THE REAL OIL SHOCK

Re-Examining Petrodollar Recycling's Impact on International Credit Markets

Ryan C. Smith

University of Glasgow Economic & Social History PhD

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Public Library of US Diplomacy - WikiLeaks

List of Abbreviations and Acronyms

ARAMCO – Arab-American Oil Company

BIS – Bank for International Settlements

CBoT – Chicago Board of Trade

CEA – Commodity Exchange Authority

CFTC – Commodity Futures Trading Commission

CME – Chicago Mercantile Exchange

G7 – Group of Seven

GDP – Gross Domestic Product

IMF – International Monetary Fund

IPE – International Political Economy

OAPEC – Organization for Arab Petroleum Exporting Countries

OECD – Organization for Economic Cooperation and Development

OPEC – Organization for Petroleum Exporting Countries

SIPRI - Stockholm International Peace Research Institute

UAE – United Arab Emirates

Abstract

The debate on the origins and causes of financialization is one of the big questions of modern economic history. Beginning in the 1970s, the international financial world underwent a series of dramatic changes which pushed banking to the centre stage of a new economic order characterized by new channels and unprecedented levels of globalized lending. This process of financialization was the core of the new neo-liberal capitalist world system which defines the present Second Period of Globalization. Generally speaking, the main arguments over how this happened tend to centre on questions of government policy, typically whether state intervention in economic affairs created the crisis, or larger, global developments which re-oriented the structures of international capitalism.

The Real Oil Shock provides further support for the more globally focused, materialist view by focusing on the birth of the endogenous petrocapital cycle, a period which began with the 1973 OPEC Oil Embargo and ended in 1982 with the collapse of oil revenues following the 1979 Oil Shock. Processing this new source of funds forced financial institutions to adapt to new market conditions, giving rise to many financial instruments which became central to the new neo-liberal world. This dissertation will demonstrate these claims by examining the British financial system supplemented with archival material retrieved from OPEC and the Bank for International Settlements. The key role played by British banks in facilitating the endogenous petrodollar cycle between 1974 and 1982 makes these firms, ranging from major international players like Barclay's to regional actors like the Bank of Scotland, a critical window for understanding how this cycle developed during this formative period. These sources will show how petrodollars funded and initiated many of the innovations associated with financialization, providing a geopolitical, materialist explanation for the neoliberal economic revolution.

Introduction

Modern economic history, prior to the ongoing COVID-19 pandemic, has long treated the 1970s as a critical decade the development of the global economy. One of the most important catalysts from this decade was the 1973 Oil Embargo which began on October 19th and ended on March 17th, 1974. Oil prices quadrupled almost overnight thanks to a combination of embargos by members of the Organization for Petroleum Exporting Countries (OPEC) and the Organization for Arab Petroleum Exporting Countries (OAPEC) targeting the United States and the Netherlands in conjunction with across the board production cuts. For an economic system which was founded, in part, on the assumption that oil prices would remain stable and unchanging, this series of events inflicted an unprecedented shock on oil importers while OPEC's members enjoyed an unrivalled boom period. The result was one of the largest wealth transfers in history as the 1973 Embargo and the higher prices it brought extracted hundreds of billions of dollars in windfall profits. Approximately $300 billion were invested abroad as petrodollars, dollars which were accumulated by OPEC's members during the windfall period beginning in 1974 and ending in 1982, were redistributed through new lending, derivatives contracts, and long-term investments. Between 1974 and 1982, approximately $143.8 billion nominal US dollars, $566.3 billion in 2010 dollars, entered overseas banks, money market investments, and treasury security markets based predominantly in the United States, United Kingdom, and Switzerland. These investments became collateral for financing borrowing by oil importers which was used to pay for now-more expensive petrol products, closing a loop that is often referred to as petrodollar recycling as shown in Figure 1. The result was a global debt cycle which would unravel during the 1982 Debt Crisis, a financial crisis which was partially triggered by the deterioration of the petrocapital cycle's mechanisms brought on by the sudden spike in oil prices inflicted by the 1979 Oil Shock. These environmental

changes to global finance initiated the modern form of what Mahmoud El-Gamal and Amy Myers Jaffe call the endogenous petrocapital cycle.[1]

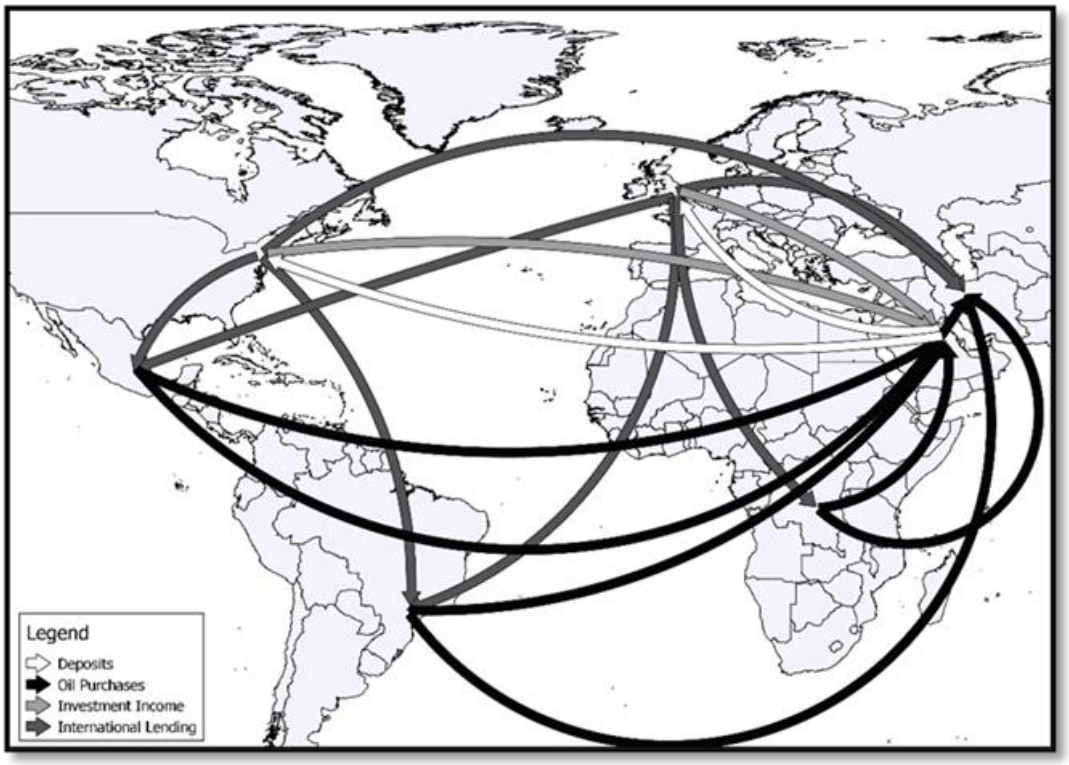

Figure 1: The Global Petrocapital Process, 1973-1982

Note: Data for Figure 1 was collected from primary source archives, including the Bank of Scotland, the Bank of England, the Bank for International Settlements, and the OPEC Research Library in conjunction with secondary literature such as Mahmoud El-Gamal and Amy Myers Jaffe's, "Oil, Debt, Dollars, and Crisis"

As *The Real Oil Shock* will show, the climactic shifts unleashed by the endogenous petrocapital cycle in 1973 destabilized the capitalist world economy, redistributed wealth on a global scale, and effectively privatized the international monetary system. All these changes were essential for initiating the Second Period of Globalization, the present period of economic history which usually begins in the 1970s with stagflation that is characterized by the hegemonic influence of neoliberal theory over economics and policymaking, the removal of many barriers to free movement of capital and goods, and

[1] Jeffrey Frieden, *Global Capitalism: Its Fall and Rise in the Twentieth Century*, W.W. Norton and Company, (New York, NY: 2006), 364-367; Mahmoud A. El-Gamal and Amy Myers Jaffe, *Oil, Dollars, Debt, and Crises: The Global Curse of Black Gold*, Cambridge University Press (Cambridge, UK: 2010), 1-3

the rise of an increasingly wealthy international financial sector. This was made possible, in part, by the sheer volumes of liquid capital that were deposited with major financial players by OPEC members between 1974 and 1982 in both long-term investments and short-term positions. The significant role played by private sector actors resulted in what Carlo Edoardo Altamura describes as the effective privatization of control over the petrocapital cycle, a process which transformed the global monetary and financial order. It was this series of climactic shifts, consisting of the explosion of debt, securitization, liquid capital, and regulatory weakness, which made the financialization of the world economy as it unfolded possible and created the necessary economic conditions for initiating the Second Period of Globalization.[2]

The initial inspiration for this research came in the origins and causes of the Second Period of Globalization in the 1970s, which is described and discussed further in Chapter One. Many different explanations exist for how this process unfolded, with the main arguments being the neoclassical, monetarist position of the inevitable frictions brought on by state economic intervention, the neo-Keynesian assertion of neoliberalism as a deliberate attack on regulated capitalism, the Marxist argument of neoliberalism as a response to falling rate of profit triggered by global re-industrialization, and the International Political Economy (IPE) analysis which views this process as a series of major shifts in the capitalist order which made neoliberal globalization in the Second Period possible. Proponents of deregulation and free trade argue this period of globalization was the result of inherent contradictions embedded in the prevailing post-World War II consensus which justified active state involvement in economic affairs under a broad array of theoretical approaches including Keynesianism, dirigisme, import-substitution industrialization, and ordo liberalism. Those who argue for a return to the post-war consensus claim the cause of its decline lay in a deliberate campaign by business and political interests

[2] Carlo Edoardo Altamura, *European Banks and the Rise of International Finance: The post-Bretton Woods era*, Routledge, (London & New York: 2017), 2, 27-28

to overturn the regulatory apparatuses that made the mixed market consensus possible. IPE theory bridges the gap between the Marxists and the neo-Keynesians by founding their analysis on shifts in the global economic balance of power. The transformation of these power relations in the 1970s was, according to IPE, essential for altering the economic terrain of the period although how this occurred in the case of petrodollars in the 1970s is not heavily examined at time of writing. All agree the genesis of the shift to neo-liberal and monetarist economic thinking that was such a feature of the 1980s can be found in the tumult of the 1970s, a decade defined by inflation, economic stagnation, and instability throughout the capitalist world. Yet even with this common ground there is little time spent on changes experienced by credit and international financial markets that were a result of the Oil Shocks, the enormous profits they reaped for the members of OPEC, and how this influx of liquid capital in global markets materially transformed the capitalist economic order. Though some research has been conducted on the cycle of dollars, oil, and debt such work is, so far, the exception rather than the rule and has only just begun to explore the relationships between the Oil Embargo, the Oil Shock, and the Second Period of Globalization.

By examining this missing link, *The Real Oil Shock* will provide a materialist, global grounding for the environmental transformation of world capitalism that began with the 1973 Oil Embargo and the birth of a new global debt cycle. Petrodollars, which will be discussed further in Chapter Two, were more than just a source of capital for investment. They were a pool of assets accumulated by a historic global transfer of wealth that re-oriented critical international capital flows. This shift, coupled with the growing need for credits to cover the cost of now-expensive oil, determined how petrodollars reshaped the global economy as is shown in Chapter Three. This growing endogenous cycle exercised considerable influence in the shaping the rise of financialization during the 1970s, laid the groundwork for many critical practices and market conditions which continue to define international finance as described in Chapter Four. How central these processes had become for international finance was made

apparent by the fallout of the 1979 Oil Shock as discussed in Chapter Five, which triggered economic decline and political chaos for OPEC's Persian Gulf members that ultimately helped undo the debt cycles petrodollars first created. The ultimate result was a more liquid, and internationalized financial system which was central to ushering in the Second Period of Globalization.

The key actors in these global financial developments were the members of the Organization for Petroleum Exporting Countries (OPEC), the Organization for Arab Petroleum Exporting Countries (OAPEC), major players in multinational finance who are largely based out of New York, London, and Switzerland, and international regulatory bodies like the Bank for International Settlements (BIS), the International Monetary Fund (IMF), and the Organization for Economic Cooperation and Development (OECD), all of whom will be discussed in further detail in Chapters Two and Three. To summarize, these groups may appear to be monolithic institutional blocs yet each consisted of members with competing agendas. Of these, the members of OPEC and OAPEC are the best place to begin. In 1973 the member-nations of OPEC were Algeria, Ecuador, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, and the United Arab Emirates as illustrated in Figure 2. OAPEC, shown in Figure 3, consisted of Arab OPEC members Algeria, Iraq, Kuwait, Libya, and the UAE along with the governments of Bahrain, Egypt, Qatar, and Syria. Even though these organizations were nominally united in asserting their economic autonomy and promoting industrial development at home, both OPEC and OAPEC were pulled in multiple directions thanks to the numerous divisions within each bloc. Both organizations contended with Cold War-driven conflicts between pro-Soviet members like Libya and Iraq, pro-US members like Saudi Arabia and Iran, and more ambivalent players like Egypt who regularly played the Cold War superpowers off one another to their own benefit. These were exacerbated by the division between traditional monarchies, concentrated in the Persian Gulf, Arab Nationalist-inspired secular republics in Iraq and across North Africa, and the long-running rivalry between the Gulf monarchies and the ambitious Shah Reza Pahlavi of Iran.

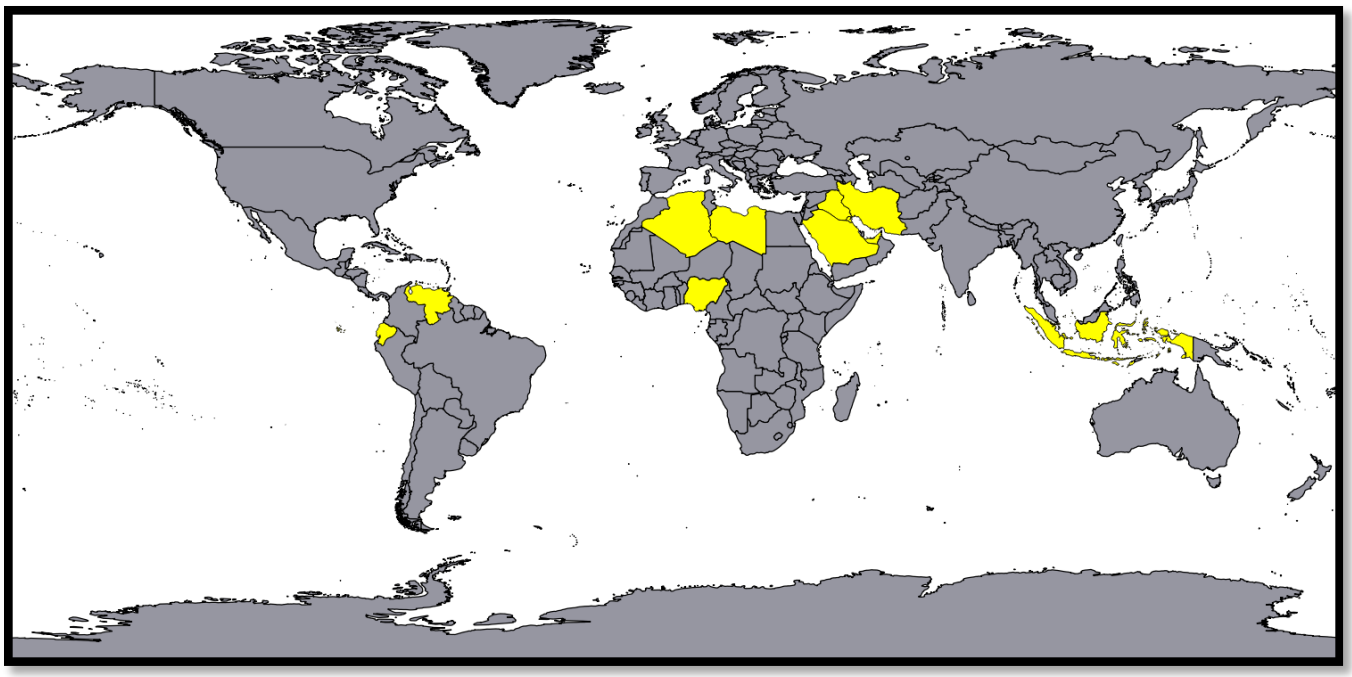

Figure 2: Organization for Petroleum Exporting Countries (OPEC) Members, 1973

Note: Figure 2 represents the 1973 members of OPEC as per the OPEC General Secretary's 1973 Report from the OPEC Research Library in Vienna, Austria

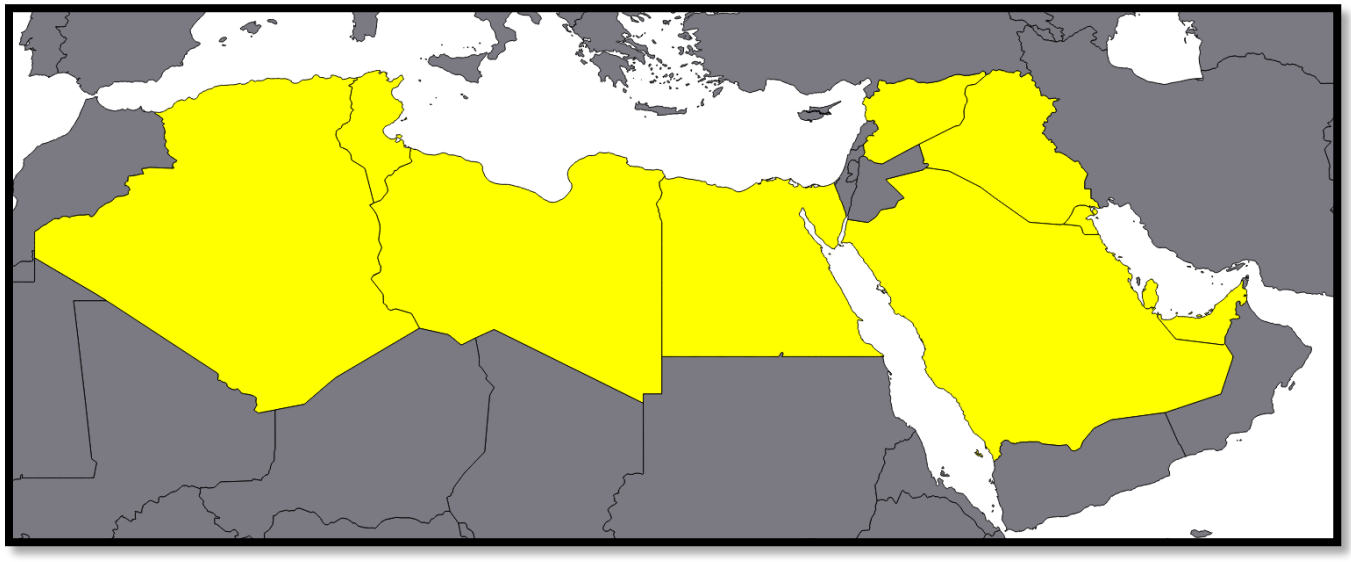

Figure 3: Organization for Arab Petroleum Exporting Countries (OAPEC) Members, 1973

Note: Figure 3 represents the 1973 members of OAPEC as per the OAPEC General Secretary's 1973 Report from the OPEC Research Library in Vienna, Austria

For the banks responsible for facilitating this movement of capital, similar conditions of disunity behind a façade of joint action and shared purpose prevailed even more widely than was the case for OPEC and OAPEC. Each specific bank had their own interests ranging from the more internationally minded major players like Barclay's or Chase Manhattan to regionally and locally focused firms like the Bank of Scotland whose involvement in global markets was new, limited, and expanding with the pressures of the times. Individual banks and financial firms played their own part in shaping how these markets responded to the crisis while also being very much at the mercy of far larger forces. Much of the archival evidence, contrary to much of the existing literature on the development of this industry during the Second Period of Globalization, shows these institutions were operating in a very reactive state as opposed to the usual image presented in existing literature of calculating professionals coolly evaluating conditions before responding on their own terms. To say that private finance was fragmented and uncoordinated in these times, which is rather ironic considering that they would ultimately be one of the greatest beneficiaries of this period, would be quite the understatement.

National-level regulators and non-governmental organizations, such as the OECD, the IMF, and the BIS, were just as unprepared and disjointed in their response to the petrodollar problem as discussed in more detail in Chapter Three. National regulatory officials frequently clashed both publicly and privately as the divergent economic and political priorities of their governments effectively short-circuited any attempt at forming a united response. Non-governmental organizations were even more hamstrung as their ability to act depended on the national governments who were both funding their operations and providing weight to their decisions. Though there were attempts by the IMF and OECD to create facilities for alleviating the increased costs imposed by the Oil Embargo as the BIS actively sought to coordinate joint action between key players, all these efforts would ultimately be insufficient to tackle the growing crisis conditions. The failure of Global North governments to effectively agree on shared policy, goals, and objectives prevented any kind of coordinated response from forming. This

ensured OPEC and OAPEC's member-nations would retain the initiative until the consequences of their own internal divisions ushered in the 1979 Oil Shock.

One significant challenge facing this work is the question of sources. While many of the events and developments covered are well outside of the usual confidentiality policies employed by corporate archives, they nonetheless are not as readily available as one might think. OPEC member-state archives were not available for research due to their own existing policies and thanks to concerns regarding the safety of the region at time of writing, particularly due to growing tensions between the United States, Saudi Arabia, and Iran. American banks were similarly uncooperative, with critical players like JP Morgan Chase, Citibank, and other prominent Wall Street firms having closed off outside access to their corporate archives following the 2008 Financial Crisis. With the primary actors not directly available, it became necessary to find other relevant, exculpatory sources which would allow for this research to investigate the links between financialization and the petrodollar cycle. Thankfully, there were several other archives which made this possible.

The challenge of researching the Persian Gulf end of this relationship was tackled by a pair of highly useful archival sources which were the OPEC Research Library and the WikiLeaks Public Library of US Diplomacy. The OPEC Research Library had a wealth of official reports for OPEC, the Organization for Arabian Petroleum Exporting Countries, and the central banks of Libya, Kuwait, and Saudi Arabia from throughout the relevant years. These sources provided a set of revealing perspectives on how the Oil Embargo and Oil Shock began, the ways they impacted these OPEC members, and how they responded to the changes brought on by significant overseas depositing. These documents were supplemented by the Saudi Arabian Monetary Authority's publicly available reports which provided a baseline for comparison and analysis. The WikiLeaks Public Library of US Diplomacy, in contrast, provided an inside look at critical developments in Saudi and Iranian economic policy through their treasure trove of declassified US State Department cables. These internal communications, all of which were classified to

varying degrees at time of creation, provide an unguarded view of the American perspective on the day-to-day machinations, debates, and economic policy developments in the region. The main problem presented by this archive was the sheer volume of data made available, a dilemma which was resolved by focusing exclusively on cables which were sent to or from American diplomatic outposts in the Persian Gulf which included economic and financial policy keywords in their titles, the body of the text, or the document subject tags. They were then documented, organized by senders and recipients, and cross-referenced based on shared topics. Using these in conjunction with available OPEC sources and contemporary journalism made it possible to reconstruct previously less-examined geopolitical elements of the petrodollar cycle and its origins.

Even with this workaround, there remained significant challenges in handling the available economic data. All available sources consistently treated petrodollar capital as a singular, aggregated pool of capital with little differentiation between the specific sources of investment flows in available source material. Except for the sources gathered at the OPEC Research Library, all available archival materials consistently aggregated capital coming from the OPEC member-states into a single stream with little differentiation between the different sources. Materials made available by OPEC were limited to macroeconomic reports, analysis, and discussions of broader trends and tendencies observed by the organization and its members' central banking authorities. Such reports, while offering useful insights into the decision-making of these key players, were limited by their broad scope and focus on providing general reports as opposed to detailing specific investment decisions. There were some exceptions to this tendency in materials gathered at British banks though these instances were limited to specific loan agreements and lines of credit, such as the Bank of Scotland's lending to Algerian national oil company Sonatrach. This observed tendency suggests American banks who handled most Iranian and Gulf finances, such as Chase Manhattan and Citibank, may have more detailed information that would make disaggregating of these specific streams of capital possible. The lack of access to internal OPEC and

American sources means the existing tendency towards aggregation cannot be effectively deconstructed.

