1

NATO Summit (London, 5-6 July 1990)

‘NATO declares formal end to the Cold War.’ Main NATO decisions are the following.

Peace declaration: The Warsaw Pact states are invited to sign a joint declaration with NATO committing them to non-aggression.

Gorbachev invitation: President Gorbachev and other East European leaders are invited to address the North Atlantic Council.

Conventional forces: CFE (Conventional Forces in Europe) negotiations to be intensified. When the treaty is signed, NATO will give a commitment on troop levels in united Germany and seek a new agreement on further cuts.

Nuclear strategy: NATO to make nuclear arms ‘weapons of last resort’ - moving away from the ‘flexible response’ doctrine. NATO to withdraw all US nuclear shells from Europe if the USSR reciprocates.

Stronger CSCE: New CSCE institutions are to include: a secretariat, a body to monitor elections, a conflict prevention centre and an Assembly of Europe. (From *The Times*, 7 July 1990).

Appendix III.15.2

The Warsaw Pact, 1955

(Signatory States: Albania, Bulgaria, Czechoslovakia, GDR, Hungary, Poland, Romania, USSR)

Key Statements including the following: The Contracting Parties,

Reaffirming their desire to create a system of collective security in Europe based on the participation of all European states, irrespective of their social and political structure, whereby the said States may be enabled to combine their efforts in the interests of ensuring peace in Europe;

Taking into consideration, at the same time, the situation that has come about in Europe as a result of the ratification of the Paris Agreements, which provide for the constitution of a new military group in the form of a ‘West European Union’, with the participation

of a remilitarized West Germany and its inclusion in the North Atlantic bloc, thereby increasing the danger of a new war and creating a threat to the national security of peace-loving States:

Being convinced that in these circumstances the peace-loving States of Europe must take the necessary steps to safeguard their security and to promote the maintenance of peace in Europe;

Being guided by the purposes and principles of the Charter of the United Nations; In the interests of the further strengthening and development of friendship, co-operation and mutual assistance in accordance with the principles of respect for the independence and sovereignty of States and of non-intervention in their domestic affairs; 11 various Articles have been drawn...In the event of the establishment of a system of collective security in Europe and the conclusion for that purpose of a General European Treaty concerning collective security, a goal which the Contracting Parties shall steadfastly strive to achieve, the present Treaty shall cease to have effect as from the date on which the General European Treaty comes into force.

(Source: *The Times Guide to Eastern Europe*, pp. 265-266).

Appendix III.15.3

The Helsinki Conference on Security and Co-operation in Europe (CSCE), 1973-75

This conference was originally proposed by Soviets. No general peace conference had ever taken place following World War II, and the Soviet Union saw such an assembly as a means to consolidate, or 'legitimize', the favourable strategic position it had attained in Europe as a result of the war. The advent of *detente*, coming on the heels of Brandt's *Ostpolitik*, made the atmosphere favourable to such talks. Preliminary negotiations began in 1972. Eventually on 3 July 1973 the representatives of 35 nations (all the European states - except Albania - with the USA and Canada) sat down for talks in the Finnish capital. Far from being a speedy 'summit' though, the talks dragged on and on. The Final Helsinki Document was not signed until 1 August 1975.

While the Soviet Union wanted the Conference to concentrate on security matters, and was prepared for some general statements on economic and cultural co-operation, the West wanted a broader overall programme for the improvement of pan-European relations. Western nations felt that for real *detente* to be achieved, the rights of individuals would have to be secured. This meant:

1. A minimum consensus on the development of human rights.
2. Liberalization as regards exchanges of people and ideas.

The Soviet side was hostile to the thrust of Western moves. The Western emphasis upon the freedom of the individual in relation to the state contrasted with the notion that had developed in state socialist societies that such freedoms as the individual possessed were inextricably linked - and even conditional upon the individual's duties and obligations to state and community. Eventually, however, Soviet resistance to discussion on human rights was overcome by Western persistence. There was agreement to consider humanitarian and cultural questions on the conference agenda as a separate item. The Swiss delegation had proposed the idea of dividing the agenda into three 'baskets': the

first dealing with questions relating to Security in Europe; the second dealing with co-operation in the field of economics, of science and technology and of the environment; and the third dealing with human rights (co-operation in humanitarian and other fields). The Soviets were forced to recognize that the security and stability they so earnestly desired could not be guaranteed by weapons on inter-governmental treaties alone. It was dependent also upon their willingness to take the aspirations of individual citizens into account. Further the Western nations made clear that they were not prepared to talk about peace and security without reference to human rights...The Soviet Union adopted the principles of the Final Act (Helsinki Accord) into its 1976 Constitution, thereby strengthening their universal validity regarding standards of international conduct.

Finally, it should be emphasized that the Final Act established a basis for continuing dialogue on the matters dealt with. It initiated a process for seeking information and exchanging views on the issues raised by the conference, as well as monitoring compliance. Subsequently, Helsinki 'follow-up' conferences [such as those at Belgrade (1977), Madrid (1979), Stockholm (1984-5), and Vienna (1986)] were held to review the working of the agreement.

[Sources: *Conference on Security and Co-operation in Europe, Final Act*, HMSO Cmnd.6198; V. Mastny, *Helsinki Human Rights and European Security: Analysis and Documentation*, Duke University Press, Durham, 1986; T. Buergethal (ed), *Human Rights, International Law and the Helsinki Accord*, Allanheld, Osman, New Jersey, 1977; in 'The Times Guide to Eastern Europe, London, 1990.]

CSCE Paris Summit (19 November 1990)

A joint declaration was issued by the member states of NATO and the Warsaw Pact. The signatories stated:

That they no longer regarded themselves as adversaries and would seek friendly relations with each other.

That, mindful of the obligations under the UN Charter and their commitment to the Helsinki Final Act, they would refrain the use of force against the territorial integrity or the political independence of any state.

That the security of each state was linked to the security of all participating in the Conference.

That each state had the right to be a party to a treaty of alliance.

That they approved the intensification of political and military contacts to promote understanding and confidence.

That they were determined to agree to disarmament agreements and welcomed the new negotiations between the US and the USSR and the reduction of short-range nuclear forces.

That they would work with other CSCE states to enable the body to make an even greater contribution to security and stability in Europe.

[Source: Adapted from *The Independent*, 20 November 1990, in The Times Guide to Eastern Europe.]

Appendix III.15.4

The Pentagonale Initiative: Policy Document (Venice, August 1990)

Reasons for the establishment of the Pentagonale Initiative.