This does not, however, mean the aggregative tendencies present in the available source material are necessarily a negative. When British bankers and BIS regulators refer to petrocapital flows in the collective sense, they are unwittingly reinforcing how this phenomenon is best understood as a fundamental shift in the climate of global financial markets. OPEC investments caused significant disruptions for financial markets, re-orienting capital flows into a more global alignment where oil export profits had become the most reliable source of new funds. Everything from the BIS disaggregating the non-American, European, and Japanese investment in their 1974 annual report to National Westminster Bank's rate committees describing OPEC capital forcing shifts in money market interest rates shows petrocapital acting not just as a new pool of investment capital but as a major shift in how business was done. Aggregation, in this respect, is partially a reflection of petrocapital's transformative impact on financial markets.

One place that such aggregation of data reflects existing market conditions is in relation to the Eurocurrency market, an international money market that was essential for handling a large share of OPEC overseas investments whose origins, internal mechanisms, and relationship with petrocapital are described more in Chapter Three. This market, along with other related money markets, received approximately 29.7% of all OPEC capital between 1974 and 1982. It also experienced a significant boom in this era, both in terms of its scale and the degree to which financial institutions were utilizing Eurocurrency funds to sustain the unprecedented levels of global lending. This market was also highly liquid in its behaviour, freely moving funds between different banks for everything from overnight funds transfers to long-term capital-intensive projects. In this respect, petrocapital had become something of a raw material refined and repackaged into new lines of credit by Euromarket actors making it difficult to truly untangle where these funds went. Even though OPEC and OAPEC governments had different

economic policies and goals in mind, once their money entered these markets it became deposits in the Euromarket, effectively aggregating them as a new source of lending. This lack of distinction between sources of Euromarket funds reflects the developing financial reality ushered in by petrocapital recycling.

This Euromarket connection is what makes British banks a useful body of source material despite their limited connections with OPEC's member-states. Their key position in the growing Eurocurrency market, which was largely London and Swiss-based, made their materials incredibly useful for assessing the changes experienced in the broader world of international credit, changes which arguably laid the foundations for the deregulation of the London Stock Market in the 1986 Big Bang. When compared with materials gathered from the Bank of England and regulators at the Bank for International Settlements these British banks, ranging from significant players like Barclay's and HSBC to regional concerns like the Bank of Scotland, became a useful model for assessing the impacts of the petrodollar cycle on international financial practices and mechanisms like the Euromarket and international loan syndication. They also provide a beneficial measure for how extensively finance itself was globalized by the demands of OPEC's windfall deposits, both in how significant international actors changed their policies to adjust and how regionally focused operations became increasingly enmeshed in international operations. Even though these British financial actors were not the largest beneficiaries of the petrodollar cycle, they nonetheless provided a highly informed, active perspective on how finance was changing between 1973 and 1982.

One critical source of information for international financial developments in this period is the Bank for International Settlements (BIS). By 1973, the BIS had transformed from this more limited affair to a combination information clearinghouse and meeting hub for all participating central banks. With data built on reports submitted by all participating central banks, the BIS had one of the most thorough, fully informed perspectives on new developments in the world of international capitalist finance. If

there was any one institution who could track these fundamental shifts in the global monetary and financial system, it was the BIS. As their own reports and internal documents show, the changes unleashed by the end of Bretton Woods and the onset of OPEC petrocapital recycling were items of keen interest to the Bank. Their materials provide a unique, more international view of these developments thanks to their access to a wide range of data which few, at that time, enjoyed.[3]

That said, the Bank's data is not without its flaws and shortcomings. The BIS' main sources of data are, primarily, the reports and information provided by all participating central banks. Up until 1990s, this meant its main contributors were the United States, Canada, and their Western European allies, all of whom were regularly denoted in BIS Annual Reports as within the BIS reporting area, effectively making it a measure of how the capitalist core viewed global finance. All information on non-participating countries was filtered through the expectations, observations, and data which was available to the participating banks, ensuring that the story told in the BIS' data was largely written by the wealthy powers of the North Atlantic. All of this is emblematic of what Carola Westermeier describes as 'club-model governance', a system which she discusses as encouraging and perpetuating a concentration of power within a pre-existing elite membership. One of the most concrete demonstrations of such inherent biases within the data is seen in the Forty-Fourth Annual Report issued in 1974, when the BIS first disaggregated their "Rest of the World" category of data into multiple smaller regions. Though this was a reflection of the growing engagement of the so-called "Rest of the World", which included OPEC and much of the decolonizing world, in the global financial system from the

[3] Kazuhiko Yago, *The Financial History of the Bank for International Settlements,* Taylor & Francis Group, (New York, NY: 2012), 1-2; "About the BIS Annual Report", The Bank for International Settlements, Nov. 11, 2021, https://www.bis.org/publ/about_ar.htm; Carola Westermeier, "The Bank of International Settlements as a think tank for financial policy-making", *Policy and Society*, 37:2, (2018), 173-174

perspective of the BIS' members, it also shows how heavily filtered their data and analysis was through this limiting frame.[4]

This also significantly limits how much information the BIS can provide on many of the most critical financial developments during this period. One particular area where this problem manifests most clearly is regarding the rise of new financial instruments, including international loan syndications, swaps, and financial futures. The BIS does offer some insights into the development of these tendencies in the financial world though much of it, thanks to the largely informal, improvisational nature of financial innovations in this period, is reported on from a largely external perspective. Financial innovations, including those discussed in Chapter Four, are similarly left out of the conversation. The scale of international loan syndications is only tentatively measured once in the BIS' annual reports between 1973 and 1982, in 1974, even though these instruments had become vital for moving unprecedented volumes of capital on a global scale. Swaps see no mention in the BIS' data until 1987 and financial futures are, similarly, totally absent in BIS reporting throughout the 1973 to 1982 period. This makes their data of limited use for understanding these developments during the period in question.[5]

Yet even with these shortcomings, the BIS is still very useful for measuring the impact of the petrocapital cycle's development in the international financial system. Most of the banks and institutions most critical to the Eurocurrency market were based in countries who were members of the BIS. Even though this restricts the available information on why OPEC member-nations were making their specific investment decisions, it nonetheless provides a macro-level view into the financial

[4];" History – the BIS going global (1961-)", The Bank for International Settlements, Nov. 11, 2021, https://www.bis.org/about/history_4global.htm; Westermeier "The Bank of International Settlements as a think tank for financial policy-making" 174; Bank for International Settlements Forty-Fourth Annual Report, June 10th 1974, 170

[5] Bank for International Settlements Forty-Fourth Annual Report, June 10th, 1974, 166-168; Bank for International Settlements Fifty-Seventh Annual Report, June 15th 1987, 111

institutions who were processing and redistributing the OPEC windfall surpluses. The growing reach of financial institutions in the BIS' member-nations also meant the practices which were inculcated and developed by these financial actors were then exported worldwide throughout the Second Period of Globalization. Therefore, BIS data is a highly useful tool for understanding how the petrocapital cycle transformed the world of international finance and, in turn, accelerated the globalization of practices which were first developed by BIS-area banks provided it is understood as a measure of the multinational financial actors operating in BIS reporting areas.

The Real Oil Shock lays out this case over the next five chapters. Chapter One covers the academic literature surrounding the petrocapital cycle, the history of financialization, and the relationship between the Oil Embargo and the so-called Great Inflation of the 1970s. Chapter Two provides information on the geopolitical and economic background for the 1973 Oil Embargo and the onset of the petrodollar recycling process that followed. It discusses the main flows of petrodollars and why OPEC's members utilized the channels provided by international finance. Chapter Three expands more on the monetary conditions surrounding this period, beginning with the role of the demise of Bretton Woods before then examining how the petrodollar process changed the Eurocurrency market and by extension the availability of privately created credit in global financial markets. It includes discussion of why regulatory authorities were seemingly helpless to respond these challenges, focusing on the conflicts that existed between the would-be partners in containing the new surge of liquid capital. Chapter Four focuses on how financial practices changed to accommodate the new influx of capital, discussing the rise of international loan syndication, financial futures, and the first modern swap contracts. Here the emphasis will be on connecting these adaptations to the tumult of the 1970s and how these specific adaptations were a consequence of the new, expanding petrodollar flow pouring in from OPEC particularly thanks to the growing prominence of the Eurocurrency market. Chapter Five covers the end of the petrodollar bonanza of the 1970s while also examining the potential impacts of

the sudden loss of petrodollar deposits just as the global economy was entering a new period of contraction. The conclusion will integrate these arguments and show how the influx of OPEC windfall capital created the conditions for critical innovations in banking practices, transformed the Eurocurrency money market, and ushered in a newly globalized financial system.

Chapter One : Missing Links

Oil and finance have long stood at the heart of the modern, globalized economy. Reliably affordable and readily available oil made the increasingly swift, just-in-time globe-spanning supply chain system that many took for granted prior to the multiple crises of 2020 possible while the frictionless worldwide movement of capital, guaranteed by decades of accumulation and deregulation, provided the continuous flow of finance necessary for greasing the wheels of international commerce. Even as the oil industry enters a sustained, potentially irrecoverable, crisis and questions emerge surrounding the solvency of modern financial institutions in a time of global pandemic, there remains no debate these sectors have dominated the past forty years of global economic development. Review of the relevant literature has, however, found a missing link in the analysis of these sectors during the 1974 to 1982 period. Much of the existing scholarly literature examining the 1970s, oil, and finance tends to spend little time analysing their specific relationships and shared influences. There is some research on petrocapital and finance but much of this comparatively recent work and stands in stark contrast to the broader discussions of this topic in economic history. This focused field is the immediate scholarly context for this work and provides the foundation for critiquing the persistent oversights present in the broader discussions of petrodollars, oil, and finance.

When it comes to the question of academic literature on the topic of petrodollar recycling itself there is a limited range of material. Much of the academic literature discussing relevant topics such as the Oil Embargo of 1973, the Oil Shock of 1978-1979, OPEC, and financialization mention it but only briefly, describing it as a phenomenon which was central to sustaining the global economy during this turbulent decade. Jeffrey Frieden provides a solid example of the usual discussion of this process, which is depicted Figure 1.1:

> "The oil price explosion gave OPEC members far more money than they could spend, and they deposited much of it – about $150 billion between 1974 and 1980 – into the world's financial markets. International bankers were eager to lend OPEC's "petrodollars," and among the principal users of these funds were the nonoil developing countries- the NOPECs, as they were called – which needed to pay for more expensive oil. Oil importing developing nations borrowed $200 billion between 1974 and 1980 in part to pay for oil from OPEC, which deposited its earnings in the international banks, which then lent them back to the developing countries to pay for oil."[6]

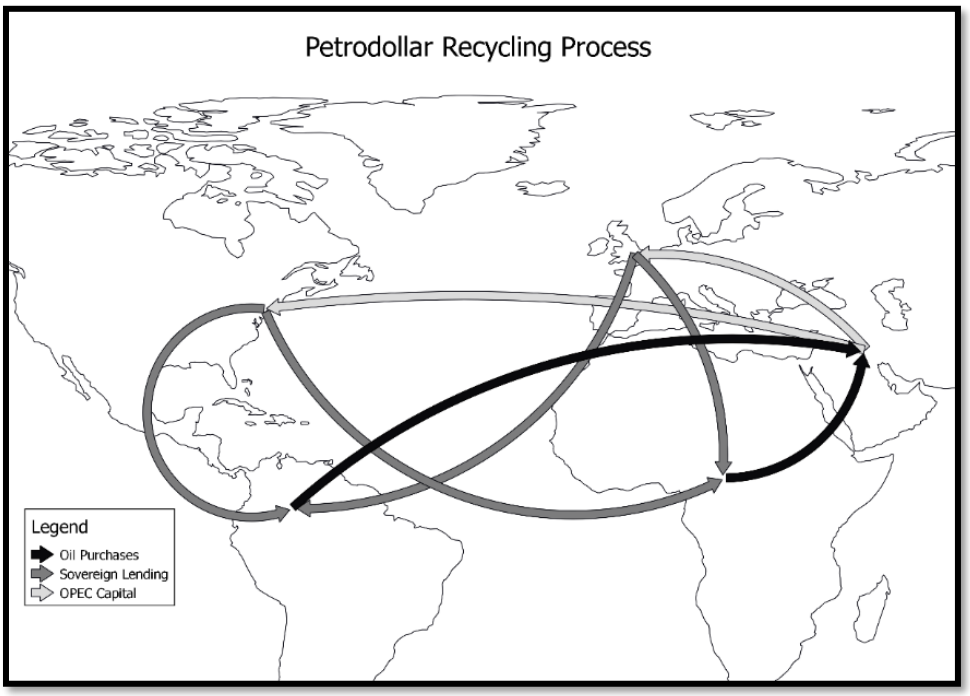

Figure 1.1: Petrodollar Recycling

Note: Figure 1.1 is an illustration of the process described by Jeffrey Frieden in the above cited passage by the author generated in QGIS

This example is often the limit of most research into the relationship between petrodollar recycling and international finance. Further discussion of how this oil money changed international finance practices, markets, or broader monetary conditions is rather sparse. At time of writing there are only five scholars who have conducted significant research into the role this historic transfer of wealth played in the development of modern finance. They are, in order of publication, David Spiro's monograph on the geopolitical and monetary impacts of petrodollar recycling, Mahmoud A. Gamal and Amy Myers Jaffe's

[6] Frieden, *Global Capitalism*, 370

research on the relationship between OPEC oil capital and financial bubbles from the 1990s to the 2008 Financial Crisis, Christopher Kopper's work on the Eurocurrency market's role as a facilitator for petrodollar recycling, and finally Carlo Edoardo Altamura's work on the transformation of international banking. There is also a small body of work from the mid-1970s to the early 1980s analysing on the process but much of this work, such as former OPEC undersecretary Fadhil J. al-Chalabi, is constrained by the lack of readily available sources and by their focus on the immediate consequences of the newly-born petrocapital process.[7]

Spiro's work sets the tone for how later research on this topic unfolds, making a clear case that petrodollar recycling played a central role in shaping the development of the global monetary order. As he claims:

> "The successful resolution of the disequilibrium in global balance of payments caused by the oil price revolution was one of the most remarkable achievements of the postwar era. Nearly 500 billion petrodollars were recycled from oil producers with a capital surplus to countries with trade deficits. A major threat to the international economic system was overcome, and the stability of that system was preserved."[8]

For Spiro, whose main body of sources are recently declassified US State department documents, the main focus is on the questions of geopolitical power, economic imbalances, and the role played by US policymakers in shaping the new monetary order in partnership with Saudi Arabia. Spiro's research provides a clear sense of the importance petrodollars played in creating the international financial system while also unquestionably tying the process to broader geopolitical currents. He also consistently treats it as a necessary yet effective private sector solution to a significant challenge while

[7] David E. Spiro, *The Hidden Hand of American Hegemony: Petrodollar Recycling and International Markets,* Cornell University Press (Ithaca, NY: 1999); El-Gamal and Jaffe, *Oil, Dollars, Debt and Crises*; Christopher Kopper, "The Recycling of Petrodollars", Revue d'economie financerie, (Hors-serie: 2009); Altamura, *European Banks and the Rise of International Finance*, 160

[8] Spiro, *The Hidden Hand of American Hegemony*, 1

focusing on the geopolitical implications of the new monetary alliance between the United States and the Kingdom of Saudi Arabia.

Christopher Kopper's research on the Eurocurrency market and petrodollar recycling is the next link in the literature. His research clearly shows the sudden arrival of large quantities of petrodollars in the Euromarket, beginning in late 1973, played a critical role in mitigating the economic impacts of the 1973 Oil Embargo for the nations of Europe. As he claims:

> "With some exceptions, the deterioration of the European nations' terms of trade resulted in high balance of payments deficits. But despite their dependence on oil imports, some European countries like Germany, Switzerland, the Netherlands and Belgium still achieved a surplus in their balances of payment after a short readjustment period. Other European countries such as Italy, the United Kingdom and Sweden had to cope with high deficits that had to be covered by short-term dollar imports for years. The Eurodollar market served as a king of revolving door for liquidity, supplying the debtor countries with short-term capital that the OPEC countries had drawn from oil exports to these nations. In this respect, the petrodollar recycling prevented these debtor nations from a relapse into rigid currency controls and restrictions of free trade. But the petrodollar recycling came with the price of increased national debts and a fall of bond ratings which resulted in higher interest rates."[9]

Much of his work discusses the broader dynamics in how petrodollars were deposited and moved through the Euromarket. For Kopper, the goal is to understand the broader patterns brought on by OPEC nations' shifts between short and long-term investing overseas. In doing so, he provides a clear basis for analysing the relationships between the increasingly influential Eurocurrency market, the changing financial environment, and petrodollar recycling.

Mahmoud A. Gamal and Amy Myers Jaffe's work delves much deeper into the specific financial developments associated with petrodollar recycling, providing the essential foundation for this research. They make it clear their interest in this process is not, as is the case with Spiro, intended to show how petrodollar recycling stabilized global capitalism but instead focuses on how petrodollars, beginning

[9] Kopper, "The Recycling of Petrodollars", 40

with the 1973 Oil Embargo, fundamentally changed how international finance functioned. They make a far more sweeping argument than Kopper or Spiro:

> "As the world continues to struggle with the task of containing the economic, financial, and geopolitical ramifications of the financial crisis of 2007-9, it is important to recognize this and the previous 1970s crisis, as well as a number of others, as phases of a larger ongoing cycle. To paraphrase Mark Twain, rumors of the death of the business cycle – as well as the energy-price cycle, the financial boom-and-bust cycle, and the cycle of Middle-East geopolitical turmoil – have all been greatly exaggerated. In this book, we study the interaction of the global business cycle with these closely related energy-price, financial, and geopolitical cycles. We show that this super cycle is endogenous and self-perpetuating."[10]

They directly link the rising and falling fortunes of OPEC's wealthiest members to the broader fate of the global economy, arguing that significant and growing flows of petrodollar capital from steadily growing oil prices were essential for funding the bubble economy of the 1990s and 2000s with the 2008 Financial Crisis as their penultimate example of this process. For El-Gamal and Jaffe, there is no question this capital flow played a critical role in reshaping the global economy yet, in contrast to Spiro, they do not see the petrodollar recycling process as an elegant solution to a complex problem. For El-Gamal and Jaffe, the flows of OPEC's oil wealth were consistently disruptive both to the markets responsible for processing them and for OPEC's members. They describe petrodollars as a somewhat unpredictable generator of significant speculative wealth and instability which provides an invaluable foundation for further examination of the petrodollar recycling process.

Carlo Edoardo Altamura's work analyses petrodollar recycling as one of many key components in creating the broader wave of modern financialization and globalization. As Altamura argues:

> "First, the crisis of 1973 put a definite end to existing proposals for regulating the Euromarket through coordinated capital controls as the recycling need shifted the priorities on the international agenda and the interests of the financial and international communities were realigned after the break with Bretton Woods. Second, the recycling challenge provided huge funds, which the banking sector was able to invest in international operations. Finally, the crisis of 1973 gave rise to powerful incentives to expand overseas given the grim economic outlook in

[10] El-Gamal and Jaffe, *Oil, Dollars, Debt and Crises,* 1

> the Western world, pushing European banks to enter new countries, to develop new products, and to create new alliances."[11]

This clearly situates petrodollar recycling as a critical component in the rise of globalized finance in a very similar fashion to El-Gamal and Jaffe. Altamura particularly emphasizes the shock inflicted by petrodollar recycling on international regulatory institutions, effectively clearing the way as Kopper asserts for maintaining a relatively free, open, and unregulated marketplace. Even so, Altamura's treatment of petrodollars is as one key component of many and views petrodollar capital as a source of funding for new, international lending now made available to increasingly internationally focused banks. This is distinct from this research's argument and El-Gamal and Jaffe's approach in that both very consciously treat petrodollars as a source of capital with very powerful strings attached that shape how it interacts with the markets. Even so, Altamura's situating of petrodollars within the broader context of financialization and globalization demonstrates its true significance while also providing further direction, details, and discussion of the Euromarket's critical role in this process.

This thesis seeks to delve even deeper into these questions, providing answers and further points for investigation into the petrodollar cycle. Each of these researchers, with El-Gamal and Jaffe's work as the most critical, provides a key link in the chain of research connecting the petrodollar recycling process to the broader evolution of modern global capitalism. This research will build further on these developments, exploring how the petrodollar cycle transformed the global monetary environment, accelerated previously niche practices like international loan syndication and swap contracts to the centre of international finance, and ultimately became so essential to global finance that its cessation in 1982 guaranteed economic catastrophe. This will leave little doubt the petrodollar cycle was a central component for the development of the highly liquid, highly adaptable, and highly autonomous financial system that sustained the modern period of globalization. Petrodollars did more

[11] Altamura, *European Banks and the Rise of International Finance,* 30

than provide the funding for these new investments, they carried with them pressures and demands to be used in ways that created new channels for transferring capital across borders on an unprecedented scale.

From a theoretical perspective there are two main bodies of work this thesis and all other works in petrodollar recycling must contend with. These are the questions of how the modern period of financialization, driven in part by the stagflation of the 1970s, unfolded and how much agency did OPEC's members have in this process. For the question of financialization it is essential to address both the prevailing arguments regarding the processes of financialization and the causes of the inflation which dominated this period and was frequently used as a justification for many new financial instruments. Determining to what extent these were driven by the Oil Embargo of 1973 and the Oil Shock of 1978-1979 will help answer how extensively global finance was impacted by petrodollars.

Financialization and Market Innovation

The 1970s, as is argued persuasively by Carlo Altamura, was a time of enormous change and transformation for the international financial system. This process, which is known as financialization, is included the development of truly global credit markets, the rise of new financial instruments to facilitate the movement of capital, and the dramatic expansion of the influence of the financial sector in international economics. In the words of R.B. Johnston, "During this period the operation of international banking evolved to a stage that can no longer be regarded as marginal when compared with national banking activity and to play an increasingly integrated role in the organization of both national and international monetary relations." The world of finance changed dramatically in these tumultuous years with international lending soaring, markets swelling in size, and new financial instruments leaping onto the global stage. This transformation was, without any doubt, necessary for making the Second Globalization Period and the rise of neoliberal economic policymaking throughout the world possible.[12]

There are four broad theories on why this rapid increase of financial activity and innovation began during the 1970s. The first body of theory, referred to here as neoclassical theory, is treated as the consensus of economic history. The argument presented claims the main causes of financial innovations in this period were the result of technological developments, new methods of business organization and the emergence of new markets. All these developments combined, as this reasoning claims, created an ideal environment for the surge in financial innovation. The second body of work is Marxist theory. The Marxist argument is derived from Karl Marx's theories on the inevitable declining rate of profit present in capitalist accumulation. These theorists argue financialization was an inevitable result of technological development, focusing on industrial automation which reduced the need for

[12] Altamura *European Banks and the Rise of International Finance* 24-27; R.B. Johnston, *The Economics of the Euro-Market: History, Theory, and Policy*, MacMillan Press Ltd (London and Basingstoke: 1983), 20

industrial workers. Marxist theory claims the rate of decline forced capitalists to find new means of accumulating surplus value fuelling the turn to finance. The third body of theory, which is critical of neoclassical theory is best described as the neo-Keynesian or counter-globalization position, argues financialization was due to the rise of the neo-liberal economic ideology. Such works put deregulation and changes in government policy at the centre of the conversation, alleging these were the key factors in the explosion of global financialization. International Political Economy, the fourth relevant body of theory, seeks to bridge the gap between these schools of thought. For works dealing particularly with the Persian Gulf and financialization, much of the work focuses on how this region became integrated into the global economic system during the Second Period of Globalization.

The neoclassical position argues the rise of financialization was the result of an increasingly deregulated industry which, now unburdened by state intervention, fuelled a dramatic period of intellectual and economic innovation. They mostly treat the Oil Embargo and Oil Shock as everything from a simple catalyst and barely mentioned source of wealth to one more symptom of the increasing economic deterioration of the 1970s. As Kevin R. Brine and Mary Poovey describe it:

> "The precipitous stock market decline of 1973-1974 was second only to the 1929 crash, and the bear market in fixed income that began in the early 1950s after the Fed Accord continued until 1982 – raising domestic inflation rates, just as instability in the external value of the dollar raised interest rates. As a result, investors began to expect – and factor into their decisions – rising interest rates and growing inflation. These expectations, along with the inflation that fueled them, were targets of the Volcker deflation. On the real side of the economy, shortages in agricultural commodities and the unprecedented rise in oil prices caused by an oil embargo, then the formation of the OPEC cartel, coincided with an increase in the number of US bankruptcies, falling economic output, a loss of productivity for American labor, and rising unemployment."[13]

The lack of discussion of the Oil Embargo, Oil Shock, and petrodollars is surprising considering the broader consensus in economic history, shown by Frieden and others, that these processes were a

[13] Kevin R. Brine and Mary Poovy, *Finance in America: An Unfinished Story*, University of Chicago Press (Chicago: 2017), 346

significant element to international and American finance during this period. According to Brine & Poovey the biggest driver for the growth of new financial innovations like portfolio investment theory and the derivatives trade was the accumulated knowledge of American financiers and academics which guided a process of continuous innovation who now had the freedom to experiment. This heavily intellectual process leaves the Oil Embargo, Oil Shock, and petrodollars unmentioned and unexplored.

Daniel Yergin and Joseph Stanislaw give more time to petrodollars in their analysis of the Second Period of Globalization. According to them, the generalized chaos of the 1970s created the ideal environment for the burst of financialization and the associated developments that come with it. According to them, the Oil Embargo of 1973 broke the increasingly unsustainable mixed market consensus, paving the way for deregulation and free flow of capital. Financialization was also, however, the predictable, unavoidable consequence of the contradictions between government intervention in the economy and the distortions it wrought that could only end with capital breaking free once again. According to Yergin and Stanislaw the inherent flaws of Keynesian theory, manifesting in growing inflation during the 1960s, were a much larger factor than specific developments within the financial market. Their analysis presents a process where the growth of finance, as part of a broader story of the return of free market economics, was mostly self-sustaining and governed by the iron laws of the market.[14]

Paul H. Dembinski argues the global monetary order was in a state of increasing instability throughout the 1960s leading up to the 1970s due to several financial innovations taking place in the Euromarket. Dembinski is quite clear in asserting financialization was due to specific developments within the market that, while contingent on the specific conditions of postwar regulatory environments, accumulated into the ideal environment for this new creative ferment to take root. In his analysis the

[14] Daniel Yergin & Joseph Stanislaw, *The Commanding Heights: The Battle for the World Economy*, Simon & Schuster (New York: 2002) 110-112, 138

end of Bretton Woods, brought on by the increasing cost of the Vietnam War for the United States, was the key turning point in the dynamic that, "freed money from the 'straightjacket' of gold stocks" while the Oil Embargo, Oil Shock, and petrodollars receive little discussion beyond their role in contributing to the volatility of the 1970s.[15]

Luis Reyes offers a similar analysis of the changing monetary conditions of the 1970s by clearly naming Bretton Woods as a key, central element in the rise of financialization. According to Reyes, the collapse of the original Bretton Woods system in 1971, which he states was pushed by growing trade imbalances for the United states, which catalysed a major shift in the world of finance by devaluing the US dollar. It was this devaluation, not changes in the relationships between oil-exporting OPEC members and the largely Anglo-American oil supermajors, which created the necessary conditions for embargo and shock in the 1970s. Reyes clearly claims it was this devaluation which created a period of inflation, destabilization, and a critical shift in the policymaking consensus towards economic stability instead of towards continued support for full employment policies. No mention is given in his work on the impact of petrodollars, the sudden flood of capital entering markets, or how this may have forced financial actors to change business as usual. For Reyes, like Dembinski, Yergin, and others the breakdown of Bretton Woods plays a critical role followed by changes in policy. The significant material shift brought on by the Oil Embargo and Oil Shock sees little, if any, mention.[16]

Stephan Haggard and Sylvia Maxfield take a similar approach when discussing the march of financial internationalization as a product of local balance of payments crisis, putting much of the focus on local actions taken and not on broader, global developments. They use Mexico, Chile, Indonesia, and South Korea as test cases to show the largest drivers for growing balance of payments problems caused

[15] Paul H. Dembinski, *Finance: Servant or Deceiver*¸ Palgrave-Macmillan (New York: 2009), 21-23
[16] Luis Reyes, "The link between the current international monetary non-system, financialization and the Washington consensus", *Research in International Business and Finance* 42 (2017), 432-434

by economic institutions and markets who were not used to dealing with global competitors. The Oil Embargo and Oil Shock receive no mention, despite Indonesia's OPEC membership during this period and Mexico's own oil industry's shift to becoming a significant global exporter after the 1973 Oil Embargo because of the potential profits promised by higher oil prices. The same argument of institutional changes, market liberalization, and capitalist-friendly reforms prevails with little mention of any potential relationship between these balance of payments problems and significant developments within the global marketplace.[17]

These transformations occurred hand in hand with the rise of new theoretical models for governing finance that guided business development. According to Kevin R. Brine and Mary Poovy the rise of portfolio theory, which gave birth to the efficient markets hypothesis and many other supporting ideas, played a central role in this dynamic. Brine and Poovy point to Harry Markowitz's 1952 publication of the essay "Portfolio Theory" as the origin point for modern finance. Portfolio theory was founded on improving the profits on financial investment through sound risk management through practices like hedging and calculating probabilities of best return. Further developments in theory, based on Markowitz's ideas, were applied in the industry, and are presented as further refinements on this original concept. The capstone of this process, the efficient markets hypothesis, was the result and next step in a series of new developments based on the increasing proficiency of financial actors and institutions. They also claim, like Yergin and Stanislaw, the 1973 Oil Embargo helped push these ideas from theory into practice, but this change was built on earlier instabilities in the existing Keynesian consensus rather than the Shock being the deciding factor. For Brine and Poovy the end destination of

[17] Stephan Haggard and Sylvia Maxfield, "The political economy of financial internationalization in the developing world", *International Organization,* Vol. 50, Issue 1 (Winter 1996), 11

these twin tracks was easily predictable with the upheaval of the 1970s giving further momentum to an ongoing process.[18]

John Kay provides his own explanation regarding the realm of practice, putting more emphasis on shifts in how business was conducted than on theory. He argues finance, prior to the 1970s, was characterized by relationships between depositors, borrowers, and financial institutions. He claims this market was much more stable with an emphasis on steady returns thanks in part to these relationships. The key shift, according to him, was not in creating a new hypothesis but that the growth of scale and new regulations encouraged treating customers as items in a ledger rather than relationships to be cultivated. From here they became tradeable assets, transforming finance into a world where transactions ruled the roost. Bretton Woods plays a role, according to Kay, but one of making such treatment easier to facilitate rather than as a key, decisive moment. There is a sense of inevitability in the process with Kay arguing it was an expected, though not entirely positive, outcome of the volatile environment facing financial actors with little discussion of the role of petrodollar recycling or the Oil Embargo and Oil Shock.[19]

Technological change is also a key part of the story. Dembinski argues the rise of information and computer technology made global transactions much easier to facilitate on a global scale. He points to the 1973 founding and rapid growth of the Society for Worldwide Interbank Financial Telecommunications (SWIFT) as potent example of such progress. Brine and Poovy also agree on this making it clear that information technology developments made business transactions that would have been daunting in the 1930s routine by the 1970s. John Kay goes so far as to say the financial revolution

[18] Brine & Poovey *Finance in America,* 294-297, 313-315
[19] John Kay, *Other People's Money: The Real Business of Finance*¸ Public Affairs (New York: 2015), 16-18

would not have been possible without the information technology revolution.[20] Yergin and Stanislaw provide the most sweeping description of this aspect of financialization:

> "But once information began to flow more freely with improved and less expensive phone service, fax machines, and computerization (and, of course, with increased travel), entire economic systems became more transparent. With speed and reach of new information technology, governments can no longer keep up. As information flies around the world, people can compare and contrast; they can trade knowledge instantaneously; they can act upon it. Investors can make far more informed decisions no matter where they sit. Access to a Reuters terminal or a Bloomberg machine provides a range and depth of information hardly imaginable ten years ago- and without a moment's delay. Inside countries where the walls had been high, people can now learn about alternatives and choices."[21]

Regardless of which aspect is discussed, the specific interpretation of these developments or what element was most crucial the consensus is clear. The development of financialization was driven on by a steady drumbeat of an increasingly sophisticated, innovative industry which was effectively responding to an increasingly volatile market, a position that is clearly in alignment with Spiro's treatment of petrodollar recycling as a brilliant innovation in the face of adverse circumstances.

Marxist theory is thoroughly inevitable in its framing and reasoning while disagreeing with the causes of financialization. Central to their understanding of financialization was the growing pressure of the falling rate of profit. David McNally presents this clearly by claiming the Keynesian consensus ultimately crumbled because Keynesian policy could not grapple effectively with the steadily declining profit margins of the marketplace and was triggering inflation through public spending.[22] McNally goes so far as to claim the Oil Embargo was triggered by such spending, claiming the price shock was caused by increasing inflation rather than being a key catalyst for it. Financialization, according to McNally, was the consequence of anti-inflationary policies that made it possible for financial institutions to scoop up

[20] Brine and Poovy, *Finance in America,* 316; Dembinski, *Finance: Servant or Deceiver*, 23-25; Kay, *Other People's Money*, 19
[21] Yergin and Stanislaw, *The Commanding Heights*, 137
[22] David McNally, *Global Slump: The Economics and Politics of Crisis and Resistance*, PM Press (Oakland, CA: 2011), 28-33

the newly freed surplus value gained from cutbacks in labour forces and manufacturing assets. The ultimate picture is one of capitalism inevitably progressing towards financialization with specifics events only serving to accelerate an existing process. McNally's discussion of this process gives little time to the specific nuances, mechanics, and elements of financialization during its formative period and because of totally predictable processes. Even though one could argue the broad strokes are mostly correct in describing financialization as a new form of wealth accumulation, the general focus on falling rate of profit leaves little room for understanding how this process was initiated and what contingent factors influenced its development.[23]

Englebert Stockhammer, while a post-Keynesian theorist, offers a similar explanation with greater nuance. According to Stockhammer the problem of declining accumulation was augmented with a changing understanding of what a capitalist firm does. According to him the shift in priorities reflects in priorities from focusing on maximizing profit as the main priority to expanding market share, exerting power over labour and suppliers and growing the size of the firm in essence transforming the mentality of the owners to rentiership. In Stockhammer's analysis this shift in priorities benefited from and was partially fuelled by new financial instruments that made leveraged buyouts and hostile takeovers much easier to execute. This, in turn, fed demand for these instruments which were previously only held in check by interventionist government policies. Stockhammer, even more than McNally, does not provide a clear sense of what triggered these changes in the first place beyond alluding to the ambiguous class position occupied by the managers of firms as a key role. This leaves Stockhammer's analysis feeling just as inevitable as McNally's even though it contains a more nuanced discussion of some of the particulars.[24]

[23] McNally, *Global Slump*, 34-37
[24] Englebert Stockhammer, "Financialization and the Slowdown of Accumulation", *Financialization at Work: Key Texts and Commentary*, Routledge (Oxon: 2009), 212-216, 219

Francois Chesnais provides a more nuanced, clearly articulated take on the broader Marxist position on the process of financialization. According to Chesnais, the processes of capital accumulation which occurred following the end of the Second World War were amplified by the growth of capital invested in interest-bearing capacities by financial institutions. It was the relatively uninterrupted nature of this process which made the transformation of finance seen during the 1970s possible. Chesnais spends more time on the Oil Embargo and Oil Shock than other Marxist-derived theorists in arguing the rise of the petrodollar recycling process was responsible for creating the post-war world's first self-sustaining debt cycle. This shift, according to Chesnais, explains how finance was able to break loose from the constraints imposed by the real economy and become the force it is today yet this is the point where Chesnais halts their exploration of this aspect. The long timescale used does, to an extent, validate the arguments presented by other Marxist theorists even though Chesnais spends time discussing how the these events were responsible for creating an independent, international debt cycle. Such broad strokes provide a useful theoretical starting point but do little to discuss how and why finance was changed by the Oil Embargo or the Oil Shock in any greater specificity. This also has the unintended effect of obscuring the significance of the changes taking place in finance, effectively implying all that followed the Oil Embargo and Oil Shock were part of an inevitable capitalist process.[25]

Most other advocates of neo-Keynesian theory are completely at odds with the neoclassical line of reasoning. Dani Rodrik provides the most direct illustration of the general outline followed by other supporters of neo-liberal theory putting the fall of the Keynesian consensus at the heart of the narrative:

> "The oil shocks and stagflation of the 1970s – which confronted advanced economies with unemployment and inflation together – pushed attention away from Keynes's focus on demand management to the supply side of the economy. In the traditional Keynesian model, unemployment was the result of too little demand for domestic products; but the simultaneous increase in inflation belied that explanation. Discretionary monetary and fiscal policies a la Keynes began to be seen by economists and technocrats as a force for instability rather than

[25] Francois Chesnais (2019), "Financialization and the impasse of capitalism", *The Japanese Political Economy*, 45:1-2, 85-88

> stability. Interventionist philosophies lost ground, in tandem with the spread of market-oriented ideas in the economics profession."[26]

Rodrik ties this shift into financialization asserting:

> "As memories of interwar instability faded, financial interests began to carry even greater weight in the shaping of economic policy. The Europeans and Japanese were willing to contemplate cooperative capital controls to bring some stability to foreign currency markets after 1973, but their demands were blocked by the United States. Policy makers in the United States and Britain increasingly advocated global financial deregulation, and they eventually gained an unlikely and crucial ally in France."[27]

Some advocates of the neo-Keynesian position go so far as to provide a precise date, culprit and first test case for the ideology they critique. Naomi Klein claims the deregulatory experiment began on September 11th, 1973 following the CIA-supported coup of Chilean President Salvador Allende by General Augusto Pinochet. She claims Pinochet's Chile was the first real example of total economic deregulation and was ushered in using force she refers to as the Shock Doctrine. Klein further asserts British Prime Minister Margaret Thatcher followed a similar pattern, using the Falklands War of 1982 as a political shock to stymie her critics, to implement policies of deregulation and privatization. David McNally concurs with this date, claiming Pinochet's regime was the first example of a deliberate regulatory rupture with the Keynesian consensus followed by other policymakers like British Prime Minister Margaret Thatcher though he asserts the Volker Shock of 1979 was the truly decisive moment in cementing the new order.[28]

These theorists further claim the push for deregulation had far deeper roots. The most detailed discussion of the intellectual origin story of neo-liberalism, the term they use for the political movement most associated with neo-classical economic thinking, comes from Kim Philips-Fein who begins her work in the United States during the Great Depression. Fein focuses on support for think tanks, free market

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[26] Dani Rodrik, *The Globalization Paradox: Why Global Markets, States, and Democracy Can't Co-Exist*, Oxford University Press (Oxford: 2011), 101

[27] Rodrik, *The Globalization Paradox,* 102

[28] Naomi Klein, *The Shock Doctrine: The Rise of Disaster Capitalism*, Henry Holt and Company (New York: 2007), 94-97, 170-172, McNally, *The Global Slump*, 34

intellectuals like Milton Friedman and conservative politicians as the main vehicle for the dismantling of the Keynesian consensus in the United States. Klein echoes this argument, focusing on the development of the Chicago School in academia and their global influence. Rodrik, while focusing on the broader development of international systems like GATT and the WTO, also asserts the development of these ideas outside of government preceded their implementation as policy. Yergin and Stanislaw, even as they largely argue for the impact of broader institutional and technological developments, concur with these critics of neo-liberalism in asserting the Chicago School played a key role in articulating specific policy prescriptions that sustained financialization. Even so they do not place Friedman's followers in a central role placing them in a supporting position to the broader shift that began in the 1970s. The neo-Keynesian arguments emphasize the development of a specific ideology as the first motion in a chain of events ending with the ascension of finance in the global economy.[29]

International political economy offers something of a bridge between these differing schools of thought, particularly in research which focuses on the Persian Gulf region in particular. Significant quantities of research have been done under this framework on the Persian Gulf region, covering everything from the arms dynamic to the relationships between the Oil Embargo, the Oil Shock, and the Eurocurrency market. One scholar who has done extensive, specific work on the Persian Gulf and finance is Adam Hanieh. His work puts considerable emphasis on how the revenues accumulated through the sale of oil exports has been recycled into real estate development and capital accumulation by regional financial systems. One key concept which Hanieh articulates in his research on Gulf and Palestinian capital accumulation is what he calls the internationalization of capital, the process where capitalists and business interests are forced to operate on an increasingly global scale with finance

[29] Kim Philips-Fein, *Invisible Hands: The Businessmen's Crusade Against the New Deal*, W.W. Norton and Company (New York: 2009), xi-xii, 44-46, 115-116; Klein, *The Shock Doctrine*, 64-73; Rodrik, *The Globalization Paradox*, 77; Yergin and Stanislaw, *The Commanding Heights*, 127-131

shifting their emphasis increasingly to international finance. According to Hanieh this process is initiated in the region in the 1990s by the adoption of neoliberal policy measures that deregulated financial practices in the region. His research into real estate development in the UAE covers many related developments though this, like his work on the internationalization of Gulf capital, begins much later than the period covered in this dissertation in the year 2000 and examines developments which occurred since. This bears significance for the salient issue that the largely private-sector driven processes Hanieh describes, beyond the question of period, are significantly different from the more state-directed processes which unfolded during the 1970s and early 1980s. As is described in more detail in Chapter Two, much of the funds which entered the coffers of OPEC and OAPEC's members first found their way into the hands of the various regional governments. This was thanks to the oil concessions system, described further in Chapter Two, which allocated rents from oil production to the host governments directly before those governments then allocated those funds according to their policy goals, priorities, and assessment of socio-economic conditions. Hanieh, in contrast, focuses on a process which was far more similar to the deregulation of finance in the United States and United Kingdom during the 1980s where direct state intervention in finance decreased and the scale of private sector activity exploded. This leaves Hanieh's work, though methodologically and theoretically in alignment with this research, lacking in relevant information or arguments related to the Gulf and financialization in the 1970s.[30]

The same is true of his discussions of modern Islamic finance in this period which, as Hanieh, Siregar, Khan, and Bhatti concede, was largely in its infancy during the 1970s and only began its rise beyond servicing local concerns in the late 1980s. This, according to Hanieh and Buckley, was thanks in

[30] Adam Hanieh, "The internationalization of Gulf capital and Palestinian class formation", *Capital & Class*, (2010) 35(1), 82; Michelle Buckley and Adam Hanieh, "Diversification by Urbanization: Tracing the Property-Finance Nexus in Dubai and the Gulf", *International Journal of Urban and Regional Research*, (Jan. 2014), Vol. 38.1, 157-160; Adam Hanieh, "Absent Regions: Spaces of Financialisation in the Arab World", *Antipode*, (2016), Vol. 48, No. 5, 1234-35

part to the aforementioned expansion of private finance in the Persian Gulf which began in the late 1980s and was significantly removed from the immediate consequences of the 1974-1982 petrodollar recycling period. This makes it clear that Islamic finance during this critical time, while an interesting avenue for research, falls just beyond the scope of this work due to its lack of significance in the petrodollar process during this period and lack of access to the necessary sources to effectively measure their involvement. While there is no question that modern Islamic finance developed thanks to the conditions which resulted from the 1974-1982 Embargo and Shock period, this field of economic activity was at that point marginal and was merely one of many recipients for petrodollar wealth.[31]

This specific lack in international political economy research and related works becomes more apparent upon examining what has been covered with this approach. Braun, Krampf, and Murau's provides a useful framework for wrestling specifically with the Eurocurrency market and the impact of petrodollars on this complex money market which focuses heavily on questions of governance in the new economic reality. Bichler and Nitzan's work on arms and oil, similarly, gives further context to the economic realities driving the rise of weapons exports from arms producers to the MENA region. These works operate in frameworks which places the MENA region as an active and significant player in the changing global economy. What it also further affirms is the need for specific research into how petrodollars changed the way the global financial system operated due to the conspicuous lack of such work.[32]

[31] Adam Hanieh, "New geographies of financial power: global Islamic finance and the Gulf", *Third World Quarterly*, 41:3, 530; Hamka Siregar, "Religion and Banking System: The future of Syariah banking practices, Historical and Contemporary Fiqh Perspectives", AL ALBAB – Borneo Journal of Religious Studies, (Dec. 2014), Vol. 3, No. 2, 162; M. Mansoor Khan, "Islamic banking and finance: on its way to globalization", *Managerial Finance*, (2008), Vol. 34, No. 10, 709-714

[32] Benjamin Braun, Arie Krampf & Steffen Murau, "Financial globalization as positive integration: monetary technocrats and the Eurodollar market in the 1970s", *Review of International Political Economy*, 28:4, (December 2018), 794-800; Shimshon Bichler and Jonathan Nitzan, "Arms and Oil in the Middle East: A Biography of Research", *Rethinking Marxism*. Vol. 30. No. 3. (November 2018). pp. 418-420

Each of these arguments has certain shortcomings in explaining the financialization process. The neoclassical analysis treats the rise of financialization as mostly the product of innovations internal to the financial industry while also showing something of a presentist bias where the fact that financialization is the norm now means its rise was clear, easily predicted, and the result of a steady, ongoing intellectual and economic process. In doing so, they diminish the role of specific world historical events outside the realm of business and focuses heavily on the importance of actors in the developed world at the expense of OPEC's members and the broader Global South. Even authors like Dembinski and Kay, who are very critical of financialization's effects, fall prey to this problem with Yergin and Stanislaw who go even further by implying financialization was an inevitable consequence of a broader, necessary deregulation of the marketplace. Marxist theory is even more diffuse, focusing too heavily on class dynamics and is highly deterministic in analysis with little discussion of contingent events. Neo-Keynesian theory does not sufficiently engage with broader economic developments, such as the rise of information technology, while placing most of its emphasis on political and intellectual developments at the expense of the role played by the economic shocks of the 1970s in bringing about these shifts. International political economy provides the most thorough framework for analysing these developments while further reinforcing the need for deeper investigation of the consequences of secondary petrodollar recycling. This is unfortunate as while the International Political Economy approach effectively addresses the shortcomings of these other schools of thought, there is none which currently deals with the processes of financialization during the 1970s and early 1980s. The consistent result is an understanding of the period which references the broader volatility of the period while refraining from engagement with the specific developments of these tumultuous years. Nothing better demonstrates these shortcomings than the debate over the causes of inflation, the accepted greatest driver of economic volatility in this period.