The Pentagonale Initiative is a new form of co-operation for promoting joint efforts, taking into consideration the emergence of a new era in Europe. It is a follow-up to the former quadrilateral co-operation established in Budapest on 10 and 11 November 1989 between Italy, Austria, Yugoslavia and Hungary. It assumed the pentagonal form in Vienna on 20 May with the accession of Czechoslovakia. The co-operation takes into account the following:

The established tradition of co-operation between the five countries and their mutual bilateral co-operation.

The major changes which have occurred in East-West relations.

The revolutionary changes that took place recently in the Central and East European countries.

The Pentagonale Initiative is a contribution towards creating security and stability for the change-over from the old to new order, particularly by pursuing various objectives...The Pentagonale Initiative is a component of a much broader European architecture. In this context, the five participating countries recognize the essential role of CSCE in setting up a lasting order of peace, security, justice and co-operation in Europe and they attach special importance to the activity of the European Community and other European organizations. The Pentagonale Initiative therefore represents a level of co-operation which will be helpful in bringing those member countries not yet participating in - or candidates to - the EC, closer to the European Community...The Pentagonale Initiative has no rigid institutional structures, and is designed to be flexible and pragmatic. The various projects can be carried out by all or by some of the participants...The Pentagonale Initiative also foresees a regular exchange of views between the five member states on matters of a political nature and of common interest. Wherever possible, joint initiatives will be carried out within the latitude permitted by the international obligations of each member state in this respect.

(Source: The Times Guide to Eastern Europe, London, 1990, pp.275-276.)

Appendix III.16.1

Milestones in Economic Policy and Performance during the Gorbachev Era.

- March 1985: Mikhail Gorbachev becomes General Secretary, makes economic revitalization a top priority
- Gorbachev outlines initial strategy: short-run reliance on human factor to improve productivity and weed out incompetents; in longer term, counts on organizational changes and modernization of industrial base.
- Gorbachev presses antialcohol campaign, cleans house in Council of Ministers and Central Committee economic departments.
- November 1985: Draft guidelines for 1986-90 plan feature acceleration in industrial and agricultural growth, give special prominence to machinery sector as prime

mover in modernization campaign; plan depends on unrealistic assumptions about conservation and productivity.

- February 1986: At Communist Party congress, Gorbachev proclaims “reasonable sufficiency” guideline for defense programs.
- Leadership reorganizes foreign trade apparatus, establishes guidelines for setting up joint ventures between Soviet enterprises and foreign partners.
- Leaders criticize failure to improve quality of output, set up system of state quality inspection.
- Glasnost and democratization in economy encounter government and party resistance.
- Investment surges while per capita consumption stagnates.
- State budget deficit begins to climb.
- June 1987: Supreme Soviet and Central Committee approve, guidelines for “new economic mechanism” to include enterprise self-financing, narrower scope of state plans, price and wage revisions, greater freedom to engage in international trade.
- October 1987: Ryzhkov sets out program for expanding defense industry involvement in civil production
- Plan reflects new emphasis on consumer.
- New quality control program disrupts industry.
- Investment program falls far behind because of confusion in construction and machinery shortages.
- State budget deficit continues to climb.
- January 1988: Broad implementation of reforms approved in 1987 begins.
- Fall 1988: Gorbachev raises 1989 targets for production of consumer goods, announces cuts in defense outlays and state investment, takes defense sector with greatly increased support for civilian economy, stretches out reform process.
- State budget deficit continues to climb.
- January 1989: Implementation of 1987 reforms expands to entire economy, contributes to disruption of traditional supply relationships.
- October 1989: Abalkin reform program calls for gradual transition from state to other forms of ownership, development of market-oriented financial system.
- December 1989: Supreme Soviet approves Ryzhkov reform and stabilization program - watering down of Abalkin program.
- Economy sputters as production of energy and basic materials falls; transportation and distribution problems, exacerbated by strikes and ethnic tensions, interfere with supplies.
- Investment program stalls as unfinished construction rises.
- Spending on defense declines, led by cuts in weapons procurement.

- Open and repressed inflation evident; shortages intensify, leading to rationing in many localities.
- International financial position deteriorates as U.S.S.R. borrows to pay for increased imports of consumer goods and industrial equipment
- August 1990: Shatlin reform program calls for market determination of output and prices, increase in republic authority over economic policy and reforms.
- October 1990: Gorbachev reform program is adopted, providing for gradual elimination of state controls over output and prices, sale or transfer of property to owners other than state, eventual convertibility of ruble to hard currency.
- Central and republic governments at logger-heads over wide range of economic issues, including reforms.
- Regional autarky disrupts economic ties.
- Soviet economy passes from stagnation to decline.
- Investment and defense spending continue to fall.
- Inflation accelerates, shoppers sweep store shelves clean, shortages of energy and industrial materials worsen, barter proliferates.