Oil and the Great Inflation

Understanding the causes of inflation during the 1970s is central to understanding the volatile environment which clearly played a key role in making financialization possible. This question is an especially fraught one thanks to how hotly debated the causes of the Great Inflation of the 1970s continue to be, particularly because the clashing explanations for this tumultuous period represent significantly different ways of understanding economics. The two main arguments on this subject, according to Qazi Haque, Nicolas Groshenny, and Mark Weder, are based in how the causes of inflation during the 1974-1982 are understood, one which posits that inflation was primarily a monetary phenomenon that even extended to oil prices while the other argues that commodity price shocks, including the 1973 Oil Embargo, were responsible for driving inflationary pressures during this period. If, as is argued in the monetary position, the causes of the Great Inflation can be found in Bretton Woods and excessive state spending then the role of primary petrocapital recycling would, by implication, be largely limited to the direct consequences of such investing. If, as this thesis affirms and supports, the commodity price shock argument holds true then the effects of the Oil Embargo must be treated as a fundamental shift in the global economy with multiple second-order consequences for all aspects of the primary recycling process extending beyond the direct consequences of specific investment decisions.[33]

Resolving this question of the causes of inflation becomes critical for understanding financialization thanks to the relationships between inflationary patterns and interest rates in this period. According to Adusei Juman and Robert M. Kunst, interest rates, particularly short-term ones, tend to increase during times of higher inflation or tight credit and decrease in times of stability or when easy credit is needed. They claim this pattern held somewhat true during the 1970s, both publicly and

[33] Qazi Haque, Nicolas Groshenny, and Mark Weder, "Do we really know that U.S. monetary policy was destabilizing in the 1970s?", *European Economic Review*, 131, (2021), 1-2

privately, though its effectiveness was somewhat mixed in achieving the desired result of reducing inflation. In the case of private banks, such as National Westminster and Barclay's, the incentive to reduce lending and keep control of what limited assets they have in times of rising inflation drives their own interest rates up in conjunction with central bank rates. These rates had their own direct impact on the cost of lending, the return on investment for money market operators, and the value of the growing field of financial derivatives. This connection makes understanding the drivers of the Great Inflation essential for explaining the relationship between petrocapital and financialization between 1974 and 1982.[34]

One of the most succinct, modern expressions of the monetary position can be found in Christopher A. Sims' research on fiscal policy and inflation in the 1970s. As Sims argues, "It is a standard result in equilibrium models that recognize the government budget constraint as part of the model (sometimes called "fiscal theory of the price level" or "FTPL" models) that when rational, forward-looking agents believe that newly issued nominal government debt is only partially backed by future taxes, debt issue is inflationary," a position which very clearly places the cause of inflation at the feet of excessive deficit spending by state bodies. In Sims' case, the spate of deficit spending which occurred in the 1970s was unprecedented in US history, creating monetary and fiscal uncertainty. This supposition is supported by Sims' analysis of flex-price models which, according to him, provide a more thorough understanding of this dynamic during the 1970s. The problem, according to Sims, was the value of the deficit in contrast to the value of all outstanding debt which reached its highest level, 20%, in 1975. It is this ratio argument which allows for Sims to argue the Reagan deficits were less onerous thanks to

[34] Fernando Alvarez, Robert E. Lucas, Jr. and Warren E. Weber, "Interest Rates and Inflation", *The American Economic Review*, Vol. 91, No. 2, Papers and Proceedings of the Hundred Thirteenth Annual Meeting of the American Economic Association (May, 2001), 219-220; Adusei Jumah & Robert M. Kunst (2016) "Optimizing time-series forecasts for inflation and interest rates using simulation and model averaging, *Applied Economics*, 48:45, 4371-4373

representing a smaller percentage compared to outstanding US debts than was the case during the 1970s.[35]

This case is also made for the United Kingdom by Jingwen Fan, Patrick Minford, and Zhirong Ou who test the FTPL model against what they describe as the UK's 1970s expansionary fiscal policies which were thanks, according to them, to a lack of clear monetary goals effectively ensuring inflation as a result. They describe British policies as aiming to achieve growth and reduce unemployment as much as possible, goals which they claim will inevitably trigger inflationary pressures, which dated back to Bretton Woods. The Bretton Woods system, they claim, constrained British policy options and only provided devaluation, which was only done twice prior to 1970, as an effective relief for these problems. The breakdown of Bretton Woods ended these external constraints, giving rise to a period where, according to Fan, Minford, and Ou, UK monetary policy had no new nominal target to replace the old Bretton Woods exchange rate. This failure ensured a lack of effective fiscal discipline, leading to a series of different policy measures ranging from deposit limitations to price controls all of which failed to address the problem. Both their classic FTPL and Orthodox models largely confirm these suppositions, providing support for the argument that insufficient fiscal discipline played a critical role in driving inflation in the United Kingdom.[36]

Monetary understandings of this period are also advanced by several scholars of financialization, demonstrating how extensively these ideas influence the broader discussion of economic history and theory. Yergin argues in its favour, claiming government systems for regulating economic affairs were already strained to their limits by growing inflation before the Oil Crisis hit. According to Yergin deficit spending and other forms of intervention failed to solve the post-1974 slump, proving that Keynesian

[35] Christopher A. Sims, "Stepping on a rake: The role of fiscal policy in the inflation of the 1970s", *European Economic Review*, 55 (2011), 48-49
[36] Jingwen Fan, Patrick Minford, and Zhirong Ou, "The role of fiscal policy in Britain's Great Inflation", *Economic Modelling*, 58 (2016), 203, 205-206, 208-210

tools for economic affairs were ill-suited to the realities of economics. Brine and Poovey argue this crisis was made possible by the changes in capital flows and instability brought on by the demise of Bretton Woods. Later adjustments in the real economy, they claim, were magnified in impact due to the end of American financial and monetary primacy in global affairs. Frieden clearly ties these threads together with the growing crisis of commodity prices unfolding around the world. Frieden claims the demise of fixed exchange rates prompted the initial inflationary wave, due to governments being able to spend or borrow beyond the constraints imposed by Bretton Woods. This, he argues, was the trigger for the later commodity price shocks that rippled throughout the decade. According to Frieden the rise in oil prices was an inevitable adjustment to match such market conditions.[37]

The commodity price argument, according to Haque, Groshenny, and Weder, posits that price shocks in multiple primary commodities, with the 1973 Oil Embargo as the most spectacular example, caused unexpected disruptions in economic activity leading to widespread inflation. In this school of thought, the main driver of inflation are the direct increases of the price of commodities that were critical for sustaining economic activity. In the case of oil this was exacerbated thanks to how extensively it dominated the world's energy mix in terms of sources of energy for the economy. Haque, Groshenny, and Weder's analysis of this position is one of many studies showing a clear relationship between commodity price shocks in the 1970s and inflationary pressures. In their research, which addresses the question of whether 1970s US Federal Reserve policy was a destabilizing influence, they utilize a Generalized New Keynesian analysis that incorporates positive trend inflation, commodity price shocks, and real wage rigidity into their econometric models. The result, they argue, was an environment where, "sticky wages and inefficient supply shocks generated a strong, negative correlation between inflation and the output gap, thereby confronting the monetary authority with a difficult trade-

[37] Brine and Poovey *Finance in America*, 325-328, 344-345; Frieden, *Global Capitalism*, 359-360, 363-365; Yergin and Stanislaw, *The Commanding Heights*, 110-111

off. This trade-off inherently influences the parameter estimates of a central bank's interest rate rule." Though they argue that this research affirms that Federal Reserve policies did contribute to economic instability in the period, the evolution of its methods do not sufficiently explain the drop in output growth volatility which seems more closely linked to wage rigidity and demand shocks. From the standpoint of a broader commodity price-driven perspective, this suggests these price shocks played a more significant role in driving inflationary trends than is argued for in monetarist arguments.[38]

Similar findings are presented by Ana Gómez-Loscos, María Dolores Gadea, and Antonio Montañés. They demonstrate that commodity pushed inflation, with oil as the most significant example, was most significant in the 1970s and this relationship declined over the course of the following two decades. As they demonstrate, the GDP multipliers related to oil were largely negative in the period of 1971 to 1983, showing that high oil prices were directly contributing to rates of inflation during this period. This does, however, present a problem for the commodity price argument. If oil and other commodity price shocks were significant drivers of inflation during the Great Inflation then such patterns should remain consistent. This question of historical contingency is particularly illustrated by Victor Volcarcel and Mark E. Wohar. They argue that during the 1970s the price of oil had a clear, measurable pass-through effect on inflation due to specific structural conditions, such as the world's current energy mix. What this means is any increases in the price of oil were passed on to the rest of the economic supply chain, a prospect with enormous implications due to how dependent the global economy was on oil in this period.[39]

[38] Haque, Groshenny, and Weder, "Do we really know that U.S. monetary policy was destabilizing in the 1970s?", 1-2, 22, 23

[39] Ana Gómez-Loscos, María Dolores Gadea, and Antonio Montañés, "Economic growth, inflation and oil shocks: are the 1970s coming back?" *Applied Economics,* 44, (2012), 4576, 4581, 4587; Victor J. Volcarcel and Mark E. Wohar, "Changes in the oil-price inflation pass-through", *Journal of Economics & Business*, Volume 68 (July-August 2013), 39-40

Shiu Sheng-Chen provides further, market-specific explanations for why this pass-through effect was much stronger during the Great Inflation than it was in the decades that followed. Shiu claims that in the 1970s, specific elements of the oil market, such as the lack of any futures on OPEC contracts, meant there were few, if any, effective mitigating structures to soften the impact of significant price shifts on commodities buyers. Shawkat Hammoudeh and Juan C. Reboredo offer similar observations regarding pass-through effect in this period. They claim this historically contingent relationships was thanks to the growing dependence of major oil-consuming, industrialized powers on oil imports from OPEC member-states. They claim this was thanks to the overall lack of diversity in energy sources utilized by the economies of the 1970s, a development which will be discussed in greater detail in Chapter Two. These patterns of inflation and oil prices, especially leading up to the 1973 Shock, are supported by the clear correlations observed in inflationary spikes during this period as shown in Figure 1.2. Even though this direct relationship would cease to be significant following the end of the 1974-1982 petrocapital recycling period, its clear importance during this period is nonetheless unquestionable with multiple explanations provided for why this was the case.[40]

These arguments for a commodity-based understanding of the Great Inflation are supported by additional primary data supporting their broader arguments. As Table 1.1 and Figure 1.2 show, oil price increases and inflation closely correlated from the end of Bretton Woods until the end of the Oil Embargo in early 1974. The point at which the correlation breaks is after the embargo's end, when the price of oil stabilized again, and inflation continued to rise in some nations while falling in others. Figure 1.3 further supports the contention that oil price increases led to inflationary increases in the months leading up to the 1973 Oil Embargo and during the Embargo itself by showing the steady, consistent

[40] Shiu-Sheng Chen, "Oil price pass-through into inflation", *Energy Economics*, Volume 31 Issue 1 (January 2009), 126,132-133; Shawkat Hammoudeh and Juan C. Reboredo, "Oil price dynamics and market-based inflation expectations", *Energy Economics*, Volume 75 (September 2018), 488-490

increase of oil prices during this period just as inflationary trends were beginning to increase. The main problem presented by this data is the point where oil prices and inflation decouple, a pattern which suggests inflationary conditions that were exacerbated by the escalating price of oil persisted following its stabilization.

Further support for the oil price argument comes from historical developments between the downfall of Bretton Woods and the Shock itself. Even though this initial period does not show the sort of dramatic, rapid jumps seen later in 1973 or in 1979 it does reinforce the causative link between oil prices and inflation. As shown in Figure 1.4 there was a consistent, steady increase in the price of oil in the months leading up to the Shock itself and during the final collapse of Bretton Woods. The first jump, at the end of January 1971, follows the landmark Tehran Agreement. Under this agreement OPEC's members increased their share of the proceeds of oil to 55% and were given the go-ahead to implement an immediate price hike, followed by further annual price increases. This jump, shown in Figure 1.4, represented a 26% increase in the price of oil which had remained largely stable and, in some cases, declining for the entire previous decade. This agreement did more than just increase the price of oil, it clearly shifted the balance of power in the oil industry from the Western-owned oil majors to the oil producing countries in the developing world. Throughout 1971 and 1972 there are additional upward adjustments, which were in line with the terms of the Tehran Agreement, but nothing significant until the beginning of 1973.[41]

[41] Daniel Yergin, *The Prize: The Epic Quest for Oil, Money, and Power*, Free Press (New York: 2009), 563-564

Correlations, Inflation to Price of Oil September 1971-December 1974 Data Source: OECD, World Bank Pink Sheet				
Country	Nixon Shock	OPEC Price War	Oil Shock	Petrodollar Recycling
Canada	0.60058978	0.755239497	0.300406279	0.505140588
France	0.77291875	0.802795567	0.77977924	-0.528192076
Germany	0.37968625	-0.022557219	-0.33379573	-0.110976421
Italy	0.87132328	0.474128434	0.696915113	-0.360133641
Japan	-0.2988886	0.754592865	0.892762601	-0.357260868
United Kingdom	-0.4987902	0.700099697	0.711458425	-0.225364983
United States of America	-0.2998788	0.783645635	0.872118277	-0.306870158

Table 1.1: Correlation Data of Inflation and the Price of Oil

Note: Data for Table 1.1 was collected from the OECD's Consumer Price Index monthly data and the World Bank Pink Sheet monthly commodity price data from September 1971 to December 1974. Both sets of monthly data were calculated for correlation in Microsoft Excel. The periods covered are the Nixon Shock, September 1971 to December 1972, the OPEC Price War, January 1973 to October 1973, the Oil Shock, November 1973 to April 1974, and Petrodollar Recycling, May 1974 to December 1974.

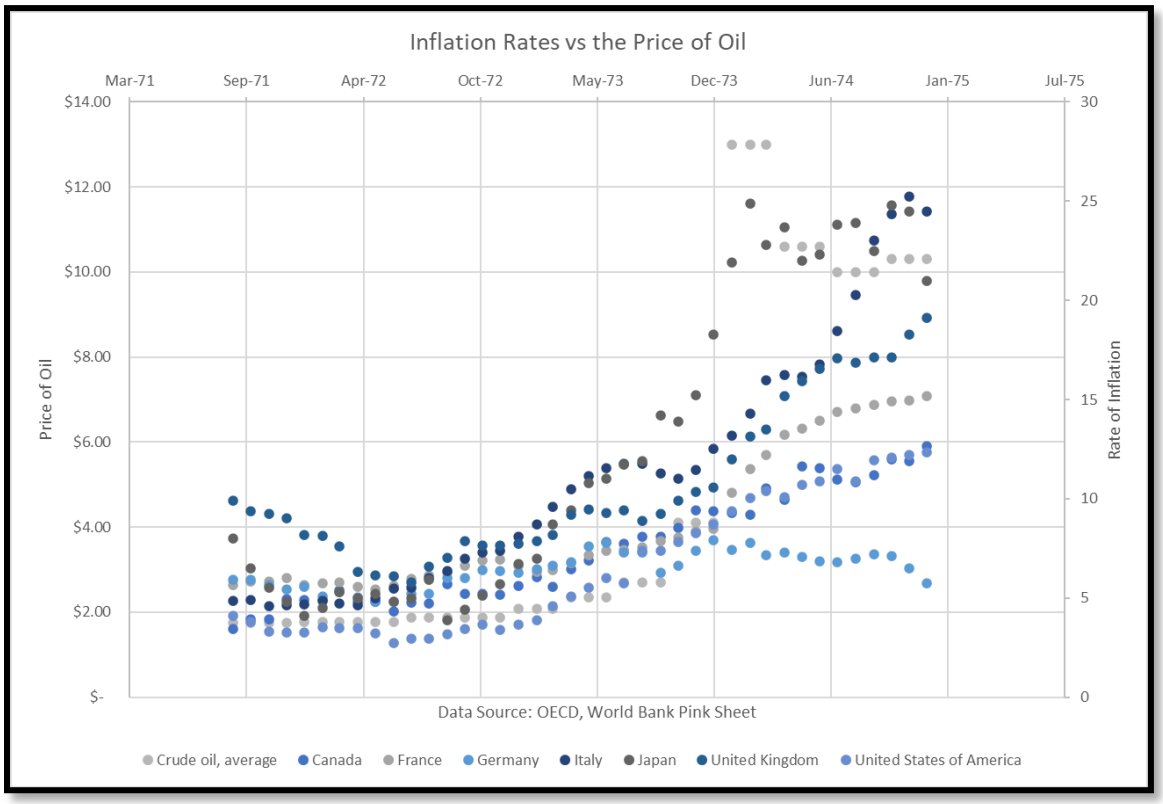

Figure 1.2: Correlation of Inflation and Price of Oil

Note: Data for Figure 1.2 was collected from the OECD's Consumer Price Index monthly data and the World Bank Pink Sheet monthly commodity price data from September 1971 to December 1974. Both sets of monthly data were calculated for correlation in Microsoft Excel and mapped on a scatter plot.

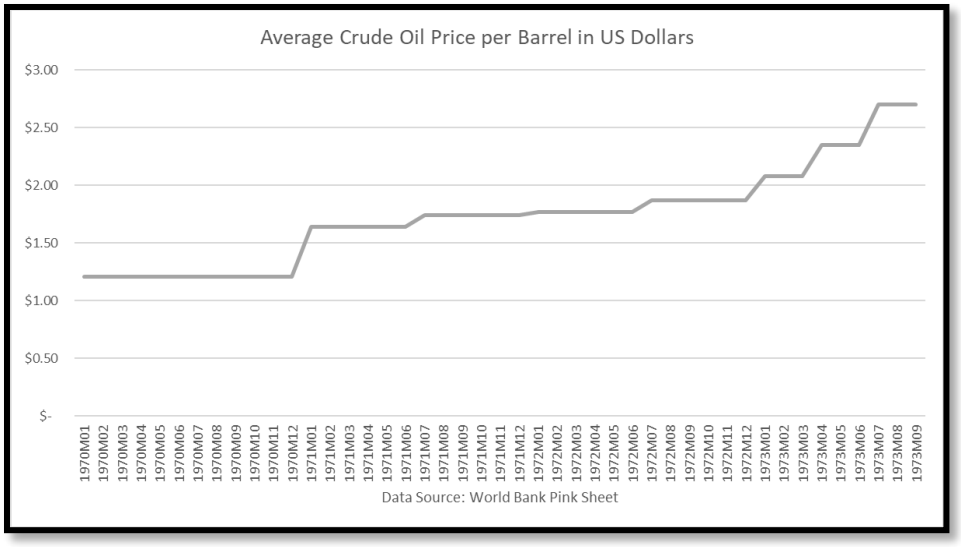

Figure 1.3: Average Crude Oil Price per Barrel, 1970-1973

Note: Data for Figure 1.3 is from the World Bank Pink Sheet monthly historical commodity price database.

What changed at the beginning of 1973 was OPEC had entered an internal price war with itself. Price radicals, advocating increases to pay for development projects, duelled with the price moderates who were seeking to maintain stable revenues and not upset oil importers. While OPEC member nations cited inflation as their main cause for concern, the data in Figure 1.3 shown in contrast to Figure 1.2 suggests that OPEC's members were raising prices ahead of these inflationary increases. What further weakened the moderate position, who were seeking to keep the markets relatively stable and keep to the terms of the Tehran and Tripoli agreements, was that all of OPEC's members were caught in a prisoner's dilemma. Holding to the terms of these agreements would have worked if none of OPEC's members defected from their shared arrangements. In contrast to the lost opportunities that came with holding to the terms of these agreements defecting, in this case increasing oil prices, meant profit without any real risk. Regardless of whatever the OPEC moderate powers wanted the rewards of defecting were simply too lucrative to pass up.[42]

[42] Yergin, *The Prize*, 572-574

In the span of nine months, from the onset of the price war to the eve of the Oil Embargo, the average price of oil jumped 30%. The impact was not missed on the importing side of the equation. On May 29th, 1973, the Bank of Scotland soberly concluded, "As is well known, the world is in the early stages of a major energy crisis." This pattern of inflation only accelerated when the Oil Embargo began in October of 1973 as shown in Figure 1.2. The Bank of England Standing Group on Oil Problems concluded on March 22nd, 1974, the rising oil prices were driving inflation across the industrialized world. They further argued the reason this was so devastating was because of the stable oil prices of the 1960s left businesses and economic policymakers unprepared for this sudden shift in the economic environment.[43]

These materials lend further support to a commodity price-shock driven analysis, firmly situating this research as being broadly in alignment with a commodity-based understanding of the Great Inflation in contrast to the monetarist perspective. Their argument that inflation follows monetary policy and monetary changes This, however, does not fit with either the data or research which clearly shows a clear chronological gap between commodity price shocks and inflationary pressures where such price increases consistently preceded inflationary trends. Centring the Oil Embargo and Oil Shock as key causes of 1970s inflation means its impact is not restricted solely to the capital recycled through global financial markets. This argument makes the Oil Embargo and Oil Shock significant environmental factors in the inflation-pushed instability behind fluctuations in public and private sector interest rates, the growing demand for credit to pay for increasingly expensive oil, and the overall transformation of global finance. To understand how these developments, which are described in more detail in Chapters Three,

[43] "Board Meeting: May 29th, 1973", Page 2603, Board Minutes Pages 2060-2796, Bank of Scotland Archives, Edinburgh, United Kingdom; "Aide-Memoire: A Comparison of Oil Prices and Other Prices in World Trade", Page 2, World Energy Crisis: B/E Standing Group on Oil Problems, 3A112/1, Bank of England Archive, London, United Kingdom

Four, and Five, took shape it is first necessary to first understand how the Oil Embargo and Oil Shock were made possible.

Chapter Two : When Oil Shocked the Globe

To understand the origins of the petrocapital cycle in the 1973 Oil Embargo, it is first necessary to understand how the Embargo came to be, how it is related to the 1979 Oil Shock, and the ways these developments shaped the emerging petrodollar recycling process. There is broad agreement in the relevant academic literature discussing the history of the oil industry and the Middle East that escalating frictions between OPEC's members and the predominantly Anglo-American oil supermajors, commonly referred to as the Seven Sisters, were essential for laying the foundation for the 1973 Oil Embargo. The point where the discussion begins to diverge is over the question of how these actions were justified, a position which depends heavily on the analytical approach employed by the authors. For Daniel Yergin, whose emphasis on the development of the oil industry and the history of specific companies is paramount to his research, argues the initial arrangements were mutually beneficial even if they were made under duress. The way he describes the conditions surrounding King Ibn Saud's decision to permit drilling in Saudi Arabia makes this abundantly clear:

> "The King admitted that he had permitted some preliminary examination to be carried out, but added that "he was not anxious in the least to grant concessions to foreigners." **Yet, given his financial difficulties, *did* he have a choice?** Twitchell, the American engineer, had, in fact, reported some promising oil prospects in the al-Hasa, in the eastern part of the country. Then. On May 31,1932, Standard Oil of California made its oil discovery on Bahrain. That abruptly and significantly increased the attractiveness of al-Hasa, and made Ibn Saud, on consideration, less averse to foreign investment in his kingdom."[44]

This pattern of emphasizing the nature of these relationships as mutually beneficial is consistent throughout his work. Though there is a certain truth in his claims that American and British investments in the region stimulated development, this does not diminish the unequal nature of these relationships which Middle East specialists strongly emphasize.