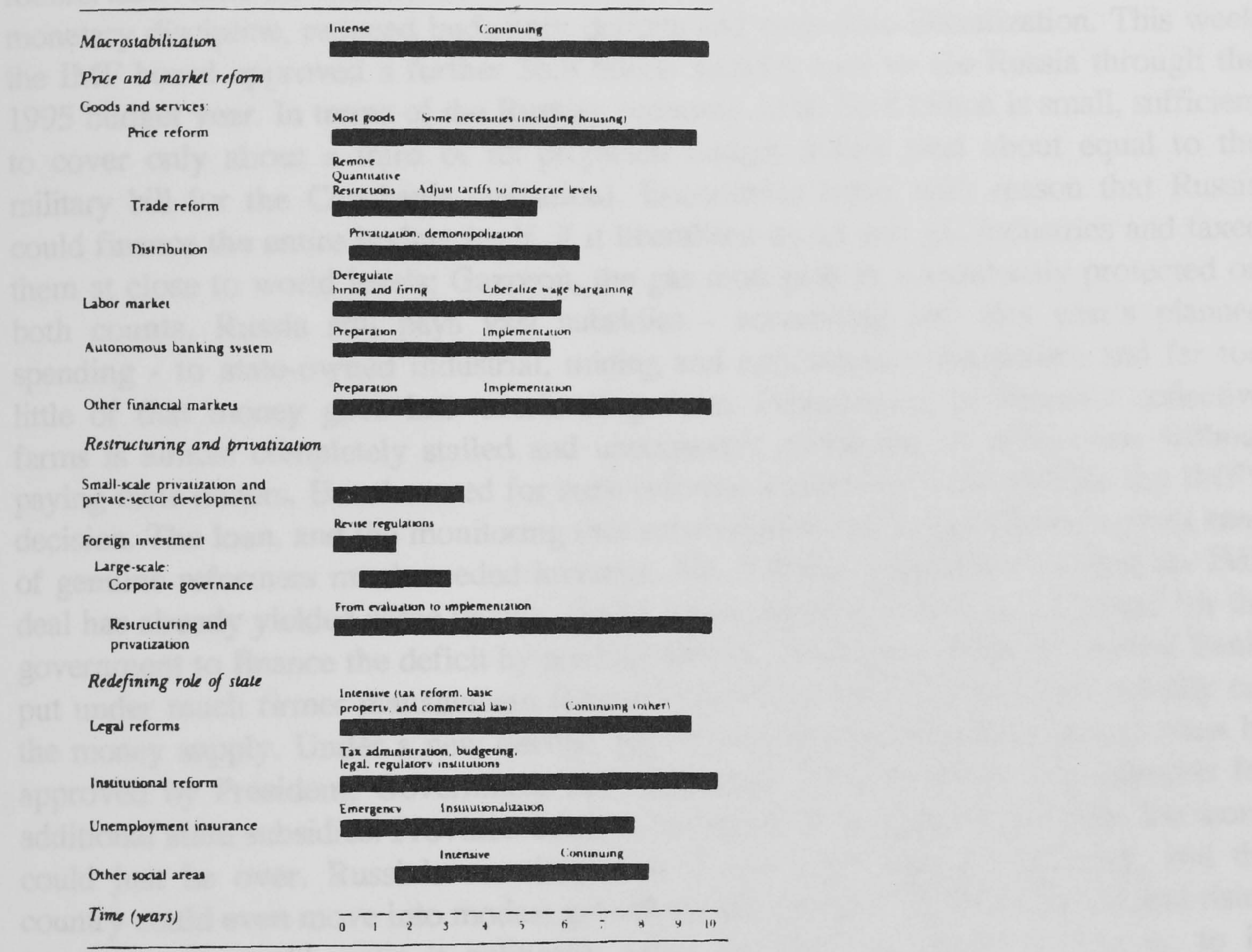
Source: The Former Soviet Union in Transition, pp. 31-33.]

Appendix III. 17. 1

Phasing of Reform Over a Ten Year Period

Appendix III.17.1
Russian Reforms since 1992

The following report of The Finance and Development Center, Washington, D.C., dated June 1994, outlines the effects of deepening reforms. Three times since 1992, the International Monetary Fund has visited Russia to stabilize the economy. The IMF's latest visit was in June 1994. The IMF's latest visit was in June 1994. The IMF's latest visit was in June 1994.



Three strokes of expanded reform. The IMF's latest visit was in June 1994. The IMF's latest visit was in June 1994. The IMF's latest visit was in June 1994.

Three strokes of expanded reform. The IMF's latest visit was in June 1994. The IMF's latest visit was in June 1994. The IMF's latest visit was in June 1994.

Appendix III.17.2

Source: Alan Gelb and Cheryl Gray, *"The Transformation of Economies in Central and Eastern Europe: Issues, Progress and Prospects,"* World Bank Policy Research Paper, no. 17, Washington, D. C., 1991; See also Stanley Fischer and Alan Gelb, *"The Process of Socialist Economic Transformation,"* *Journal of Economic Perspectives*, vol. 5, no. 4, 1991, pp. 101-104.

Appendix III.18.1

Russian Reforms since 1992

The following report of The Times April 13, 1995 shows further the effects of deepening reforms: Three times since 1992, Russia has obtained loans from the International Monetary Fund to support macro-economic reforms and to stabilize the rouble. Each time the Russian Government has failed to live up to its solemn promises of monetary discipline, reduced budgetary deficits and economic liberalization. This week the IMF board approved a further \$6.8 billion standby loan to see Russia through the 1995 budget year. In terms of the Russian economy, even \$6.8 billion is small, sufficient to cover only about a third of its projected budget deficit (and about equal to the military bill for the Chechenia operation). Economists argue with reason that Russia could finance the entire budget itself, if it liberalised its oil and gas industries and taxed them at close to world levels: Gazpron, the gas monopoly is scandalously protected on both counts. Russia still pays vast subsidies - accounting half this year's planned spending - to state-owned industrial, mining and agricultural monopolies; and far too little of that money goes into overhauling them. Privatization of Russia's collective farms is almost completely stalled and uneconomic mines stay in production without paying their miners. But the need for such reforms is precisely what justifies the IMF's decision. The loan, and the monitoring that accompanies it will give Russia's small band of genuine reformers much-needed leverage. Mr. Yeltsin's eagerness to close the IMF deal has already yielded some results. Under a law passed in January, it is illegal for the government to finance the deficit by printing money. The same month the Central Bank, put under much firmer management following last October's rouble crisis, actually cut the money supply. Under a new decree, any overshooting of spending targets must be approved by President, Government and Parliament. That will fend off demands for additional state subsidies. Provided Russian targets mean something this time, the worst could just be over. Russia's economy may at last have stopped declining, and the country could even move into modest growth by late summer. Falling inflation and rising tax revenues would make it politically easier for the government to live up to its promises of further structural reforms. That would release up to \$2 billion more in World Bank finance, and coax back some of the \$24 billion officially estimated to be salted away in Western accounts by Russian investors and enterprises. The first \$1 billion will be paid to Russia this month, followed by \$500 million on a monthly basis. Michel Camdessus, the IMF's managing director, praised Russia's "bold and ambitious" economic reform programme, and said he believed the Russian economy may begin to grow again this year, after four years of steep decline.

Three strokes of economic bad news in Russia: The rouble slipped below 5,000 to the dollar for the first time, the Finance Minister admitted that revenues are \$1.4 billion short for the first quarter of this year, and thousands of Russian miners and workers in Siberia and the Far East staged a one-day strike to demand the release of government credits so that their long-delayed wages can be paid.

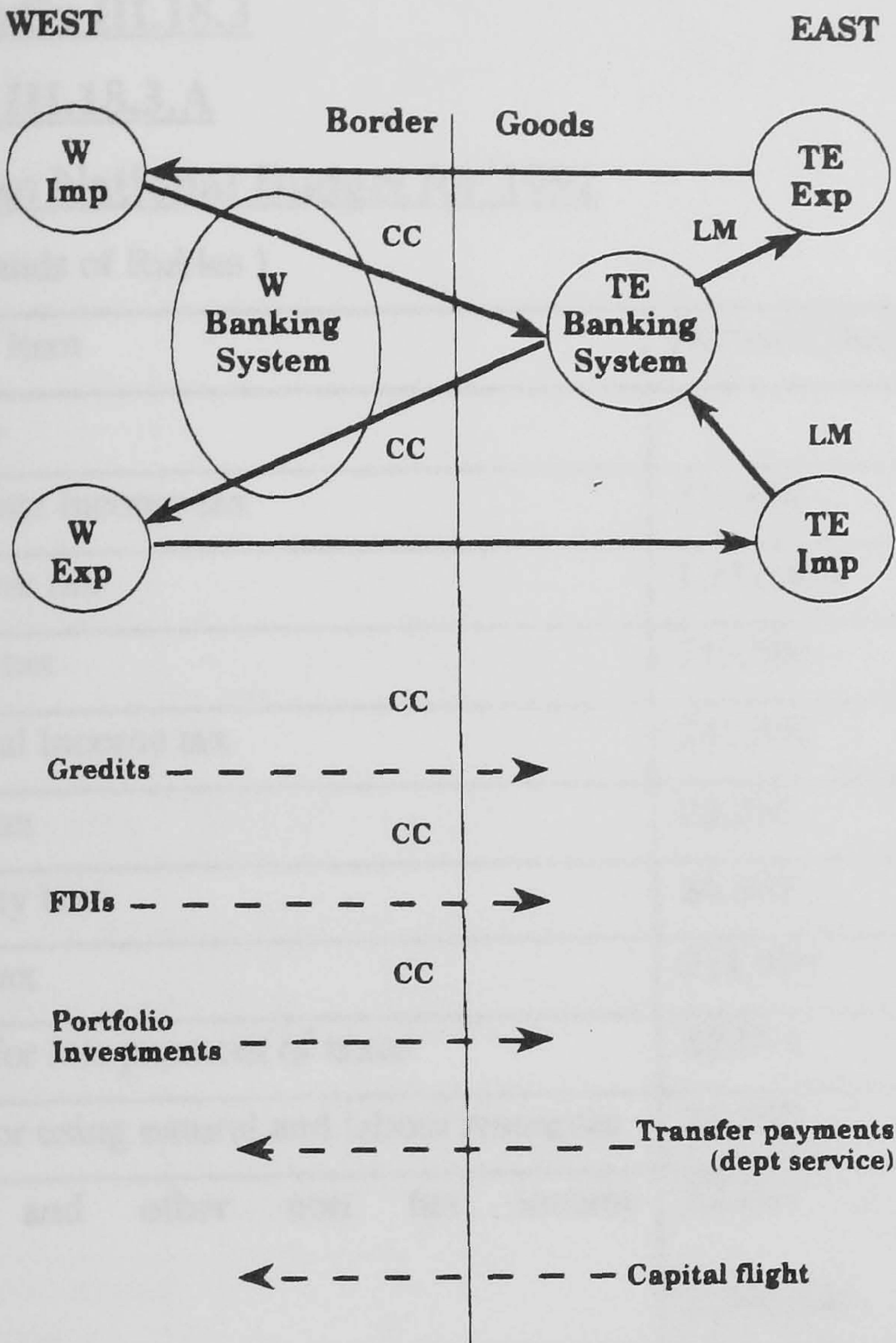
Appendix III.18.2

Internal Convertibility

Under the Communist system, foreign trade was actually controlled by state-owned, sectoral foreign trade organizations (FTOs) which arranged trade, including negotiating terms, pricing and the handling of foreign currency, for deals predetermined by the plan. Local money in centrally planned economies (CPEs) was not even 'goods convertible' in the internal economy. This system had to change with the demise of socialist economic system and during the period of the systemic change, the administrative barriers to trade fell. As transitional economies (TEs) wish to integrate themselves as quickly and as fully as possible into the global economy, special attention must be paid to the external economy. Openness to the world economy helps to provide a system of relative prices and much needed competition for domestic producers. Thus the movement towards convertibility is one of the high priority issues in the early transition process. However, it is not possible, and not even desirable to move directly to full convertibility in TEs. A process of convergence between domestic and global prices must first take place, and this is bound to be gradual.

Internal or domestic convertibility is a term which has been used during the first years of transition to explain the first stage of TEs' external economic reform. It simply means that duly registered resident economic agents can obtain foreign exchange (convertible currency = CC) at the prevailing exchange rate of merchandise and related transactions by using local money (LM). In turn, all agents without exception must surrender all CC earnings to the proper authorities - in practice to the local banking system - at the prevailing exchange rate. This rate may be fixed or floating, but the point is that virtually the entire supply of CC is available for transaction purposes at a rate determined by the local monetary authorities. The system can be visualised by the following diagram:

INTERNAL CONVERTIBILITY



Source: Tauno Tiusanen - Richard Berry, *“The Eastern Market: The Investment Climate in Transitional Economies,”* Rastor-Julkaisut, Helsinki, 1995, pp. 3-6

Appendix III.18.3

Table III.18.3.A

Latvian National Budget for 1991

(Thousands of Rubles)

Budget Item	National Budget	Percent of National Budget
Income		
Corporate Income tax	411,608	14.19
Turnover tax	1,111,456	38.31
Excise tax	715,500	24.67
Personal Income tax	241,081	8.31
Land tax	22,265	0.77
Property tax	66,682	2.30
Road tax	211,000	7.27
Fines for late payment of taxes	52,083	1.80
Fees for using natural and labour resources	16,300	0.56
Fees and other non tax income	52,874	100.00
Total	2,900,849	
Grants and Subsidies to local budgets	517,563	17.84
Expenditures		
State capital investment	379,130	11.70
Financing national economy	754,744	23.29
Social cultural measures	684,018	21.11
Science	72,430	2.24
Financing state bureaucracy	223,794	6.91
Other expenditures	1,126,319	34.76
Total	3,240,435	100.00

Source: John E. Tedstrom: *“Problems of Fiscal Policy Reform During The Transition: A Baltic Case Study”* p. 232; Documentation from Finance Ministries of the three Baltic states and interviews with respective Balt officials.