[44] Yergin, *The Prize*, 289, emphasis mine

Garavini, as the first of many such examples of Middle East-oriented analyses, presents the balance of power between OPEC and the Seven Sisters in a much more colonial framework which, given the history of OPEC's member-states, is understandable. As he states in his discussion of these concessionary agreements there were seven consistent features which clearly defined these arrangements as exploitative. These features, according to Garavini, were their extended duration of approximately sixty years, their boundaries covering most of the territory of the OPEC states, the lack of "release" clauses for less explored areas, the denial of control over production to the sovereign landlord, total freedom from any direct or indirect taxes on their activities by the sovereign power, all legal disputes were removed from the jurisdiction of local courts and instead resolved by international arbitration, and finally there were no formal obligations to use the best techniques for extracting or conserving their natural resources.[45] He summarizes this best when he concludes:

> "The reason why Middle-Eastern oil concessions were so unbalanced in favor of petrocapital, it should be clear by now, was not simply the difference in technical and juridicial knowledge among the signatories. A key role was played by the direct political and military pressures exerted by imperial powers that allowed international oil companies to impose their own rules, such as in the cases of Iraq and Iran that were forced to abandon (as we shall see soon) any legal pretense to participating as shareholders to the petroleum industry of their countries."[46]

This position closely mirrors similar arguments made by Robert Vitalis, which he supports with examples such as the 1953 CIA-backed coup against Iranian Prime Minister Mossadegh's government, the 1963 US-supported coup against the Iraqi government, and the 1965 CIA-sponsored coup against the Indonesian government. Such examples of US intervention, client state relationships, and military power are key components of a broader pattern of hegemony in Vitalis' argument. This colonial dynamic manifests, according to Vitalis, in how the US approached their relationships with Saudi Arabia and constructed life in Arab-American Oil Company (ARAMCO) work camps. These enclaves of Americana, complete with schools, baseball teams, and radio stations reserved for white American

[45] Giuliano Garavini, *The Rise & Fall of OPEC in the Twentieth Century*, Oxford University Press (Oxford: 2019) 31
[46] Garavini, *The Rise & Fall of OPEC in the Twentieth Century*, 32

workers, stood as outposts of what Vitalis describes as a corporate state within a state. It is clear, as he argues, the presence of American, British, and other multinational oil supermajors was the product of neocolonial relationships centred on the oil wealth of the Persian Gulf powers and Cold War-era geopolitical demands. Vitalis also addresses the presentation of this relationship as one of mutual benefit by ARAMCO's executives which was characterized as a, "partnership for oil and progress". These efforts at justification were intended to build popular support in the United States for further investment while also providing a veneer of legitimacy to the process.[47]

David M. Wight follows this same line of reasoning as shown by his description of the relationship between the United States and client states like Saudi Arabia and Kuwait:

> "Constructed by both US multinational oil companies (MNOCs) and the US government, US empire in the MENA sought to ensure the cheap, plentiful flow of oil from the region to Western consumers. Initially, the United States primarily secured its influence over the MENA and its oil through the empires of its British and French allies, international empire in the second degree. Starting with Saudi Arabia, however, an increasing number of MENA countries became direct client states of the United States from the 1930s to the 1960s. Whether primarily clients of the United States or European powers, however, a similar logic of cooperative empire operated for oil- rich MENA countries, in which friendly elites received Western military support, aid, revenues, and expertise to assist state building projects and secure their regimes in exchange for their commitment to fight communism and supply cheap oil."[48]

For Wight, this central tension between US hegemonic influence and their pretence of mutual benefit is what defines this relationship. Protecting America's economic and political interests, despite efforts to claim to the contrary, are paramount in Wight's research for understanding the relationships between OPEC's MENA members and the US-backed oil supermajors with operations in the region.

One aspect of these exchanges that has particular significance is the exchange of technical and scientific knowledge as examined by Toby C. Jones. This importation of outside experts played a critical

[47] Robert Vitalis, *America's Kingdom: Mythmaking on the Saudi Oil Frontier,* Stanford University Press, (Stanford, CA: 2007), 13-15, 61-62, 88-89, 131-132, 35

[48] David M. Wight, *Oil Money: Middle East Petrodollars and the Transformation of US Empire, 1967-1988*, Cornell University Press (Ithaca, NY: 2021), 11

role in shaping how the Saudi state, through the oil industry and state building processes, came to understand their institutional roles and best available options. This was, according to Jones, facilitated by a steady flow of highly trained administrators, sociologists, and geologists who brought their ideas, expertise, and practices with them to their work in Saudi Arabia. Their influence shaped how the Saudi state came to understand their resources and organize their society. The Saudi embrace of an increasingly authoritarian form of technocratic control was not, as Jones argues, unusual among postcolonial and developing states. Direct applications of the forefront of scientific knowledge were seen as necessary for conquering nature, building a modern economy, and establishing the necessary institutions for state control. All these information exchanges were, according to Jones, underpinned by the larger demands and needs of the Saudi government's American patrons. This shaped everything from environmental planning to the drawing of borders, which Jones dramatically illustrates with the 1951 Saudi siege of Buraimi that was dated back to a disputed boundary set under American and British influence. Jones, in many ways, provides a framework for understanding how Saudi Arabia intellectually colonized themselves as a direct result of their pursuit of modernization and industrialization, adding further layers to the question of imperial relationships.[49]

Katayoun Shafiee offers a similar perspective to Jones through the lens of understanding the development of British Petroleum in Iran. Their work specifically focuses on breaking down each element of this extended process, viewing the development of BP as a series of constantly developing relationships of technicians and environmental conditions, sustaining operations in Khuzistan and the demands of local workers, those present in Iranian political conditions, and how these dynamics influenced the state-building process. For Shafiee, these processes of technological development went hand in hand with the larger colonial processes with technocratic measures applied first to the

[49] Toby Craig Jones, *Desert Kingdom: how oil and water forged modern Saudi Arabia,* Harvard University Press, (Harvard, MA: 2011), 12-15, 21

organization of work in Khuzistan followed by efforts to organize society along scientifically-defined lines. These processes were, in Shafiee's research, inseparable from the broader power dynamics and colonial structures which defined relations between Global North and Global South during this time period. Like Jones, Shafiee's work shows how the deeper logic of these colonial relationships was embedded in every level of the interactions between Iran and British Petroleum.[50]

This point of contention is significant for understanding how the processes of petrodollar recycling developed. If, as Yergin argues, these arrangements collapsed due to differing priorities yet were ultimately founded on principles of mutual benefit then the petrodollar process would logically follow a similar pattern of prudent choices made by OPEC's members for the greatest possible benefit. Profitable investments, maximization of production capacity, extravagant conspicuous consumption, and increased specialization would all be understandable applications of the petrodollar windfalls which would bear considerable similarity to the economic development surrounding Brazil's rubber boom or the antebellum American South. This, in turn, would see investments aimed at preserving the security of this wealth. If, as Yergin argues, these frictions were due to increasing demands for control over the wealth extracted by the Seven Sisters then continued economic optimization in this broadly commodity export-based pattern would be a logical result.[51]

If, however, Garavini, Vitalis, Jones, Shafiee, and Wight's shared consensus view, which argues the relationships between the Seven Sisters and OPEC's members were defined by unequal exploitation made possible by the power enjoyed by the Anglo-American supermajors, holds true then the actions of OPEC's members would be more clearly oriented towards addressing such power imbalances while also

[50] Katayoun Shafiee, *Machineries of Oil: An Infrastructural History of BP in Iran*, MIT Press, (Cambridge, MA: 2018), 9-12

[51] Eduardo Galeano, *Open Veins of Latin America*, Monthly Review Press (New York: 1997) 88-89; Olmstead, Alan L., and Paul W. Rhode. "Biological Innovation and Productivity Growth in the Antebellum Cotton Economy." The Journal of Economic History 68, no. 4 (2008): 1123-1125. Accessed August 29, 2020. http://www.jstor.org/stable/40056471.

fortifying the strength of their governments. Such an approach would see greater emphasis on increasing national wealth as much as possible, economic diversification, and a variety of industrialization programs as was seen in Africa during the process of decolonization and import substitution industrialization policies in Latin America. For the purposes of understanding the petrodollar recycling process, this would mean prioritizing uses of capital which are more likely to provide immediate benefits to OPEC's members and the long-term national autonomy. Such a position would, furthermore, mean many of the developments of the impacted segments of global finance during this period were reactions to this challenge and not just logical developments from previous antecedents made possible by a freer, more open market.[52]

These arguments regarding the relationships between oil exporters and oil supermajors are clearly in play in the specific works focusing on the petrodollar recycling process itself. Those which could be seen as falling closer to Yergin's understanding of the changing dynamics shows this in arguments which emphasize the role recycling played in maintaining a degree of continuity and stability in global finance during a time of crisis. Those who are closer to the broader post-colonial consensus presented by Garavini and others, by contrast, focus more on the disruptive nature and effects of the investment of windfall capital. The distinctions, divergences, and points of tension between these arguments clearly shows the importance of answering the post-colonial challenge offered by Garavini, Vitalis, Wight, Jones, and Shafiee.

David Spiro's research on petrodollar recycling very clearly falls on Yergin's side of the spectrum. His treatment of petrodollar recycling as an elegant solution to a new global imbalance clearly depicts the whole process of recycling as one where the benefits of participating in this process was mutual and

[52] Patrice Franko, *The puzzle of Latin American economic development*, Rowman and Littlefield Publishers (Lanham, MD: 2007), 63-68; Miatta Fahnbulleh. "In Search of Economic Development in Kenya: Colonial Legacies & Post-Independence Realities." Review of African Political Economy 33, no. 107 (2006): 37-43. Accessed August 29, 2020. http://www.jstor.org/stable/4007110.

key in reinforcing American implicitly benevolent hegemony over the capitalist world. He emphasizes this development as a deliberate policy on the part of the United States that was meant to ensure international stability. For Spiro there is no serious discussion of any fundamental imbalances in the global economic system as the petrodollar recycling process is treated as an elegant solution to a temporary disruption of the existing situation. This highly US-centric understanding of these developments leaves no room for understanding the specific developments of petrodollar recycling as being responses by a system grappling with a fundamental shift in the economic balance of power, instead preferring to deal with the monetary consequences from a perspective of guaranteeing such stability.[53]

Altamura's arguments and research provides an initial contrast to Spiro while inadvertently reproducing some of his shortcomings. Altamura's emphasis on the changes seen in specific, major banks responsible for handling these funds during this period provides a valuable perspective on the impact of petrodollar recycling. Where he comes up short is in discussing the precise relationship between the demands that came with OPEC's windfall profits and changes in financial practices during this period. For Altamura, the most significant impact of the petrodollars is in how they dramatically disrupted international regulatory institutions with a sudden shock combined with a new source of relatively unregulated capital. He treats their involvement as a discrete event rather than as part of a continuous process where the recycling of petrodollars exerted ongoing influence over the development of international finance between 1974 and 1982. The closest he gets to such treatment is in his discussion of the role petrodollars played in funding the Euromarket's increasingly central role as the mediating institution for this process, a discussion which mostly treats OPEC's wealth as a ready source of increasingly cheap capital.[54]

[53] Spiro, *The Hidden Hand of American Hegemony,* 1-6
[54] Altamura, *European Banks and the Rise of International Finance,* 160-178

El-Gamal and Jaffe, by contrast, consciously treat these funds as capital with a clear agenda on the part of its owners. This perspective undergirds the entirety of their work and as a result clearly shows how the investment priorities of OPEC petrostates played a significant role in fuelling numerous economic bubbles in global finance. For them, this significant pool of resources was deliberately utilized by these petrostates as a way of accumulating the necessary wealth for pursuing specific policy priorities, funding development, securing their autonomy, and expanding the capacity of their growing state institutions. Unfortunately, their focus on more modern bubbles beginning in the 1990s and ending with the 2008 Financial Crisis means little time is spent discussing the changes in financial markets during the initial petrodollar recycling period covered by this research. They treat this as the childhood and adolescence of OPEC's developing role in the financial system with a clear preference for treating these formative years as a prototype of sorts. As such, while there is some discussion of significant monetary changes like those covered by Spiro, there is little discussion of how OPEC's petrodollars were already significantly shaping the contours of the changing financial terrain.[55]

It is, therefore, necessary to contend with these questions of economic inequalities, decolonization, and their consequences when analysing the petrodollar recycling process. In doing so, a consistent through line emerges showing a strong impulse on the part of OPEC's members to use their newfound wealth and to strengthen their position in a new, uncertain global order. This contrasts strongly with arguments the developments and responses associated with petrodollar recycling were driven by any sort of assertive, deliberate policymaking on the part of Anglo-American political and financial actors. Such uncertainties also explain how, in the end, OPEC's drive to secure a more dominant position within the new global order would ultimately give rise to catastrophe for their Persian Gulf members that would reverberate throughout the global economy.

[55] El-Gamal and Jaffe, *Oil, Dollars, Debt, and Crises,* 26-35

Oil Embargo, Oil Shock

Every discussion of the Oil Embargo and Oil Shock begins with two fateful decisions taken shortly after the outset of the 1973 October War, also known as the Yom Kippur War. This conflict began on October 6th, 1973, with a sudden, simultaneous assault on Israel by Egypt and their allies launched on Yom Kippur, the Jewish Day of Atonement, in hopes the Arab coalition's armies would catch Israeli forces off-guard. Egyptian forces crossed the Suez Canal, sweeping aside their IDF opposite numbers while Syrian troops stormed the Golan Heights. The rapid successes enjoyed by Anwar Sadat's forces in the Sinai shocked the IDF's leadership who became more alarmed upon learning their ammunition stockpiles were running dangerously short. On the night of October 8th, Israeli Defence Minister Moshe Dayan warned Prime Minister Golda Meir the IDF was facing defeat if they were not resupplied and urged the Prime Minister to arm Israel's small nuclear arsenal. Meir agreed and immediately lobbied US Secretary of State Henry Kissinger for aid. Her request was granted on October 9th when President Richard Nixon authorized Operation Nickel Grass, a military relief effort dispatched to alleviate Israel's recent losses of war material and ammunition in the Sinai.[56]

The resupply effort began four days later. As the sun lazily sank into the horizon off the Azores on October 13th, 1973, a fleet of US C-5A Galaxy transport planes climbed into the sky. Their broad bellies were stuffed to the brim with military supplies for retreating IDF forces locked in battle with Egyptian and Syrian troops. Their original plan was to arrive in the dead of night since, theoretically, a nocturnal delivery would better preserve the illusion of American non-involvement in the latest clash in the Arab-Israeli Wars but uncooperative weather dashed these hopes, forcing them to land in broad

[56] Divine, Donna Robinson. "Why This War..." International Journal of Middle East Studies 7, no. 4 (1976): 523-26; Lebel, Udi and Lewin, Eyal, eds. *The 1973 Yom Kippur War and the Reshaping of Israeli Civil-Military Relations* Lexinbton Books (Lanham, MD: 2015), 1-3; Warner D. Farr, "The Third Temple's Holy of Holies: Israel's Nuclear Weapons", *The Counterproliferation Papers*, Air War College (Maxwell Air Force Base, Alabama: September 1999) https://fas.org/nuke/guide/israel/nuke/farr.htm

daylight. Such blatant favouritism in the latest conflict between Israel and their Arab neighbours was met with widespread outcry throughout the region. Yet this backlash was only one of many immediate crises playing out in the Middle East.[57]

As armies clashed in the Sinai, the West Bank, and the Golan Heights, in Vienna OPEC's representatives were locked in heated negotiations with agents of the biggest players in the global oil industry. At this meeting, as had been the case since OPEC's founding, the central bone of contention was the price of oil. For the oil executives, the question was one of maintaining stable supplies at rates that were highly profitable for them and more affordable for consumers in the United States and Western Europe. For OPEC, who had risen from a disparate collection of oil-exporters to a cartel representing nearly half the world's oil supply, it was a matter of getting what they saw as their fair share which had long been denied by the Seven Sisters. On October 12th, 1973, OPEC's negotiators walked out of the discussions. Days later, in Kuwait, they unilaterally declared a 70% increase in the price of oil per barrel.[58]

The price hike which initiated the 1973 Oil Embargo was followed by incremental production cutbacks, creating further pressure on the markets. On October 21st King Faisal of Saudi Arabia escalated the situation by ordering ARAMCO to halt all shipments of oil to the US 6th Fleet. This was followed by a total ban on selling to the US military. Meanwhile, US-supplied Israeli forces stabilized the front and launched a series of counterattacks which drove Syrian and Egyptian forces back to where they started. On October 24th, the United Nations Security Council issued a renewed call for ceasefire. The next day all parties were stunned when the Egyptian government requested talks, leading to a

[57] Yergin, *The Prize,* 587

[58] Andrew Scott Cooper, *The Oil Kings: How the U.S., Iran, and Saudi Arabia Changed the Balance of Power in the Middle East*, Simon and Schuster Paperbacks (New York: 2011), 119; Daniel Yergin, *The Prize: The Epic Quest for Oil, Money, and Power*, Free Press (New York: 2009), 587; Anthony Cave Brown, *Oil, God, and Gold: The Story of Aramco and the Saudi Kings*, Houghton Mifflin Company (Boston and New York: 1999), 293-294

ceasefire that held firm on October 25th. Facing growing outrage at home, the Organization for Arab Petroleum Exporting Countries (OAPEC) announced a total embargo of oil sales to the United States and the Netherlands as retaliation for supporting the Israelis during the conflict while production cutbacks continued, constricting global oil supplies. With oil markets already precarious situation thanks to the earlier price hike this new development pushed everything over the edge as the cost of oil per barrel quadrupled overnight as shown in Figure 2.1. The Oil Embargo of 1973 had begun.[59]

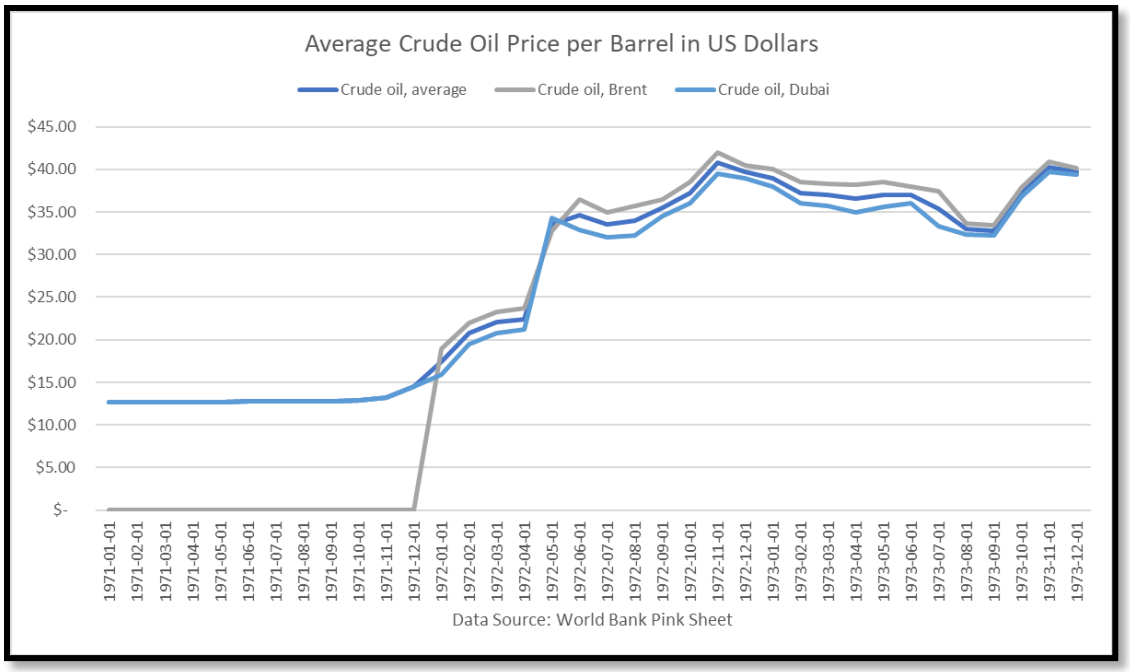

Figure 2.1: Price of Oil per Barrel in Current Prices, 1971-1974

Note: Data for Figure 2.1 is from the World Bank Pink Sheet monthly historical commodity price database.

The effects of the embargo were immediate. This combination of a total ban on sales to specific countries and production cutbacks created a genuine shortage, sending prices to unprecedented levels. Simply banning exports to specific countries would have brought significant disruption but the decision by OPEC to further cut production meant the entire world's oil supply was now reduced. The total embargo of the United States, Japan, the Netherlands, and Portugal further complicated the situation by

[59] Yergin, *The Prize*, 589; Brown, *Oil, God, and Gold,* 295; Frieden, *Global Capitalism,* 365; Carole K. Fink, *Cold War: An International History*, Westview Press (Boulder, CO: 2014), 166; Fink 167

forcing oil traders operating in these countries to compete with markets that enjoyed greater access to OPEC for oil. These frictions drove their own waves of speculation and panic, adding further instability to an already highly uncertain situation. The global economy was swiftly plunged into what was the longest global economic downturn up to that point since the Great Depression.[60]

Negotiations began immediately. Spearheaded by Henry Kissinger the United States worked tirelessly with Saudi Arabia, the most crucial embargo participant, to bring about an end to the situation. Meanwhile, an American carrier battle group was prepared for operations in the Persian Gulf and US Marines drilled in the Southern California desert in preparation for intervention in an unspecified arid climate as Nixon watched the Watergate Scandal steadily consume his presidency. King Faisal of Saudi Arabia, guided by his oil minister Zaki al-Yamani, effectively navigated the difficult conditions demanding a more favourable, lasting resolution for Arab grievances with Israel in exchange for ending the blockade. He also pressed for greater recognition, support, and investment from the United States in his Kingdom. After months of negotiations Faisal and Kissinger managed to reach an accord, paving the way for an end to economic war. With the Saudis no longer participating in the embargo had just lost their most powerful player. Their case was greatly aided by a series of American breakthroughs in negotiations between Israel, Egypt, and Syria that lay the groundwork for a more enduring peace in the region. With many of their goals met and their most significant oil producer now lobbying for peace, OAPEC stood down and ended the embargo on March 19th, 1974.[61]

Yet even as the embargo ended, the previous status quo of cheap, readily available oil failed to return. OPEC firmly secured control over the global oil supply, ending the dominance of the seemingly unassailable Anglo-American Seven Sisters. Oil prices retreated slightly but never returned to pre-Shock

[60] Cooper, *The Oil Kings,* 151-152, Blake C. Clayton, *Market Madness: A Century of Oil Panics, Crises and Crashes*, Oxford University Press (New York: 2015), 109-111; Frieden, *Global Capitalism*, 364-365
[61] Brown, *Oil, God, and Gold*, 301-302; Cooper, *The Oil Kings*, 129-130; Yergin, *The Prize*, 613

levels, with OPEC arguing these new price levels were much closer to the actual value of oil and represented the real costs faced by the oil producers. The combination of a sudden shock to the global economy followed by a new, more expensive normal initiated what Jeffrey Frieden has described as one of the largest wealth transfers in world history. By the end of 1974 OPEC's members reaped a windfall of approximately $100 billion dollars and the flood of wealth had only just begun. Over the next six years this money was invested in global markets, particularly by the Gulf Arab monarchies, reshaping international finance and by extension the world economy.[62]

Throughout the rest of the decade increasingly massive quantities of money, referred to as petrodollars, cycled through global financial markets. This process was kicked off by a combination of the massive windfall enjoyed by OPEC's members, the increasing inflation across the planet and the consistent demand for oil despite these factors. For David Spiro, the macro-analysis of this process is one of restoring a sense of balance to the global economy:

> "Recycling petrodollars was the process by which the oil exporters' surplus financed deficits elsewhere in the world. Recycling challenged cooperation among the advanced industrialized democracies and the stability of the international economic system in the distribution of trade deficits (which meant avoiding competitive trade policies) and in the distribution of capital (i.e., avoiding competition for OPEC investments)."[63]

The growing volume of international lending fuelled the financial churn, keeping everything moving. Debt grew as debtor nations took out more loans to cover operating costs and then paper over the growing expense of existing loans. Banks gladly continued lending assuming sovereign entities would always be able to pay up because, in the now-infamous words of Citicorp Chairman Walter Wriston, "Countries don't go out of business." By 1981 the developing world had borrowed an estimated $500 billion while the total amount of debt held by international banking exceeded an