Appendix III.18.3

Table III.18.3.B

Lithuanian Budget for 1991

(Thousands of Rubles)

Budget Item	State	Percent of State budget	Local	% Local budgets	National	Percent of National budget
Income						
Corporate income	605,000	10.70	255,000	17.18	860,000	12.05
Excise (turnover)	3,800,000	67.23	0	0.00	3,800,000	53.25
Personal income	479,893	8.49	719,817	48.51	1,199,710	16.81
Land tax	0	0.00	347,249	23.40	347,249	4.87
Vehicle tax	0	0.00	5,500	0.37	5,500	0.08
State filing tax	0	0.00	101,870	6.86	101,870	1.43
Customs duties	3,000	0.05	0	0.00	3,000	0.04
Fees for using state property	376,000	6.65	0	0.00	376,000	5.27
Other	13,000	0.23	54,494	3.67	67,494	0.95
Special fund of financial resources	375,600	6.64	0	0.00	375,600	5.26
Total	5,652,493	100.00	1,483,930	100.00	7,136,423	100.00
Subsidies from state budget			712,297			
Expenditures						
Education	399,857	8.09	725,617	33.04	1,125,474	15.77
Culture	121,579	2.46	50,149	2.28	171,728	2.41
Health care	308,292	6.24	442,320	20.14	750,612	10.52
Sports	6,500	0.13	1,940	0.09	8,440	0.12
Social Security	297,770	6.03	322,040	14.66	619,810	8.69
Science	257,261	5.21	0	0.00	257,261	3.60
State archives	3,578	0.07	0	0.00	3,578	0.05
Road maintenance and repair	76,000	1.54	0	0.00	76,000	1.06
National economy	1,805,763	36.55	224,551	10.22	2,030,314	28.45
Ecological maintenance	95,379	1.93	0	0.00	95,379	1.34
State government and bureaucracy	72,264	1.46	42,096	1.92	114,360	1.60

Legal organs	19,434	0.39	0	0.00	19,434	0.27
Internal organs	195,665	3.96	0	0.00	195,665	2.74
State-wide programs	534,769	10.82	0	0.00	534,769	7.49
Payments to enterprises	350,624	7.10	0	0.00	350,624	4.91
Other expenditures	72,338	1.46	73,218	3.33	145,556	2.04
Capital investment	320,900	6.50	314,296	14.31	635,196	8.90
Housing projects	2,223	0.04	0	0.00	2,223	0.03
Total	4,940,196	100.00	2,196,227	100.00	7,136,423	100.00

Source: John E. Tedstrom: "Problems of Fiscal Policy Reform During The Transition: A Baltic Case Study" p. 233; Documentation from Finance Ministries of the three Baltic states and interviews with respective Balt officials.

Appendix III.18.3

Table III.18.3.C

Estonian State Budget and Budget Supplements for 1991

(Rubles)

Income Source	12/20/90: Original State Budget	9/5/91: Budget Supplements	Total	Percentage Share
Turnover tax	640,000,000	+307,313,00 0	947,313,000	34.9
Excise tax	605,800,000	-9,200,000	596,000,000	22.0
Corporate income tax	167,300,000	+632,700,00 0	800,000,000	29.4
Natural resource	19,670,000		19,670,000	0.7
Oil products tax	173,500,000		173,500,000	6.4
Customs duties	10,000,000		10,000,000	0.4
Other	11,100,000	+158,900,00 0	700,000,000	6.3
Total	1,627,370,00 0		2,717,083,00 0	
Transfer to local budgets	228,300,000	+72,100,000		
Budget surplus to local budgets		+128,900,00 0		

Source: John E. Tedstrom: "Problems of Fiscal Policy Reform During The Transition: A Baltic Case Study" p. 234; Documentation from Finance Ministries of the three Baltic states and interviews with respective Balt officials.

Appendix III.19.1

List of Priority Issues during the Transition Stage of Development

We only list here the priority issues during the new stage of development.

- The problem of people and culture and integral learning
- The problem of production and technology and self-sufficiency
- The problem of scarce-resources and utilization and sustainable growth
- The problem of real investment and firms and employment opportunities
- The problem of real wages and prices and inflationary tendencies
- The problem of comparative advantage and internal and international trade
- The problem of currency and financial institutions and exchange rate mechanism
- The problem of ecology and environment and space
- The problem of defence and nuclear capability and super powers
- The problem of basic needs and human dignity and human rights
- The problem of economic integration into global market
- The problem of new world order
- The problem of privatization and land reforms
- The problem of democratic-market oriented legal system
- The problem of conscientization and empowerment mechanism
- The problem of welfare dynamics
- The problem of R&D and patent rights
- The problem of foreign aid and ODA
- The problem of transitional stage to permanent growth]

Appendix III.19.2.

An Illustrative Checklist of indicators of Political Freedom

1. Personal Security

- a. Arbitrary arrest and detention: Are there arrests without a warrant or probable cause; detention without prompt hearing before a court or other independent body; unreasonably long detentions before trial or conviction; arrests and detentions of people for their political beliefs? Is there any incommunicado detention?
- b. Torture or cruel treatment or punishment: Are there acts of torture (mental or physical)? Is there cruel, unusual or degrading treatment or punishment? Are there inhumane prison conditions? Does police brutality exists?
- c. Arbitrary killing: Are there any executions without due process of law by the police, security forces or state officials? Are there any killings by non-governmental forces with

government acquiescence or compliance? Are there killings, either of civilians or of captured or wounded combatants, in violation of the laws of war?

d. Disappearances: Are persons abducted and held in unacknowledged detention by order of, or with the complicity of the State or opposition forces, without their family or friends having any knowledge of where they are and how they are faring? Do family members have effective judicial or administrative mechanisms of determining whereabouts and status of abducted persons?

2. Rule of Law

a. Fair and Public Hearings: Are there fair and public hearings in the determination of all criminal charges? Is every person charged with an offence tried without undue delay, and with adequate time and facilities for the preparation of his or her defence?

b. Competent, Independent and Impartial Tribunal: Is the judiciary free of outside pressure or influence? Is there corruption in the judiciary? Is the procedure for selecting judges an open one in which opinions outside the executive can be heard? Do judges have security of tenure?

c. Legal Counsel: Does everyone have the right to capable and independent defence counsel in the determination of any criminal charge against him or her? Does everyone have the right to have legal assistance assigned to him or her in any case where the interests of justice so require, and without payment by the defendant if he or she lacks the necessary means? Is there a right to consult with counsel immediately on arrest, before interrogation begins?

d. Review of Conviction: Does everyone convicted of a crime have the right to have his or her conviction and sentence reviewed by an independent judicial tribunal?

e. Failure to Prosecute: Do state prosecutions also prosecute government officials, or members of pro-government forces, who violate the rights and freedoms of other persons?