[62] Yergin, *The Prize*, 615-616; Frieden, *Global Capitalism*, 365-366; Cooper, *The Oil Kings,* 206
[63] Spiro, *The Hidden Hand of American Hegemony,* 1-2

estimated $1.54 trillion. All this debt strained global credit markets and the debtors to the breaking point.[64]

It was these increasingly turbulent times that the causes of the 1979 Oil Shock took form and gained momentum. Unlike the 1973 Oil Embargo, which was the result of deliberate policy action by OPEC members, the 1979 Oil Shock was a bolt from the blue. Throughout 1978 popular opposition to the Shah of Iran, the ruler of OPEC's second largest oil exporter, had grown. Though the oil boom had brought considerable wealth to the Iranian government, much of this passed by the people of Iran. Caught between growing misery, the opulence of the imperial government, and the increasing brutality of the Shah's security forces the people grew increasingly discontented, leading to mass demonstrations throughout the country. Growing violence in the street escalated into greater brutality, repression, and opposition to an increasingly disconnected government. Everything came undone on December 25th when angry oil workers declared a general strike, starving the government of critical revenues and the army of fuel. Within hours the Shah boarded a plane and fled the country, signalling the demise of his regime as Iran's future was now unclear. Iranian oil production ground to a halt, sending spot markets and oil trading into panic as the first Islamic fundamentalist regime of the postwar period seized power under Ayatollah Khomeini. OPEC, led by Saudi Arabia and the Persian Gulf monarchies, increased production as much as possible to make up for the sudden slack, successfully ensuring the total loss was limited to an estimated 5% of global production by the first quarter of 1979. This, however, was more than enough to seriously disrupt the world's oil markets as the price of oil was now double its pre-Revolutionary levels. A wave of speculation, panic buying, and hoarding both by major oil suppliers and private citizens across the globe followed, creating more uncertainty and shortages in a market facing

[64] El-Gamal and Jaffe, *Oil, Dollars, Debt, and Crises* 49; Yergin & Stanislaw, *The Commanding Heights,* 113-114

upheaval on all sides. By the end of 1979, this shock was beginning to stabilize yet this brief respite was not to last.[65]

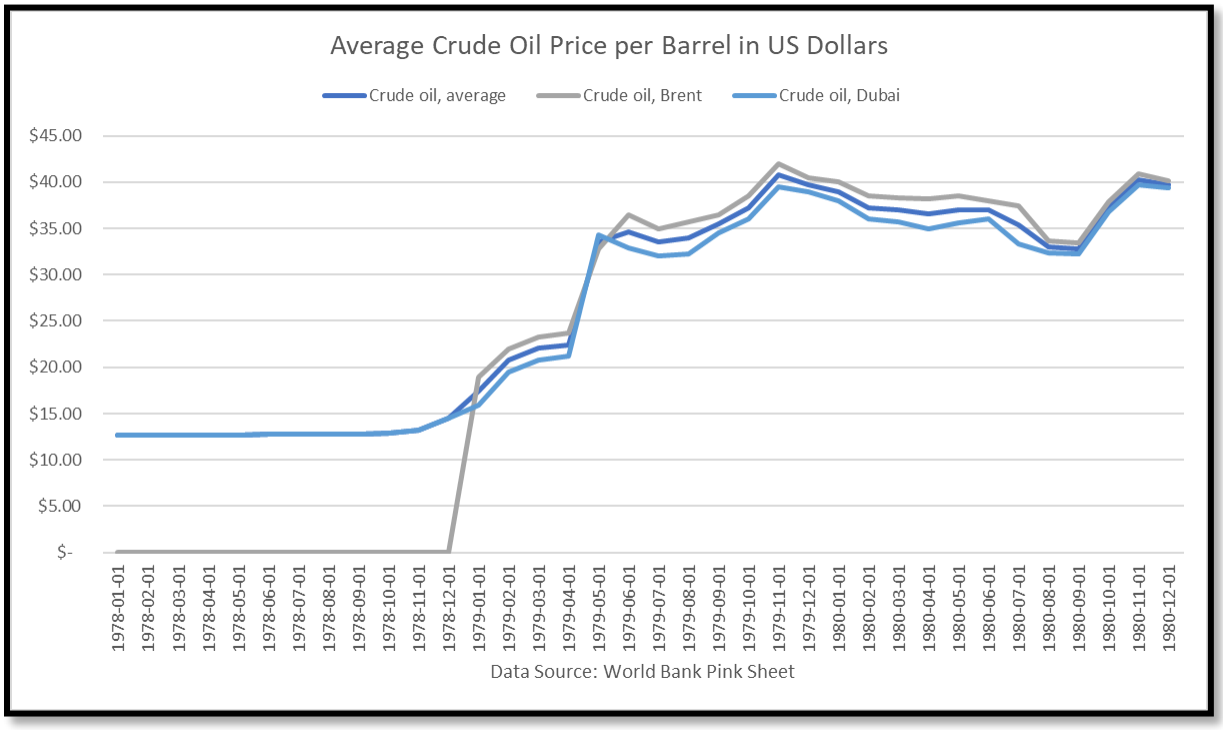

Figure 2.2: Oil Market Spot Prices per Barrel in Current US Dollars, 1978-1980

Note: Data for Figure 2.2 is from the World Bank Pink Sheet monthly historical commodity price database.

On September 17th, 1980, Saddam Hussein, the newly installed President of Iraq, attempted to seize the opportunity presented by his neighbour's moment of weakness and neutralize the perceived threat of fundamentalist revolution, a fear that had crystallized throughout the Sunni-majority regions of the Arab World thanks to the Iranian Revolution and the 1979 Grand Mosque Crisis. He launched a massive invasion of Iran, targeting disputed territories bordering the Shatt al-Arab waterway before pushing deeper into Iran's nearby oil-rich provinces. Critical oil production facilities were heavily damaged on both sides of the border during the fighting that ensued, which would drag out for eight years, further reducing the region's overall crude oil production capacity. Threats against shipping in the

[65] Yergin, *The Prize*, 663-667

Persian Gulf, which was home to much of Saudi Arabia, Kuwait, and the UAE's oil resources, further constrained the movement of petroleum to global markets. Oil prices reached even higher levels than were seen in the 1973 Oil Embargo making the already precarious global economic situation far more unstable. In 1982 the accumulated stresses finally cracked global finance when Mexico, a holder of $80 billion in sovereign debt, defaulted initiating the debt crisis of the 1980s.[66]

In the most immediate sense, it is perfectly understandable why this chain of events unfolded. The immediate catalyst of conflict between Israel and the Arab World is a clean, simple explanation for why the Arab members of OPEC pushed for the embargo but this does not sufficiently explain how it was that OPEC's embargo in 1973 was able to bring the global economy to its knees. The roots of the Oil Embargo and what came of it can be found in the decades-long conflict between the Seven Sisters oil cartel, the founding members of OPEC and American economic dominance in the immediate aftermath of the Second World War. This clash of cartels and postcolonial conditions set the stage for nearly a decade of economic and political turmoil with far-reaching consequences for the modern world.

In 1945 the United States stood not only as the only major industrial power unravaged by war but also as the largest oil producer in the world. In the late 1940s and early 1950s the United States shouldered much of the heavy lifting of rebuilding the shattered economies, infrastructure and productive capacity of Western Europe, Japan and providing critical machine tools for the developing world. America's abundant oil supplies meant much of the equipment produced by American industry, in contrast to what was the norm in Europe before the war, was oil-powered ensuring the new equipment purchased by the developing and redeveloping world would be dependent on petrol. This was a key factor in the shift from coal to oil in Europe through the funding and material provided by the Marshall Plan. This enormous oil wealth rested on the twin pillars of massive domestic oil supplies,

[66] Frieden, *Global Capitalism*, 374-374, Yergin & Stanislaw, *The Commanding Heights*, 114

primarily located in California and Texas, and the dominance of American oil majors in the global cartel known as the Seven Sisters. This oligopoly, consisting of five American and two British corporations, accounted for an estimated 90% of all oil produced worldwide and a further 70% of refining capacity. Expanding the exploration and exploitation of non-American oil sources was encouraged by US tax breaks incentivizing such operations.[67]

These global operations were built on a well-established foundation of oil concessions in oil producing nations in the developing world. One critical example were American operations on Saudi Arabian soil in 1933. The terms of the concession's agreement between Saudi Arabia and the Arab-American Oil Company (ARAMCO) followed a consistent template that was also in place in Iran, Venezuela, and other oil exporting countries in the developing world. These agreements, in the words of Albert Hourani, granted British, American, Dutch, and French oil companies with control over, "exploration, production, refining and export, over wide areas and for long periods, subject to payment of limited royalties to the host governments and the provision of limited quantities of oil for their use." Such concessions gave the Seven Sisters near-total power over much of the production, exploration, and refining process while the host countries received a small percentage of all petroleum extracted.[68]

[67] Frieden, *Global Capitalism*, 261-263, 267-269; Yergin, *The Prize*, 162, 167, 362-366, 405; Timothy Mitchell, *Carbon Democracy: Political Power in the Age of Oil*, Verso (London & New York: 2011), 29; Walter J. Levy, *Oil Strategy and Politics, 1941-1981*, Westview Press (Boulder, CO: 1982), 78; James Bamberg, *British Petroleum and Global Oil, 1950-1975: The Challenge of Nationalism*, Cambridge University Press (Cambridge: 2000), 1-2, 6-8; Fadhil J. Al-Chalabi, *OPEC and the International Oil Industry: A Changing Structure*, Oxford University Press (Oxford: 1980), 19

[68] Albert Hourani, *A History of the Arab Peoples,* Belknap Press (Cambridge, MA: 1991), 322; Brown, *Oil, God, and Gold,* 54-56; Yergin, *The Prize*, 219-220

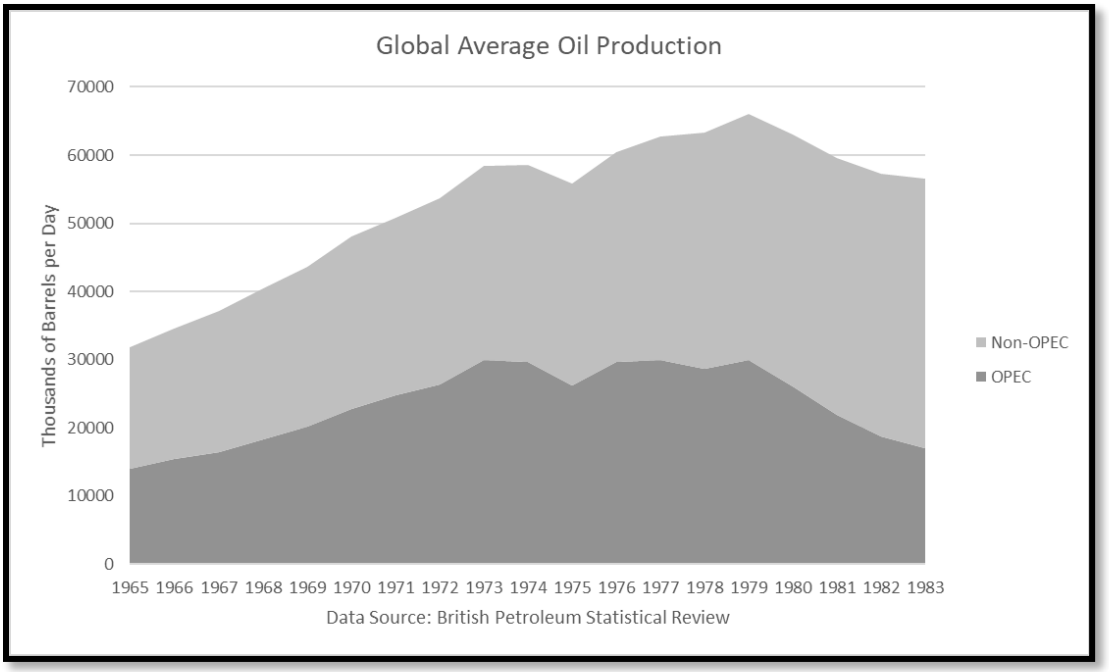

Figure 2.3: Global Average Oil Production

Note: Data for Figure 2.3 is taken from the British Petroleum Statistical Review's oil production database.

The status quo of vast, secure supplies was not all it seemed. As the global economy recovered, shattered industries hummed to life and the wounds of war faded to scars demand for oil grew. This period of rapid economic expansion that spurred rapid, sustained growth in oil drilling, refining and exploration in major oil exporting countries including Saudi Arabia's Eastern Provinces. In contrast to expanding production and drilling in relatively underexploited fields in the Middle East, American domestic oil capacity declined. This dynamic is clearly on display in oil production data, as shown in Figure 2.5, which shows both growing production in conjunction with OPEC's increasing share of the global oil market. When taken in a context of growing, global oil consumption as shown in Figure 2.6, the result was an environment where OPEC's influence continued to grow. By 1971, two years before the embargo, Texas oil regulators issued a grim forecast for the future of American oil saying, "Texas oil

fields have been like a reliable old warrior that could rise to the task when needed. That old warrior can't rise anymore."[69]

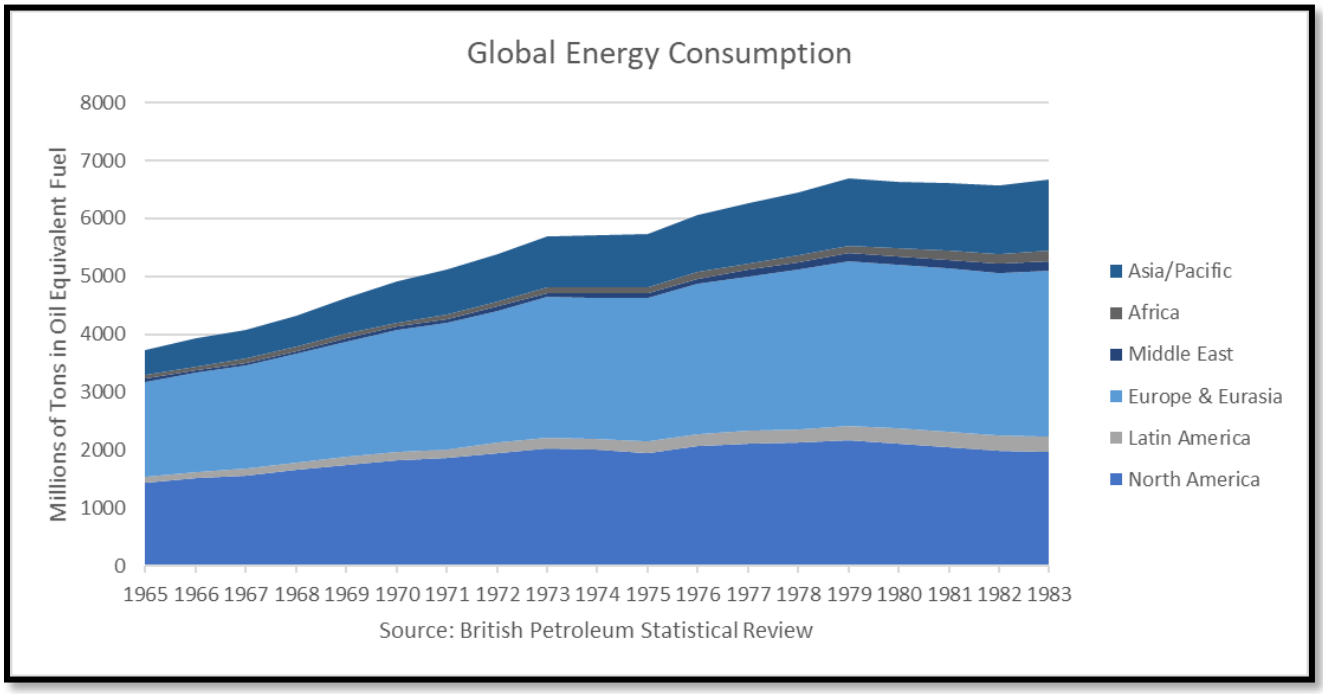

Figure 2.4: Global Energy Consumption

Note: Data for Figure 2.4 is taken from the British Petroleum Statistical Review's oil production database.

Frictions caused by the unequal relationships between oil majors and their suppliers were the fuel and spark for the birth of OPEC in 1960. Founded by Iran, Iraq, Kuwait, Saudi Arabia, and Venezuela OPEC's official goal was to harmonize pricing policies between members to gain the most equitable outcomes for all members possible. One major cause was the failure by each founding member's individual attempts to win better royalty and pricing terms in the face of the Seven Sisters' united front. As the OPEC founders reasoned, they could only shift the balance of power in their favour and thwart perceived perfidy by the oil majors through collective action. These shared feelings were hardened earlier in the same year by a unilateral price cut imposed by the oil majors on the soon to be OPEC

[69] Frieden, *Global Capitalism*, 279-283; Brown, *Oil, God, and Gold*, 137-139; Yergin, *The Prize*, 392-398, 496-497, 538-540, 549

members. The growing influence in the Middle East of the highly charismatic Egyptian President Gamel Abdel Nasser and his Arab Nationalist movement was an additional factor for Iraqi and Saudi governments who saw OPEC as a tool for blunting Nasser's power in the Arab League and while this rivalry played a role in bringing these two core members together, overall, the main binding agent for OPEC was their shared grievances with the Seven Sisters.[70]

Just as the desire for greater control over oil revenues brought OPEC into being the same conflict accelerated existing dynamics. Without the combination of oil's ubiquity and the conflict between oil majors and OPEC the Oil Embargo of 1973 would not have occurred. Even so these factors were not enough to guarantee direct confrontation. Two specific, concurrent developments were necessary for the confrontation that re-defined global economics to come to a head. The first was the steady, gradual push by OPEC members to assert increasing control over their oil and reap greater shares of the revenue. The second was the long-burning Arab-Israeli conflict which provided both an early test run for an oil embargo in 1967 and the spark that set off the 1973 Embargo.

Throughout the 1960s OPEC's members worked in a variety of ways to undermine the concessions system. The most prioritized trend was steady nationalization of oil supplies. These piecemeal takeovers, in contrast to Mossadegh's failed 1953 attempt to seize the Anglo-Iranian Oil Company outright, succeeded through focusing on taking unexploited lands from existing concessions and securing smaller companies whose assets were given to new, nationally owned companies. This was further assisted by the rise of smaller, independent oil companies throughout the 1960s who operated outside of the power of the Seven Sisters. These steady, incremental gains made it possible for later, more spectacular successes such as Muammar Gaddafi's 1970 nationalization of Libyan oil and

[70] "Brief History." OPEC: Brief History. Accessed January 23, 2018, http://www.opec.org/opec_web/en/about_us/24.htm, Charles Issawi and Mohammed Yeganeh, *Economics of Middle Eastern Oil*, Faber and Faber (London: 1962), 134-135; Yergin, *The Prize*, 504-505; Bamberg, *British Petroleum and Global Oil*, 147-151

the February 1971 Tehran Agreement. The Tehran Agreement was especially critical as it was the first time OPEC's united front forced the Seven Sisters into negotiating a new, far more favourable agreement on oil pricing mandating no new price changes without consultation, a set of scheduled price increases over the next five years and a guarantee 55% of all profits would go to the oil producing countries. These gains were cemented by the fact that Tehran was the first time the oil majors recognized OPEC as representative of the concerns of all its member-nations. These sudden successes, combined with the growth of independent oil companies, were followed by greater gains between 1971 and 1973 further undermining the Seven Sisters' dominance over the global oil market. The once unquestioned dominance of the global oil majors was now crumbling.[71]

Amidst this process of decay and slow collapse is a critical moment, tied directly to the long-running Arab-Israeli War, foreshadowing events to come. On June 5th, 1967 Israeli military forces staged a highly successful pre-emptive strike against Egyptian, Jordanian, and Syrian troops. Over the next six days the IDF scored a series of stunning victories, occupying everything from the Golan Heights to the Jordan River in the east to the Suez Canal in the west. Shortly after the conflict ended in a cease-fire OAPEC hit back in the only way the Arab World felt was possible: the 1967 oil embargo. It began with spontaneous strikes by angry Arab oil workers who soon received official sanction to shut down all production. For the first time in history the oil exporters of the Middle East had drawn the fabled "oil weapon". Yet for all the fury behind it this embargo failed to achieve its desired end and after a month was ended, having done more harm to OAPEC than Israel or their allies. Even so this embargo was only defeated through truly Herculean efforts to redirect existing stocks, effectively circumventing the embargo. One critical difference between the far more successful 1973 Shock and the 1967 embargo was a lack of overall production cutbacks ensuring the overall global oil supply remained unchanged. It

[71] Al-Chalabi, *OPEC and the International Oil Industry,* 16-21, George Philips, *The Political Economy of International Oil*, Edinburgh University Press (Edinburgh: 1994), 151-153, Yergin, *The Prize,* 558-559, 564

had also occurred before the processes of steady nationalization and the strengthening of OPEC had truly taken hold. These lessons were taken to heart in 1973 when the OPEC embargo combined a total shutdown of exports to specific countries with steady overall cutbacks to oil production, squeezing consumers with reduced supply and denial of goods.[72]

All the reasons why OAPEC's 1973 Embargo were so effective also explain the world-altering impact of the 1979 Shock. Even though non-OPEC oil consumers had sought out new sources, like Prudhoe Bay and the North Sea, and non-OPEC oil producers like Mexico and Brazil increased their exports to capture the new wealth offered by higher prices, these changes were not enough to dethrone the Middle East as a critical supplier of oil for global markets. When domestic problems in Iran, exacerbated by the Shah's corruption and heavy investment in his military's equipment, overthrew his regime the stability of a major source of oil, as shown in Figure 2.7, was now threatened. The escalation to war that followed was also built on existing rivalries which had developed during a decade where the region was awash with more wealth than ever for realizing their rulers' ambitions. These were given further urgency by fears that Iran's fundamentalist revolt would not stay contained within the nation's borders. This shock, unlike the embargo, did not produce significant quantities of wealth for oil exporters. Instead, it placed even greater strain on developing economies who were already overburdened with growing debts. OPEC's members now faced declining revenues despite an initial surge in wealth as the new shock took hold. If the 1973 Embargo could be described as the catalyst of this new period in economic history, then the 1979 Shock is the beginning of its end.