3. Freedom of Expression

a. Restrictions in Law and Practice: Is freedom of expression a constitutionally or legally protected right? Are there legal restrictions on freedom of opinion and expression other than what is necessary to protect the rights of others? Is there prosecution of journalists or others for infringement of such laws? Are the punishments prescribed severe in proportion to the offence?

b. Media Censorship: Is there direct censorship of any of the media? Is there indirect censorship by such means as withdrawal of government advertising revenue, licensing laws, or restrictions on the supply of materials? Are there threats to, or harassment of, publishers, editors or journalists? Is there destruction of media outlets by State or non-State forces? Has the government shut down any newspapers on the grounds of their legitimately expressed views?

c. Media Ownership: Is the media (particularly TV and radio) wholly or partly owned by the government? If so, do the media tend to reflect or favour government policy? Is independent ownership of the media permitted?

d. Freedom of Speech: Is there any censorship of mail, phone-tapping or government surveillance? Are there any restrictions on freedom of speech? Are there government

controls on book publishing or the arts, other than to safeguard public morality or in the legitimate interests of national security or public order?

4. Political Participation

a. Political participation: Is there freedom of association and assembly? Are multiple parties allowed in law and in practice? Is there violence against, or harassment of, political opponents?

b. Free and Fair Elections: Is there a universal adult franchise? Are there procedural irregularities by government, such as the exclusion or intimidation of voters, the rigging of votes, or violence against candidates or opponents of government? Do the voting procedures permit political parties and independent observers to monitor balloting and vote counting?

c. Continuity of the Democratic System: Are free elections a recent introduction or a long-standing tradition? What are the prospects of a democratic system continuing? Do elections occur at reasonably regular intervals?

d. Community and Local Decision-Making: Are political decision-making powers decentralized? How much public participation is allowed in local bodies and at the community level?

5. Equality of Opportunity

a. Legal Guarantees: Are there constitutional or statutory guarantees of equality, regardless of gender, race, colour, descent, tribe, religion or national or ethnic origin?

b. Violence against, or harassment of, particular groups: Does the State always prosecute those responsible for violence or harassment (State or non-State) against particular groups?

c. Political Participation: Are any groups excluded from, or hindered from, participation in voting or government? Does the State support or condone this, or does it make serious efforts to combat it?

d. Economic Participation: Are there inequalities in pay and employment as a result of discrimination? Are there discriminatory restrictions on economic participation? Does the State support or condone discrimination, or does it make serious efforts to ensure equal treatment?

Source: Human Development Report 1992, UNDP, Oxford University Press, p. 31.

Appendix III.19.3

The Tide of Freedom

Transitions from autocratic to democratically elected political systems have come in waves over the past decade. The first was swept through Latin America. It began in Peru in 1980 with the completion of a transition to an elected government after 12 years of military rule. In the following years, South America's military regimes fell one by one: Argentina in 1983, Brazil and Uruguay in 1985, Chile in 1988 and Paraguay in 1989. There have been more than 180 coups in 157 years in Bolivia, but democratic, civilian rule was restored (only) in 1982.

Haiti is undergoing the region's most painful transition. Violence and coups have plagued the country since the Duvalier regime was ousted in a 1986 military coup. The latest setback occurred in December when Jean-Bertrand Aristide, Haiti's first democratically elected president, was overthrown and forced into exile. (By American intervention, Aristide has been reinstated as the president in 1995).

The fall of Berlin Wall in 1989 heralded a wave of transitions in the (Central) and Eastern European countries and what was the Soviet Union. Radical political changes begun in Poland in 1988 were consolidated. Other countries followed: Bulgaria, Czechoslovakia, German Democratic Republic, Hungary and Romania either began or completed transitions to democratic rule in 1990. In 1991, Albania held its first multiparty elections in 68 years. That same year, the republics of the former Soviet Union experienced rapid political change towards democracy.

There was little political change in post-independence Africa until the late 1980s, but since then the transformations have been dramatic. Elections were held in Namibia in 1989 and the new government guided the country into independence in 1990. In 1991, multiparty elections were held in Benin, Cape Verde, Sao Tome and Principe, and Zambia. The military government in Nigeria has committed itself to transfer rule to civilians through elections in 1992.

Many other African countries also moved towards ending single-party systems: Angola, Burkina Faso, Congo, Cote d'Ivoire, Ghana, Kenya, Niger and Tanzania. And opposition forces in such other countries as Cameroon, Madagascar and Zaire are pressing for political change.

Political change has transformed many countries in Asia over the past several years as well. In 1985, Filipinos poured into the streets to overthrow the Marcos government and, shortly thereafter, held a democratic presidential election. In 1990, Mongolians ratified a new constitution that established a multiparty system.

During 1991, Nepal held its first democratic elections in 30 years. Hong Kong took its first steps towards democracy with direct elections to its legislature, and Samoa held its first elections with universal adult suffrage. Pakistan and Bangladesh switched from martial law regimes to elected parliamentary systems. Warring factions in Cambodia signed a peace accord, and an international efforts is under way to help smooth the transition to a multiparty system.

In the Middle East, election fever gripped Jordan at the end of the decade, and in 1991 a national charter legalized a multiparty system. Algeria's democratic transition is still incomplete. Multiparty elections are scheduled for November 1992 in Yemen.

Close to a third of humankind still lives in countries that place restrictions on political freedom and participation. But the world today is a much freer place than it was three decades ago.

[Human Development Report 1994 cites Afghanistan, Angola, Haiti, Iraq, Mozambique, Myanmar, Sudan and Zaire as countries in crisis.]

Source: Human Development Report 1992, UNDP, Oxford University Press, p. 28; Also see, Human Development Report 1994, UNDP, Oxford University Press, p. 41ff.