[72] Brown, *Oil, God, and Gold,* 270-273; Hourani, *A History of the Arab Peoples*, 413-414, Yergin, *The Prize*, 537, 539-542

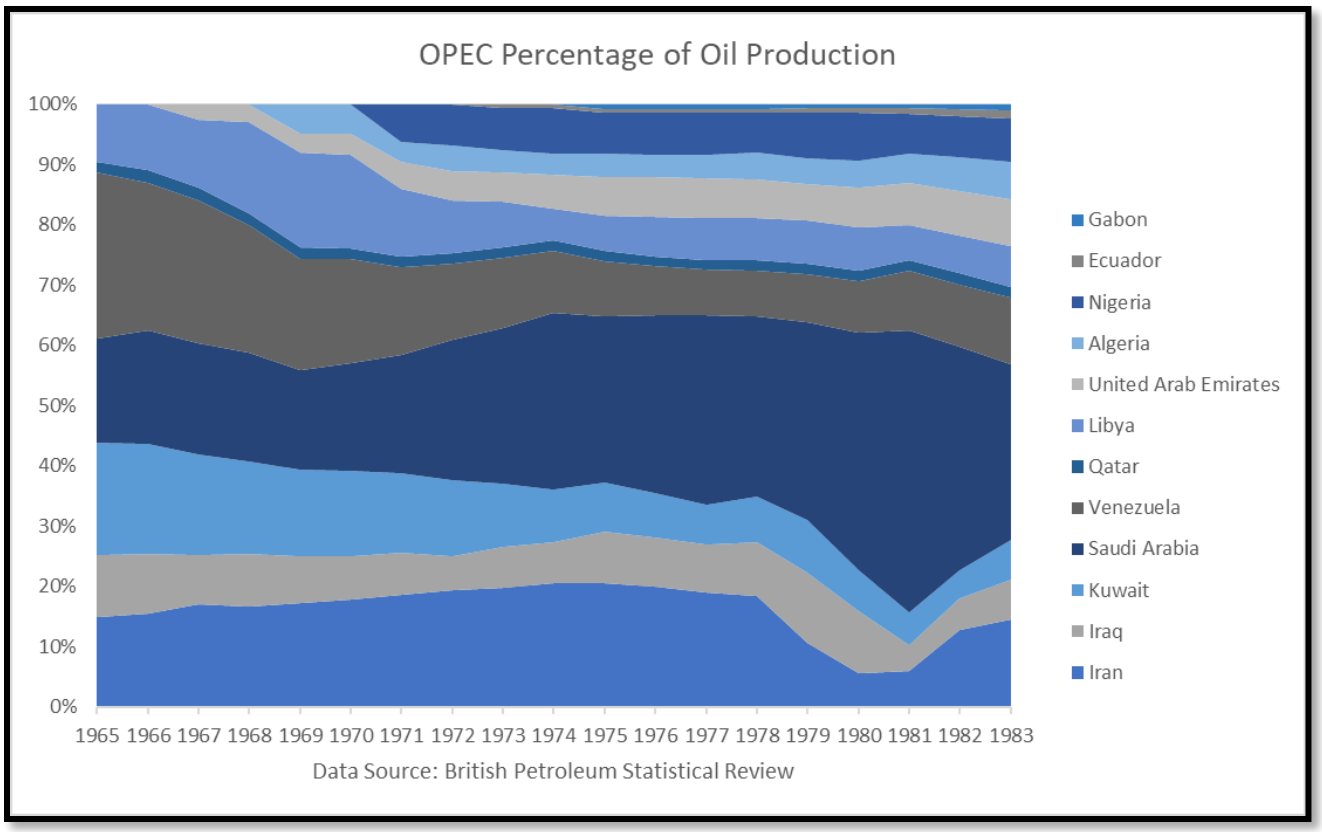

Figure 2.5: OPEC Percentage Breakdown of Overall Production

Note: Data for Figure 2.5 is taken from the British Petroleum Statistical Review's oil production database.

These geopolitical factors set the stage for the changes unleashed on the global economy from 1974 to 1982. The story is a familiar one filled with chaos and upheaval. Yet this only just scratches the surface of what happened during these tumultuous eight years. Amid inflation, debt, war, and revolution the world of international credit, lending and finance changed in unprecedented ways. The order of floating exchange rates that emerged following the end of Bretton Woods found new moorings in a post-gold world thanks to a new marriage between the US Dollar and OPEC's oil. New financial practices, like the rapid growth of international loan syndications and the birth of the first swaps and financial futures, made it possible to move currency internationally in greater quantities and with greater ease than ever before. The Euromarket would play a critical role as it transformed into a truly global, effectively unregulated money market. These developments, combined with new market conditions, undermined the existing economic order of capital controls, economic regulation and the

broader mixed-market consensus which ruled the capitalist world since 1945 laying the foundations for the neo-liberal order that followed. All of this was made possible by the sharp shocks of 1973 and 1979 and the money they funnelled into the hands of private international finance.

This makes it necessary to understand, generally, what petrodollar recycling was and how this new phenomenon was able to exert so much influence over the global economy. The decision by OPEC's wealthy Persian Gulf members to deposit their excess profits in banks and investments outside of the region kept this money circulating through the global economy while also bringing about significant changes in the channels used to process it all. Moving billions of dollars internationally, in the 1970s, was no small thing and international finance was dramatically changed by their attempts to meet these new demands. Examining the specifics of the petrodollar recycling process provides a firm foundation for better researching how OPEC's windfall transformed international finance.

Understanding Petrodollar Recycling

As disruptive as the Oil Embargo and the Oil Shock were for the capitalist economy of the 1970s, the long-term consequences of the use of OPEC's windfall money had significant long-term impacts on the world's economy and the development of the Middle East. Having reaped one of the largest wealth transfers in history OPEC's members, now awash in funds, found several ways to use these resources for their benefit. For OPEC's members, the 1973 Oil Embargo was the beginning of a long boom period where the dramatically increased profits from oil exports were funnelled into many of the same priorities. In all cases the overriding goals were to diversify their economies, fund the transition to an industrialized economy, reduce their dependence on imports from abroad, and establish complete control over their natural resources. How thoroughly these goals were achieved varied but as the examples of Saudi Arabia and Kuwait, illustrated in Figure 2.8 and Figure 2.9, show there was some diversification of the economies of these OPEC Persian Gulf member-states during this extended boom period.

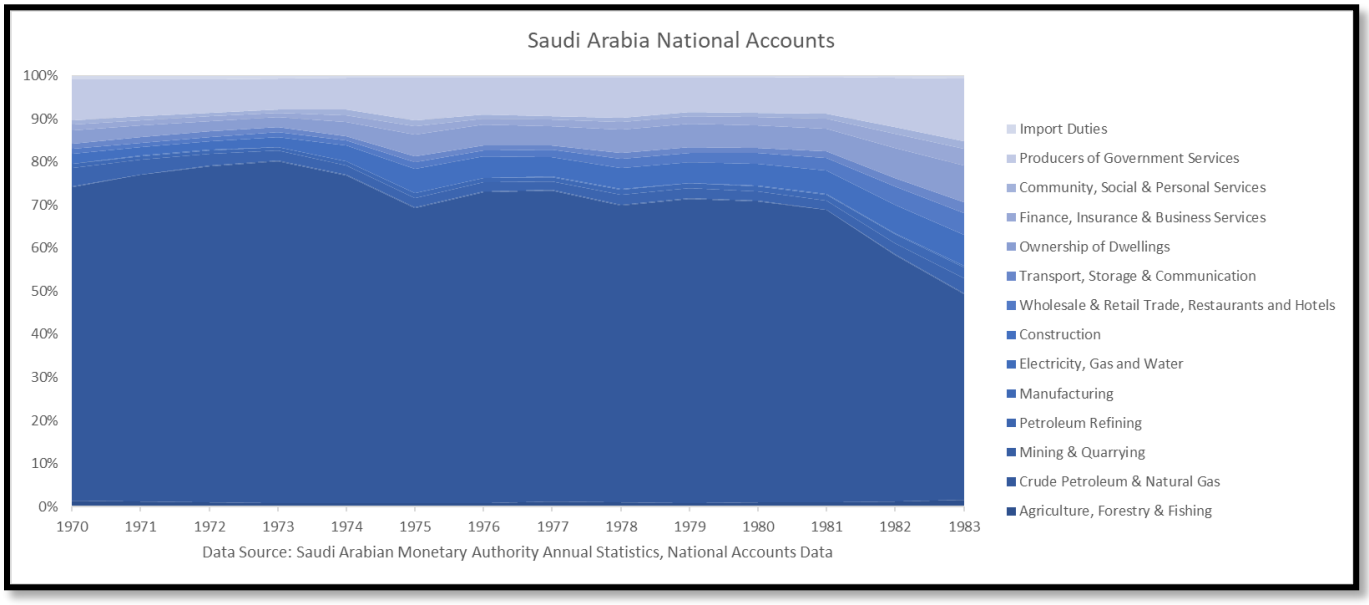

Figure 2.6: Saudi Arabia National Accounts, Adjusted for Inflation

Note: Data for Figure 2.6 was collected from the Saudi Arabian Monetary Authority's Annual Statistics reports from 1970 to 1983.

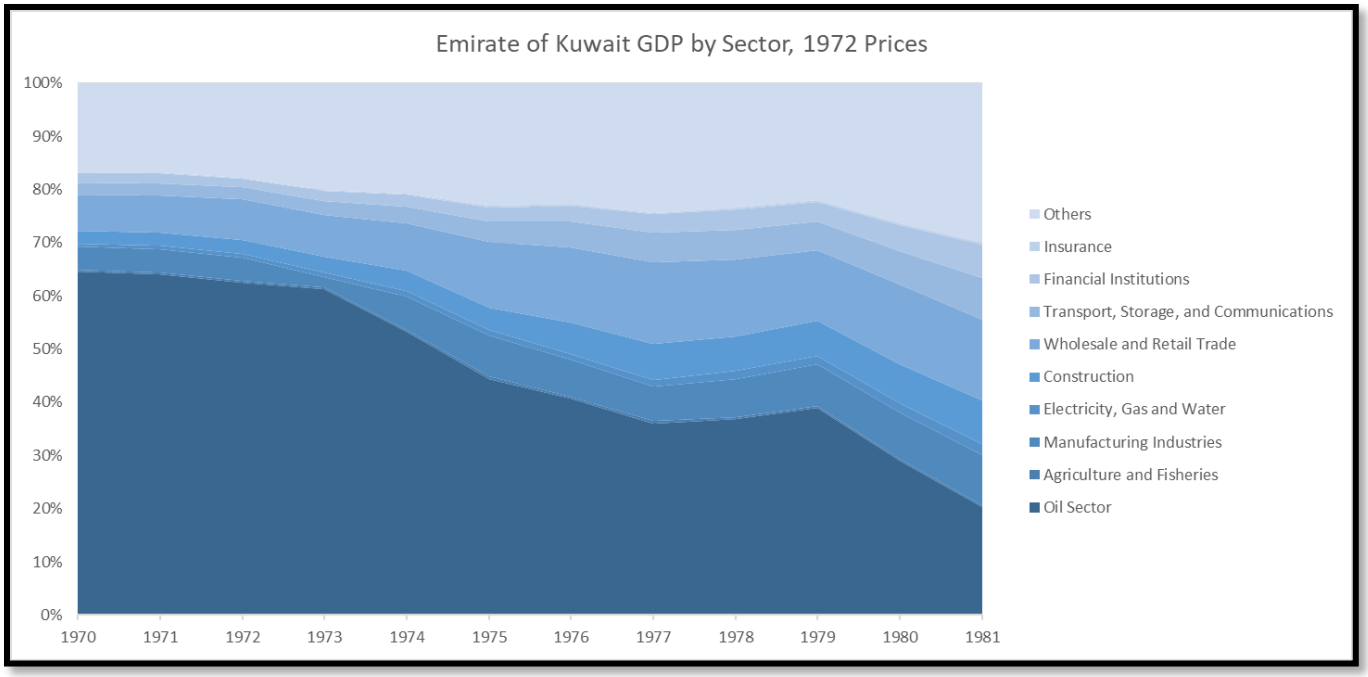

Figure 2.7: Emirate of Kuwait GDP by Sector, 1972 Prices

Note: Data for Figure 2.7 was collected from the Central Bank of Kuwait's Annual Reports from 1977 to 1981 from the OPEC Research Library in Vienna, Austria

Yet even as OPEC's economies boomed, a major concern loomed over all the now-wealthy oil exporting powers. As most economists argued, then and now, investing too much of this capital into their domestic economies ran the risk of inflating the value of their currencies and effectively destabilizing any economic gains made from these programs. There was also considerable demand for OPEC spending throughout the world thanks to the steep recession following the 1973 Shock. The solution to both these problems was simple: OPEC's excess profits had to be re-invested back in the global economy. This process of economic actors throughout the capitalist world attracting OPEC investment which was then spent in their domestic economies or used to help cover the costs of the now more expensive OPEC oil became known as petrodollar recycling. Ali Tawfik Sadiq provides the best terms for defining the specific channels and forms of petrodollar recycling, dividing the uses of OPEC capital in this period into the categories of primary recycling and secondary recycling. According to Sadiq, primary petrodollar recycling consisted of OPEC investments in money markets like the

Eurodollar market or longer-term options while secondary recycling refers to the more widely known and researched processes of exchange between petrodollar capital, debt, arms imports, oil purchases by net importers, and the long-desired OPEC goal of taking control over domestic oil production.[73]

Secondary recycling's investments in American businesses has received considerable research, most notably the word of Steven Emerson and David M. Wight, which describes how these funds impacted the American economy. Emerson's research describes how American business leaders were quick to pursue the new opportunities presented by a now wealthy and ready to spend Saudi government. Everything from military equipment, which will be discussed in further detail later in this chapter, to infrastructure projects and other ambitious modernization programs received lucrative contracts from Saudi officials. For Emerson these direct purchases provided considerable sources of capital for American corporate interests, ensuring this flow of secondary investment would continue throughout the recycling period. Wight, in contrast, places his emphasis on American businesses who were now pursuing direct investment from Saudi investors. In Wight's work these investments were part of a broader push by American policymakers, from President Ford on down, to recover from the significant economic downturn that followed the 1973 Embargo. Such a reversal of fortunes, which had American client states providing investment to capital-hungry American domestic projects, was the other side of the secondary recycling coin from Emerson's emphasis on petrodollar-financed operations by American corporations in the Middle East. These operations, while representing a larger share of OPEC's petrocapital surplus, ultimately had a less direct impact on the global financial system than the processes of primary recycling which are the focus of this research.[74]

[73] Ali Tawfik Sadiq, "Managing the Petrodollar Bonanza: Avenues and Implications of Recycling Arab Capital", Arab Studies Quarterly, (Vol. 6 Number 1/2: 1984), 29

[74] Steven Emerson, *The American House of Saud: The Secret Petrodollar Connection*, Franklin Watts, (New York, NY: 1985), 43-47; Wight, *Oil Money,* 108-112

What makes these channels of capital movement especially significant is the arena for primary recycling was one with far greater global implications in contrast to the impacts of secondary recycling expenditures as suggested by the funding channels documented in Table 2.1. The main players in this process were OPEC's members, banks based in the City of London and Wall Street, and the many different actors, both public and private, who borrowed from these banks. At the foundation of this process was the excess windfall profits deposited by OPEC governments in these critical Anglo-American financial institutions. These funds were used as leverage for loans to oil importers who need additional funds to pay for increased oil prices. These lines of credit were then cycled back into the oil exporting countries through the purchases of OPEC oil. One of the central stories of the conventional narrative is how many developing nations depended on loans backed by oil exporter deposits to stay economically afloat, perpetuating the process. This balance of payments debt financed by oil profits and deposits is very much the norm in most literature dealing with this phenomenon. John Donald Wilson paints a very ominous picture when he says, "Payments balances between nations were torn asunder, with OPEC nations gaining a huge surplus and oil-consuming nations running a corresponding deficit."[75]

[75] John Donald Wilson, *The Chase: The Chase Manhattan Bank, N.A., 1945-1985*, Harvard Business School Press (Boston: 1986), 208

OPEC Investible Surplus in Billions of Nominal USD Data Source: Bank for International Settlements Forty-Eighth, Fiftieth and Fifty-Second Annual Reports										
Type	Year									
Bank Deposits and Money Market Investments	1974	1975	1976	1977	1978	1979	1980	1981	1982	Totals
Dollar deposits in the US	8.99%	6.59%	19.28%	3.77%	33.33%	11.06%	0.70%	-416.67%	-25.81%	$ 14.9
Sterling deposits in the UK	3.82%	2.20%	-16.87%	2.83%	8.33%	3.16%	3.05%	66.67%	6.45%	$ 2.9
Deposits and loans in foreign currency markets	51.24%	100.00%	150.60%	112.26%	125.00%	70.43%	34.74%	1300.00%	50.54%	$ 103.7
Treasury Bills in the US & UK	17.98%	-4.40%	-26.51%	-9.43%	-33.33%	7.67%	0.00%	0.00%	0.00%	$ 7.0
Other Industrial Countries	17.98%	-4.40%	-26.51%	-9.43%	-33.33%	7.67%	61.50%	-850.00%	68.82%	$ 15.3
Total Bank Deposits and Money Market	$ 44.5	$ 9.1	$ 8.3	$ 10.6	$ 2.4	$ 44.3	$ 42.6	$ 0.6	$ (18.6)	$ 143.8
Long Term Investments	1974	1975	1976	1977	1978	1979	1980	1981	1982	
Special Bilateral Arrangements	58.05%	47.33%	41.70%	52.70%	84.47%	91.47%	0.00%	0.00%	0.00%	$ 66.8
United States	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	30.73%	38.45%	39.38%	$ 40.2
United Kingdom	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	5.57%	2.25%	-4.15%	$ 2.8
Loans to International Agencies	17.07%	15.27%	8.10%	1.35%	0.97%	-3.10%	10.91%	4.91%	10.36%	$ 18.8
Other Industrial Countries	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	37.86%	39.67%	34.20%	$ 43.0
Developing Countries	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	14.92%	14.72%	20.21%	$ 17.8
Government Securities in the US & UK	5.37%	9.16%	17.81%	19.37%	-17.48%	-6.98%	0.00%	0.00%	0.00%	$ 9.5
Other	19.51%	28.24%	32.39%	26.58%	32.04%	18.60%	0.00%	0.00%	0.00%	$ 31.0
Total Long Term Investments	$ 20.5	$ 26.2	$ 24.7	$ 22.2	$ 10.3	$ 12.9	$ 44.9	$ 48.9	$ 19.3	$ 229.9
Total Funds Invested	$ 65.0	$ 35.3	$ 33.0	$ 32.8	$ 12.7	$ 57.2	$ 87.5	$ 49.5	$ 0.7	$ 373.7

Table 2.1: OPEC Investible Surplus Year by Year Change, 1974-1982

Note: Data for Table 2.1 was collected from Chapter IV: International Trade and Payments in the BIS Forty-Eighth, Fiftieth, and Fifty-Second Annual Reports and adjusted for inflation using Morgan Friedman's Inflation Calculator at westegg.com

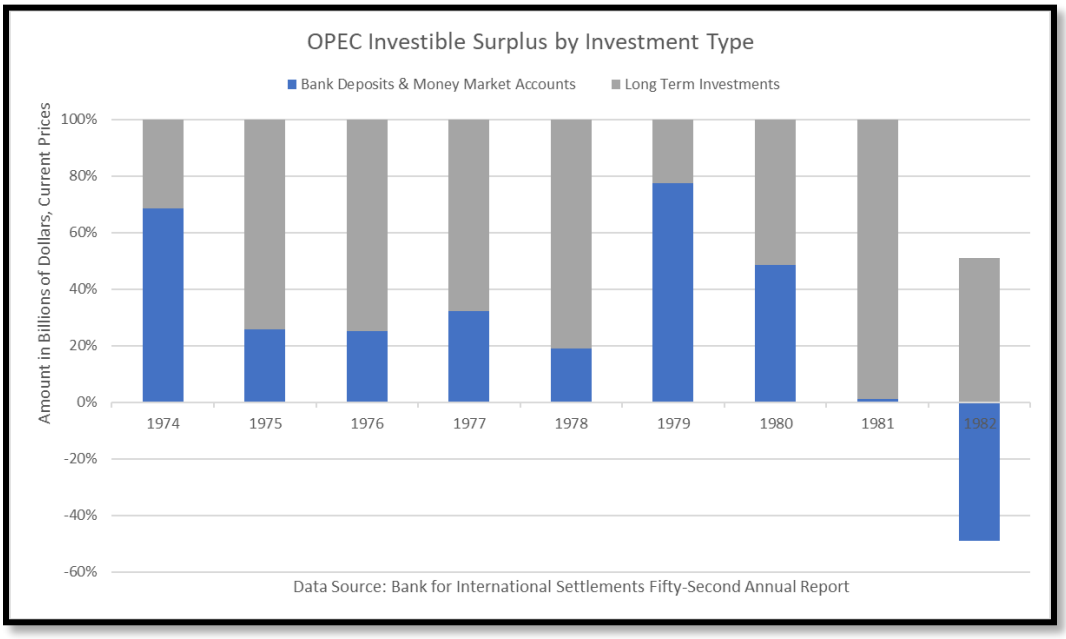

Figure 2.8: OPEC Investible Surplus by Investment Type, Percentage Breakdown

Note: Data for Figure 2.8 was collected from Chapter IV: International Trade and Payments in the BIS Forty-Eighth, Fiftieth, and Fifty-Second Annual Reports

Such lending was made possible by the investments placed by OPEC members in global money markets and long-term investments which were the core of the primary recycling process. Overall, between 1974 and 1982, a total of $373.7 billion flowed from OPEC powers into international credit markets as shown in Table 2.1. Of these funds an estimated $143.8 billion went into bank deposits and short-term money market investments with the vast majority of approximately $103.7 billion funnelled into foreign money markets including the Eurodollar market. The next largest short-term recipient of funds, by a far smaller margin, was US dollar deposits coming to a total of $14.9 billion. The other main source of capital flows, long-term investments, came to a total of $229.9 billion. In this avenue the top two recipients of funding were special bilateral arrangements, which included development contracts and other similar agreements, coming to a total of $66.8 billion and an unspecified, "Other" category totalling $31 billion.

This pattern of investments had the benefit of being highly liquid and mostly placed in short-term maturities in the Eurodollar market as opposed to longer-term, less liquid assets. All the Sunni Gulf monarchies, including Saudi Arabia and Kuwait, were engaging in such investments putting much of their surplus into Eurodollar market assets. The profits and leverage provided by deposits in these maturities were then used to finance oil importing countries deficits. Another major benefit for these Gulf monarchies was such investments, unlike corporate investing or stock purchases, was far more confidential allowing far greater control of information and security. This was also thanks to the Eurodollar market being a highly unregulated, increasingly global market ensuring capital could flow in and out with relatively little impediments unlike more traditional forms of investment. These operations were clearly a distinctly different form of investment from the conventional narrative of

OPEC funds providing capital for bank loans to net oil importers who then purchased oil from OPEC, closing the loop.[76]

The flow of money into international banks also became an increasingly significant cost for the Saudi government. As shown in the following data from SAMA the expenditures of the Saudi state on bank service charges, in contrast to the fluctuating capital flows over the course of the decade, consistently increase. While the amount at its peak in 1979 was little more than 1% of the overall size of Saudi national accounts, this was an increase by a whole order of magnitude from 73 million riyals in 1973 to 4 billion riyals in 1979. The capital costs initially fluctuate in time with the overall volume of petrodollar investments, showing a brief reversal in 1975 and 1976 before consistently increasing throughout the period as shown in Figure 2.9.