Appendix III.19.4

Labour Markets

One of the results of the reforms in the transition process was a contraction in employment. Between 1990 and 1992, employment declined continuously in all transition economies. In 1993, the rate of decline in employment slowed in most east European countries (as shown in the table), but it was still significant, with the falls ranging from 3 to 7 per cent, with the exception of Poland and Slovakia where the decline in employment was relatively small. In the CIS countries, where the transition process started later and has been much slower, the decline in employment was again rather modest in 1993, as in previous years, with a weighted average fall of 2 per cent. The contraction in employment accelerated somewhat in the Baltic states in 1993, reaching nearly 5 per cent for the region as a whole. The cumulative decline in employment over the period 1990-1993 was much more moderate in the CIS countries and the Baltic states - nearly 6 and 9 per cent respectively - than the 16 per cent in Eastern Europe, in spite of the much greater reduction in output in the former two groups. There was no significant improvement in the labour markets of the majority of the transition economies in the first half of 1994. In eastern Europe, despite the economic upturn in several countries, the level of employment continued to fall in the first half of 1994, albeit at rates which moderated somewhat over the two quarters. The level of unemployment reached a peak by the end of the first quarter of 1994 and declined slightly thereafter. However, unemployment rates in most countries continued to be very high. Significant labour market slack and the high and increasing incidence of long-term unemployment suggests that even a strong recovery in eastern Europe could not be expected to reduce unemployment to tolerable levels in the foreseeable future. (In most of these countries, more than 40 per cent of the unemployed had been out of work for at least 12 months at mid-1994, in spite of their short history of open unemployment.) In the CIS countries, the rise in unemployment gained momentum in the first half of 1994, even though official unemployment rates still remain extremely low (not exceeding 2 per cent on average) both compared with the countries of eastern Europe and *vis-a-vis* the very steep falls in output. The low open unemployment in these countries can be only partly explained by the shortcomings of the official unemployment statistics. Among other major reasons are the behaviour of enterprises and the economic policies pursued by the majority of governments, which have tried to avoid large-scale lay-offs, given the probable social and political implications of mass unemployment.

Transition Countries: Total Employment, 1990-1994

(Annual average percentage change)

	1990	1991	1992	1993	1994 ^a QI	1994 QII	1990- 1993 ^b
Albania	-0.7	-5.8	-16.6	-6.8	..	..	-27.3
Bosnia and Herzegovina	-2.9	..	..	..	..	..	..
Bulgaria	-6.1	-13.0	-8.1	-6.0	..	..	-29.5
Croatia	-3.9	-7.1	-10.2	-3.7	-4.0	-3.5	-22.8
Czech Republic	-0.9	-5.5	-2.6	-2.6	-5.4	-4.6	-11.1
Hungary ^c	-3.1	-9.6	-9.3	-5.9	-3.0	-2.6	-25.2

Poland	-4.0	-5.9	-4.2	-0.6	-1.6	-1.2	-14.0
Romania	-1.0	-0.5	-3.0	-3.8	..	..	-8.1
Slovakia	-2.6	-7.0	-7.5	-0.4	..	-0.8	-16.6
Slovenia	-3.9	-7.8	-6.6	-3.0	-2.6	-2.0	-19.7
The FYR of Macedonia	-1.5	-3.0	-4.6	-5.5	-6.7	..	-13.8
Yugoslavia(FR)	-3.0	-3.0	-3.4	-5.2	-4.7	-4.1	-13.9
Eastern Europe ^d	-2.9	-5.6	-5.3	-3.0			-15.8
CETE-4	-3.2	-6.5	-5.1	-1.9			-15.7
SETE-8	-2.5	-4.3	-5.5	-4.5			-15.8
Armenia	1.9	2.6	-5.6	-3.0	-1.4	-2.1	-4.4
Azerbaijan	-0.3	4.0	-5.4	-1.2	-2.9	-3.0	-3.1
Belarus	-1.0	-2.5	-2.6	-1.3	-2.0	-1.9	-7.2
Georgia	3.7	-10.1	-21.2	-2.2	..	..	-28.1
Kazakhstan	1.3	-0.9	-1.8	-5.8	-6.4	-6.7	-7.2
Kyrgyzstan	2.8	-1.0	6.1	-8.4	-6.0	-1.0	-1.1
Moldova	-1.0	-0.1	-1.0	-1.0	-0.5	-0.5	-2.9
Russian Federation	-0.4	-2.0	-2.0	-1.8	-1.3	-1.3	-6.0
Tajikistan	3.1	1.7	-3.1	-3.0	-2.7	-2.6	-1.5
Turkmenistan	2.8	1.9	0.1	4.4	..	1.9	9.5
Ukraine	-0.6	-1.2	-4.0	-2.3	..	..	-7.8
Uzbekistan	4.2	4.8	-0.6	-0.7	-0.7	-0.5	7.8
CIS	0.1	-1.2	-2.7	-2.1	..	..	-5.7
Estonia ^e	-2.1	0.4	-14.7	-4.0	..	..	-19.5
Latvia	0.1	-0.8	-3.7	-5.9	-4.5	-3.2	-10.1
Lithuania	-2.6	2.4	-2.2	-4.2	-2.9	-2.2	-6.6
Baltic States	-1.6	0.9	-5.2	-4.7	..	..	-10.3
Total Transition Countries ^d	-0.7	-2.4	-3.4	-2.4	..	..	-8.6

Source: National Statistics, in UN's Economic Bulletin for Europe, vol. 46, 1994, pp.41-42.

^a Percentage change over the same period of preceding year.

^b Cumulative change over the period.

^c End of year.

^d Excluding Bosnia and Herzegovina.

^e Since 1992 data refer to end of year.

Unemployment: The available statistics suggest that unemployment in eastern Europe appears to have reached a peak in early 1994 at about 7.5 million people, as is shown in the following table. In spite of the continued sharp downward trend in output in the CIS countries, official unemployment remains very low. From 1.2 million at the end of 1993,

the number of registered unemployed has risen to 1.9 million in August 1994, with unemployment rates varyiynng between 0.3 and 2 per cent, except in Armenia where the rate reached nearly 7 per cent. In the Baltic states, registered unemployment was rather stable during the first eight months of 1994. Unemployment rates, although increasing slightly, still remained very low when steep falls in output are taken into consideration. These low registered unemployment rates, both in the Baltic states and in the CIS countries, indicates that substantial employment restructuring still lies ahead.

Transition Countries: Unemployment 1992-1994

(Thousands and per cent of labour force, end of period)

	Une	mplo	ment	(tho	usa	nds)	Une	mpl	oyme	(per	cent)
		y							nt			
	1992	1993	19	94	19	94	1992	1993	19	94	19	94
			Marc	June	July	Augu			Marc	June	July	Augu
			h			st			h			st
Alba	394	301	267	261	..	..	24.2	19.5	17.3	17.0	..	..
nia												
Bosni	..	..	..	..	..	..	..	..	..	..	..	..
a and												
Herz												
egovi												
na												
Bulg	577	626	615	509	514	497	15.6	16.4	16.1	13.3	13.4	13.0
aria												
Croat	261	243	246	235	237	233	17.8	16.9	17.4	16.9	17.1	17.4
ia												
Czec	135	185	184	160	165	164	2.6	3.5	3.5	3.1	3.2	3.2
h												
Repu												
blic												
Hung	663	632	611	550	556	551	12.3	12.1	12.2	11.0	11.1	11.0
ary												
Polan	2509	2890	2951	2933	2982	2965	13.6	16.4 ^a	16.7	16.6	16.9	16.8
d												
Rom	929	1165	1291	1213	1206	1182	8.2	10.4	11.5	10.8	10.7	10.5
ania												
Slova	260	368	370	360	370	367	10.4	14.4	14.8	14.4	14.8	14.6
kia												
Slove	118	137	131	123	126	125	13.4	15.5	14.8	14.1	14.4	14.3
nia												
The	173	177	181	185	186	188	26.8	30.3	30.8	31.2	31.4	31.6
FYR												
of												
Mace												
donia												
b												
Yugo	749	718	706	720	726	732	22.8	24.0	23.9	24.3	24.5	24.7
slavi												

a(FR) b												
Easte rn Euro pe ^c	6769	7442	7553	7248	7328	7263	12.4	14.0	14.3	13.7	13.9	13.8
CET E-4	3567	4075	4117	4003	4074	4047	11.3	13.3	13.5	13.2	13.4	13.4
SET E-8	3202	3368	3436	3245	3254	3217	14.0	15.0	15.3	14.5	14.5	14.4
Arme nia	56	103	107	112	113	113	3.5	6.2	6.6	6.8	6.9	6.9
Azer baija n	6	20	21	22	23	23	0.2	0.7	0.8	0.8	0.8	0.8
Belar us	24	66	82	88	90	97	0.5	1.3	1.7	1.8	1.8	2.0
Geor gia	19	40	..	..	..	..	1.0	2.0	..	..	..	..
Kaza khsta n	34	41	48	52	54	56	0.5	0.6	0.6	0.7	0.8	0.8
Kyrg yzsta n	2	3	4	7	8	9	0.1	0.2	0.2	0.4	0.5	0.5
Mold ova	15	14	17	17	18	19	0.7	0.7	1.0	1.0	1.1	0.9
Russi an Feder ation	577	836	1083	1260	1324	1392	0.8	1.1	1.4	1.7	1.8	1.9
Tajik istan	7	22	27	28	28	28	0.3	1.1	1.4	1.7	1.5	1.5
Turk meni stan	..	..	..	..	..	..	..	..	..	..	..	..
Ukrai ne	71	84	99	93	92	92	0.3	0.4	0.4	0.4	0.4	0.4
Uzbe kista n	9	13	19	19	19	19	0.1	0.2	0.2	0.3	0.3	0.3
CIS	819	1240	1558	1754	1826	1908	0.6	1.0	1.1	1.4	1.4	1.5
Eston ia ^d	15	16	20	18	17	15	1.9	2.6	3.6	3.3	3.2	2.9
Latvi a	31	77	87	86	86	83	2.1	5.8	6.5	6.4	6.4	6.3

Lithuania ^e	21	30	29	60	58	60	1.0	1.6	1.5	3.2	3.1	3.2
Baltic States	67	123	135	164	161	158	1.5	3.2	3.6	4.4	4.3	4.3
Total Transition Countries	7655	8805	9246	9166	9314	9330	4.1	4.8	4.8	5.0	5.1	5.1

Source: National statistical publications and direct communications to UN/ECE secretariat, in UN's Economic Bulletin for Europe, vol. 46, 1994, pp.42-46.

^a Since December 1993 a new labour force estimates has been used to calculate the unemployment rate. The unemployment rate for December 1993, based on previous labour force data, was 15.7 per cent.

^b Labour force includes only the social sector in agriculture and excludes private shop owners. Therefore, unemployment rates are biased upwards.

^c Excluding Bosnia and Herzegovina.

^d Data cover only the number of unemployed receiving benefits.

^e Since June 1994 a new system of reporting the number of registered unemployed was introduced.

Why is official unemployment so low in the CIS countries? The exceptionally low official unemployment figures in the CIS countries, both relative to the fall of output and to other transition countries, can be explained basically by two sets of reasons. The first is of a technical nature and relates to general deficiencies of the registered unemployment statistics, including a system of registration which is rather complicated and sometimes confusing, insufficiently developed employment services networks, especially in rural areas, and low levels of unemployment benefit which do not create incentives to register. As a result, many of the jobless prefer to look for work independently, rather than through the intermediation of labour offices. The second set of reasons for low unemployment rates in the CIS countries relates to a combination of the specific economic policy stance adopted by the governments of these countries and of a distorted structure of incentives in state owned or newly privatized enterprises. According to the report of Economic Commission for Europe (1994), economic growth is likely to strengthen in eastern Europe and inflation will continue to fall, but unemployment will remain high. No major changes can be expected on the labour markets, with employment levels likely to stabilize in 1995 and unemployment rates remaining high. While economic growth will absorb some proportion of job-seekers, especially through the creation of new job opportunities in the private sector, the inflow of newly unemployed people is likely to continue unabated because of the continued labour shedding by state enterprises, due to restructuring, and the outflow of manpower from agriculture. As a result, the rate of turnover of the unemployed seems to have settled at a very low level in transition countries, and a large pool of permanently jobless people is likely to become a distinct feature of these economies for quite a long time. High and persistent unemployment will remain one of the most important and difficult policy challenges in the transition countries over the medium term. There is no immediate solution to this problem; given its magnitude and the scarcity of budgetary funds, the appropriate policy should employ a combination of measures, including public

works programmes, decisions aimed at improving labour mobility across regions (housing) and sectors (training), and incentives for entrepreneurs to create new jobs.

Appendix III.19.5

Composition of Stocks (international comparison)

Country	Date	Share of output stocks in total stocks (percentages)
GDR	1963	15.4
Hungary	1976	11.9
Poland	1975	17.0
Austria	1976	32.1
Canada	1970	31.3
Japan	1975	53.2
Sweden	1977	38.2

Source: A. Chikan and M. Nagy, “Adelekok a keszletnovekedes es keszletstruktura kapcsolatanak kerdesehez,” [Data concerning the relationship between growth and the structure of stocks], manuscript, Budapest, 1979, in J. Kornai, “Growth, Shortage and Efficiency,” Basil Blackwell, Oxford, 1982.

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