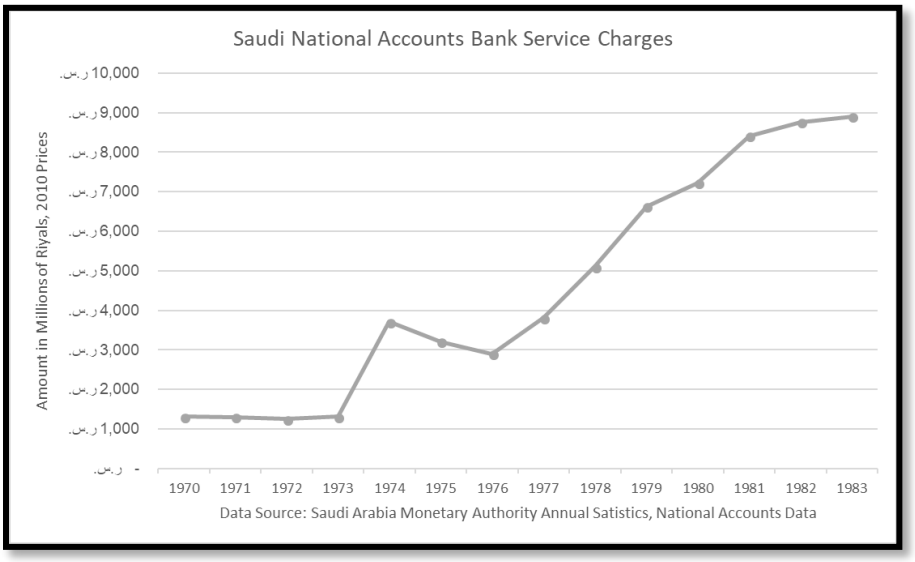

Figure 2.9: Saudi National Accounts Bank Service Charges Adjusted for Inflation

Note: Data for Figure 2.9 was collected from the Saudi Arabian Monetary Authority's Annual Statistics reports from 1970 to 1983 adjusted to 2010 prices

[76] Dara Khambata, *The Practice of Multinational Banking: Macro-Policy Issues and Key International Concepts*, Quorum Books, (Westport, CT & London: 1996), 68; Wilson, *The Chase*, 211-212

Many of the larger, more internationally focused banks handling these loans, such as Chase Manhattan who enjoyed long-standing business relationship with the Saudi monarch, were also providing credit to net oil importers. This concentrated the flow of finance through these larger international and national banks, effectively centralizing information, capital, and agency in a very small set of institutional hands located primarily in the private sector. Primary and secondary recycling, combined, created a massive flow of capital for global financial markets, creating unprecedented levels of debt and credit for OPEC's members and the banks handling the petrodollar processes. This pool of wealth was growing so quickly that as early as 1975 Bundesbank Deputy Governor Otmar Emminger estimated was the total amount was, "between two and three times the total value of all stocks listed on the British, French, and German stock exchanges together."[77]

It is therefore somewhat surprising the influence of the primary recycling processes remain relatively unexamined. David Spiro's research on primary recycling mostly focused on the relationships between American power politics and the ultimate resolution of the monetary challenge presented by petrodollars. El-Gamal and Jaffe provide a thorough analysis of how petrodollars and fluctuations in the value of oil have provided the capital and exacerbating causes behind many of global capitalism's post-1973 debt bubbles, providing critical grounding for this research. Even so, they mostly remain focused on the role oil wealth has played in financing these debt bubbles while spending less time discussing how such investments changed the markets responsible for handling them. Carlo Altamura's work thoroughly examines how major banks changed their operations during this period yet his coverage of the impact of the 1973 Oil Embargo mostly focused on how it upended regulatory efforts while providing a pool of capital. For Altamura, the Oil Embargo was a significant game-changer, but his work

[77] Wilson, *The Chase*, 232-233; Deborah J. Gerner, "Petro-Dollar Recycling: Imports, Arms, Investment and Aid", *Arab Studies Quarterly*, Vol. 7, No. 1 (1985), 13-14; Kopper, "The Recycling of Petrodollars", 37-40; Otmar Emminger, "International Financial Markets and the Recycling of Petrodollars", *The World Today*, Vol. 31 No. 3 (March 1975), 96

stops short of delving deeper into the relationships between the petrodollar capital flows, financial practices, and the market conditions facing international finance.

Oil, Debt, and Crisis

Though this research focuses on the impacts of primary petrodollar recycling, there are two significant forms of secondary recycling that would have a major impact on the broader petrodollar recycling process. These were the push to secure control over domestic oil production and large-scale arms imports. Of the two, taking control of domestic oil production would have the most immediate, direct consequences for primary recycling by providing further resources and autonomy for OPEC's Middle Eastern members. During the build-up to the 1973 Embargo pushes for partial or, in some cases, total takeovers of oil concessions and foreign-owned oil operations laid the groundwork for establishing control over the oil deposits present in the territory controlled by OPEC members. These efforts were largely restricted to smaller companies and operations in the Arab republics of Libya, Algeria, and Iraq who were all ruled by governments brought to power by anti-colonial revolutions. The Persian Gulf monarchs and Saudi Arabia, by contrast, funded further oil exploration outside of the concessions and used these revenues to purchase a greater stake in the existing concession system. Following the Oil Embargo, a more complete consolidation of ownership occurred as the Gulf oil monarchies used this great wealth as the means for achieving total control. The windfall made it possible for OPEC's members to finish what they had started in a far more swift and total fashion than was ever projected prior to 1973. Yusuf A. Sayigh said it best when he asserted, "It starts with the need to extend the principle of sovereignty to cover natural resources." These nationalization programs did more than just achieve a critical policy goal, they also provided OPEC's members with greater and more secure sources of revenue, bolstering their position.[78]

Whether the term used was nationalization or participation, the earlier processes of buying up control over domestic oil production accelerated after 1974 thanks to their now greatly expanded

[78] Yusif A. Sayigh, *Arab Oil Policies in the 1970s: Opportunity and Responsibility*, Johns Hopkins University Press (Baltimore: 1983), 29

financial resources. This process began with Iraq and Algeria's total nationalization of the remaining foreign-owned oil holdings and continued in the Gulf regions. A distinctly different pattern emerged between republics like Iraq and Algeria and the Gulf monarchies. The Gulf monarchies, except for Saudi Arabia who gradually bought out total control of ARAMCO by 1978, focused on taking substantial majority control while still allowing for some foreign stockholders to better ensure flows of outside investment. The oil majors consented to the Saudi and other Gulf deals because the other option, outright nationalization, was worse and even with a loss of control they would receive some profit from the region instead of none. One by one, OPEC's members secured control and in doing so increased their flow of revenues from oil exports.[79]

The impact of this shift in ownership was immediate for the Gulf OPEC members. Total control gave them access to unprecedented revenues, greater agency in influencing how much they reaped from their oil assets and total control over pricing. Investment decisions were now being made based on how to best maximize returns for the owning country and their oil industry rather than, as was the norm previously, maximizing profits for a private corporation operating in multiple regions of the world. These takeovers ushered in a new era where OPEC's members directly employed their oil revenues and production as a tool for achieving specific geopolitical goals. According to Michael Ross it also gave OPEC's members a greater degree of flexibility and autonomy in how these funds were used. Unlike taxes or other forms of revenue, the funds that came from the expanded national oil companies went directly into the coffers of the state with little outside oversight. As Ross argues this concentrated further economic power in the hands of the owners of the national oil companies, whether those were the Iraqi and Algerian Oil Ministries or the ruling families of Saudi Arabia, Kuwait, and the United Arab Emirates. This was further complicated by the growing tendency throughout the region to keep the

[79] Al-Chalabi, *OPEC and the International Oil Industry,* 23-27; Brown, *Oil, God, and Gold* 337-340; Yergin, *The Prize,* 566-567

specifics of these operations classified as government secrets, making it much easier to conceal specific expenditures whether these were for specific projects or furthering the personal goals of the members of these ruling elites.[80]

With oil supplies coming under their control OPEC members spent considerable sums of money on economic development programs. The focus of investment during this period was on modernizing and overhauling domestic economic production. The entire Middle East saw growing, sustained expenditures focusing on building up infrastructure, industrial development in sectors such as steel production, the petrochemical industry and electrification projects. The goal of these projects was, ultimately, to improve social welfare and achieve economic independence. The resources expended for these efforts were enormous as shown by Saudi Arabia's Second Five Year Plan earmarking a colossal $141 billion for development programs that included a highly ambitious, though ultimately doomed, megaproject intended to turn the Arabian Desert green and transform Saudi Arabia into a net agricultural exporter. These projects saw an enormous increase in dependence on foreign labour, migrant workers and imports creating a pattern that persists to the present day. Import dependency was further inflamed by the growth of conspicuous consumption among the increasingly prosperous inhabitants of the Arab World. Even as domestic industrial development sought to foster economic autonomy, it ultimately furthered dependence on imports and oil export revenue to keep up with the growing costs that came with developing a diversified industrial economy.[81]

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[80]Yergin, *The Prize,* 567; Al-Chalabi, *OPEC and the International Oil Industry,* 28-30; Philips, *The Political Economy of International Oil*, 161-163; Michael L. Ross, *The Oil Curse: How Petroleum Wealth Shapes the Development of Nations*, Princeton University Press (Princeton & Oxford: 2012), 59-63

[81] Bertrand P. Boucher, "Development Projects in the Middle East: Domestic Investments Utilizing Oil Revenues", *OPEC and the Middle East: The Impact of Oil on Societal Development* edited by Russell A. Stone, Praeger Publishers (New York & London: 1977), 104-110; Al-Chalabi, *OPEC and the International Oil Industry,* 28-29; Ervand Abrahamian, *A History of Modern Iran,* Cambridge University Press (Cambridge: 2008), 133-134; Brown, *Oil, God, and Gold*, 322-323; Hourani, *A History of the Arab Peoples,* 437-438, Philips, *The Political Economy of International Oil,* 175-176; Ross, *The Oil Curse*, 202-203; Sayigh, *Arab Oil Policies in the 1970s,* 186-188

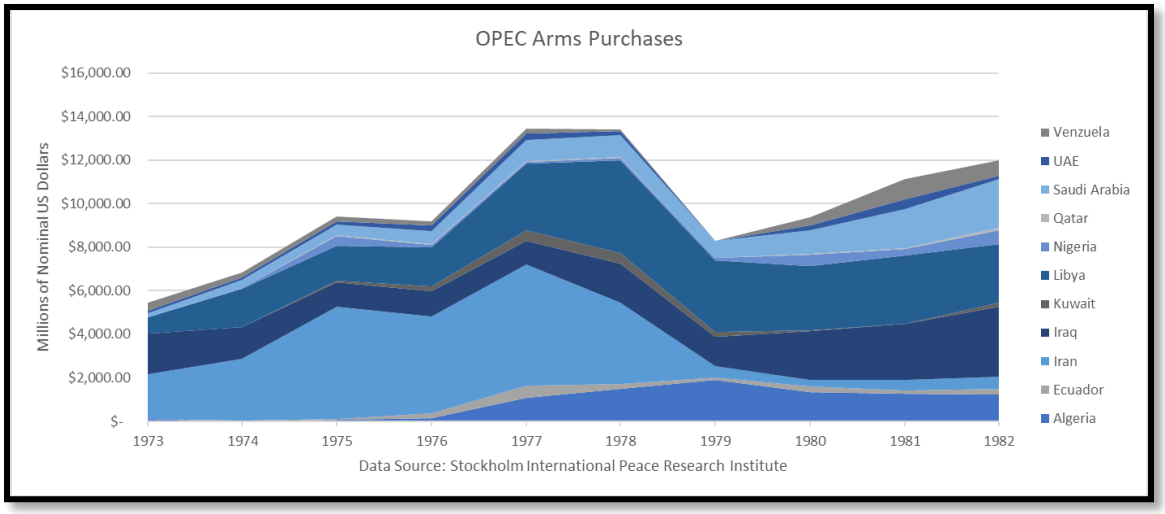


Figure 2.10: OPEC Arms Purchases, 1973-1982

Note: Data for Figure 2.10 was collected from the Stockholm International Peace Research Institute's (SIPRI) annual arms sales database broken down by purchaser of weapons systems in nominal value

The other, significant form of secondary recycling that directly concerns the primary recycling process was arms imports. Even as the 1973 Shock provided OPEC's Middle Eastern members with significant sums of capital for development, a substantial portion was poured into an escalating arms race between Saudi Arabia, Iraq, and Iran. During the 1970s these governments engaged in a three-sided contest building up their armed forces and purchasing weapons at unprecedented rates. The first player to really escalate spending following the 1973 Oil Embargo was the Shah of Iran. Iranian military expenditures more than doubled from $1.8 billion in 1973 to $4 billion in 1974 and kept increasing as the decade progressed. This boom in arms purchases did not stay confined to Iranian ambitions with a considerable surge in Saudi and other Gulf monarchies purchasing weapons occurring shortly after, with Saudi Arabia becoming the largest purchaser of US arms worldwide by 1980. The rest of the Gulf region followed suit with arms purchases from the region accounting for 10.6% of all recorded arms contacts initiated in 1977. In total, $80 billion in arms exports flowed into the Middle East between 1973 and

1982 from thirty-five different countries, as shown in data from the Stockholm International Peace Research Institute (SIPRI).[82]

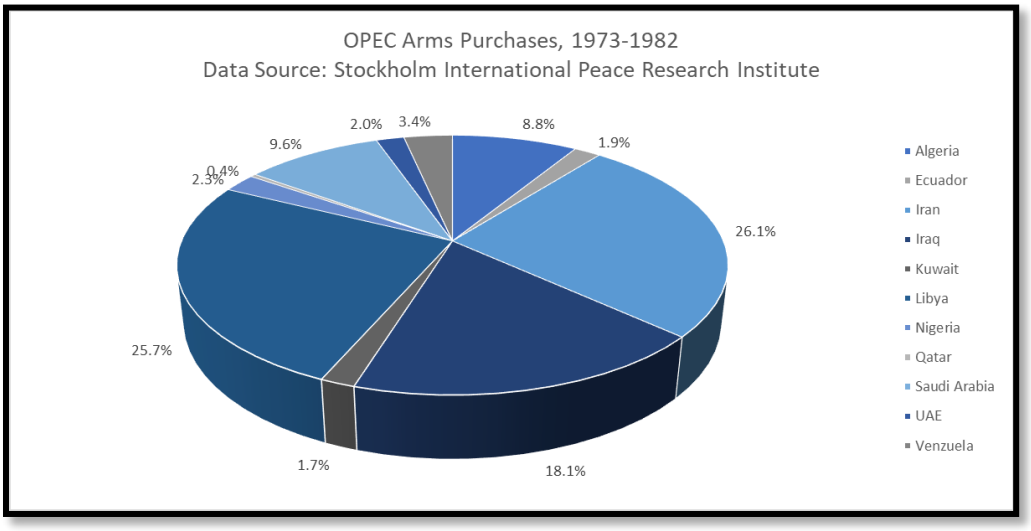


Figure 2.11: OPEC Arms Purchases, Percentage Breakdown

Note: Data for Figure 2.11 was collected from the SIPRI annual arms sales database broken down by purchaser of weapons systems.

These arms purchases went hand in hand with growing regional tensions between the Sunni Gulf monarchies and the Shah. In 1977 fears of Iranian military expansion prompted an economic conflict known as the Oil War. Saudi Arabia unilaterally expanded production and dropped their price, crippling Iran's revenues, and their capacity for expanding their armed forces. The result was significant instability in Iran which directly contributed to the 1979 Iranian Revolution. This price war coincided with a similar drop in OPEC investible surplus in 1977 and 1978 as shown in Table 2.2, suggesting the Oil War had a serious impact on oil revenues throughout the region, before the Iranian government finally collapsed triggering the 1979 Oil Shock in a process that will be examined more in Chapter Five.[83]

[82] Abrahamian, *A History of Modern Iran,* 131-132; Gerner, "Petro-Dollar Recycling", 9-11; Boucher, "Development Projects in the Middle East", 104
[83] Cooper, *The Oil Kings*, 361-366; Gerner, "Petro-Dollar Recycling", 10-11

This did not blunt the flood of weapons, which by the mid-1970s were flowing from a total of thirty-five different countries as shown in Figure 2.13, as outside powers were all too happy to feed this process. For arms exporting countries, munitions sales were a necessary means for balancing payments and keeping capital flowing back from the oil exporters regardless of the consequences it had for regional stability. The United States, in particular, saw their role as a key supplier for Middle East military hardware throughout the period as a key extension of their Cold War policies that were intended to keep the region out of the Soviet bloc.

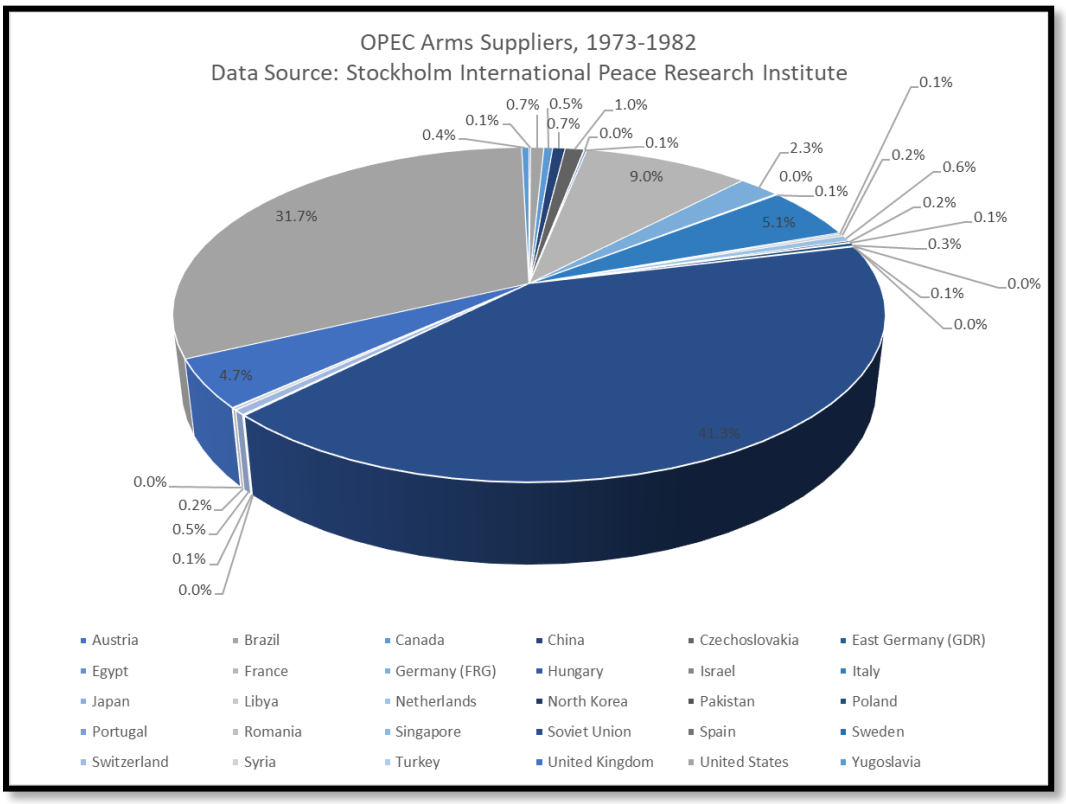


Figure 2.12: OPEC Arms Suppliers

Note: Data for Figure 2.12 was collected from the SIPRI annual arms sales database broken down by supplier of weapons systems.

Unfortunately for the people of Iran and Iraq this arms race had lasting consequences. The Shah of Iran's arms expenditures came at the cost of meaningful investment in economic development. Such policy failures were compounded by the Shah's autocratic rule, use of oil wealth to compete for

hegemony over the region and increasingly lavish displays of conspicuous consumption. The situation was made even worse by the Oil War of 1977 and 1978, an economic struggle initiated due to fears of Iran's growing military power, which further sapped the already shaky Iranian economy. These factors were fuel for growing discontent that exploded in December of 1978 in the Iranian Revolution. Fears of the revolution spreading, exacerbated by Iran's considerable military might and the takeover of the Mecca Grand Mosque in Saudi Arabia by Wahhabi radicals inspired by the fall of the Shah, saw the weapons purchased with oil money put into immediate use by the Iraqi military in 1980. The attempted invasion of Iran, supported by the United States, the Soviet Union and the Gulf monarchies with arms and loans, sparked an eight-year long war that consumed over a million lives and saw the first widespread battlefield use of chemical weapons by Iraqi forces, including the first documented battlefield deployments of nerve gas, since the First World War. These war debts became one of the reasons for Saddam Hussein's 1991 invasion of Kuwait, triggering the Persian Gulf War. Though this conflict was brief it was followed by bloody massacres of the Marsh Iraqi Shi'a, Iraqi Kurds, twelve years of devastating sanctions and set the stage for the 2003 US invasion. The combination of oil wealth, regional ambitions, and the desire for profit by outside arms suppliers created a deadly combination which sparked off the first of a string of conflicts which continue to the present day. Even though the spending on the arms race was driven by different impulses, their direct impact of the stability of OPEC's Middle Eastern members had profound consequences for the markets and actors who were now heavily entangled in the business of petrodollar recycling.[84]

Overall, this new petrocapital-driven cycle of borrowing was directly responsible for a significant expansion in the size of international debts, the third and final leg of the broader petrodollar recycling

[84] Cooper, *The Oil Kings*, 361-366; Abrahamian, *A History of Modern Iran*, 131-132; Jeremy Salt, *The Unmaking of the Middle East: A History of Western Disorders in Arab Lands*, University of California Press (Berkeley & Los Angeles: 2008), 285, 292-296, 300-302; Rashid Khalidi, *Resurrecting Empire: Western Footprints and America's Perilous Path in the Middle East*, Beacon Press (Boston: 2004), 3-6

process. With the private sector effectively in charge and policymakers hesitating to engage in any sort of large-scale debt or monetary relief efforts to alleviate the impacts of the 1973 Oil Shock this guaranteed that much of this expansion of debt would be concentrated in the hands of the private sector. The rate of growth for these debts in this period, imposed by a combination of the global wave of oil-pushed inflation and the growing demands for oil which continued to climb throughout the period as shown earlier in Figure 2.6, can only be described as geometric.

Growth of the Global Economy and the Size of International Finance, Adjusted for Inflation Data Source: World Bank, Bank for International Settlements									
Rate of Growth	1975	1976	1977	1978	1979	1980	1981	1982	1983
Gross World Product	0.60%	5.01%	3.79%	3.75%	3.96%	1.87%	1.89%	0.43%	2.36%
Estimated Bank Assets	46.18%	11.89%	16.07%	17.75%	13.46%	6.63%	2.54%	-0.88%	-2.09%
Growth of New Lending	-86.02%	35.50%	-0.05%	3.87%	16.70%	12.70%	-8.34%	-48.40%	-18.41%
Total Value, OPEC Investments	-104.43%	-16.81%	-6.40%	-175.06%	76.11%	27.29%	-100.78%	-7701.51%	N/A

Table 2.2: Growth of Global Economy and Size of International Finance, 1975-1983

Note: Data for Table 2.2 showing year over year growth was collected from the World Bank online database and Chapter V: The International Credit and Capital Markets of the BIS Forty-Eighth, Fiftieth, and Fifty-Second Annual Reports

From 1974 to 1980, the last high point for OPEC petrodollar capital during the recycling period, the size of all lending and credit extended by BIS-monitored banks had swollen from an estimated $214.1 billion dollars in nominal value to $1,323.1 billion dollars in nominal value. When adjusted for inflation this represents an increase in total value of 73.45%, a level well beyond the rate of growth in the size of the global economy which only expanded by 21.38%. for the same period. When taken on a year by year basis this represents a consistent, dramatic expansion of the size of international finance in comparison to the actual growth of the global economy as shown in Table 2.2. This consistent, significant outpacing of global economic growth only falters beginning in 1982 with the beginning of the Debt Crisis and the collapse of petrodollar recycling as shown in Table 2.2. The picture becomes further complicated upon examining the relationships between these growth rates, as shown in Table 2.3.

Correlations, Global Growth and International Finance 1975-1982, Adjusted for Inflation Data Source: World Bank, Bank for International Settlements				
Rate of Growth	Gross World Product	Estimated Bank Assets	Growth of New Lending	Total Value, OPEC Investments
Gross World Product	1	-0.103229869	0.83735387	0.538576854
Estimated Bank Assets	-0.103229869	1	-0.526910697	0.412545713
Growth of New Lending	0.83735387	-0.526910697	1	0.4138786
Total Value, OPEC Investments	0.538576854	0.412545713	0.4138786	1

Table 2.3: Correlations, Global Growth and International Finance, 1975-1982

Note: Data for Table 2.3 showing year over year growth was collected from the World Bank online database and Chapter V: The International Credit and Capital Markets of the BIS Forty-Eighth, Fiftieth, and Fifty-Second Annual Reports. Correlation coefficients were generated using Microsoft Excel.

Throughout this period the main positive correlations in growth rates were, understandably, between the expansion of the world economy and the growth of lending, the relationship between the economy and levels of OPEC investment, and the growth of new lending's weaker but still positive correlated relationship with new OPEC investing as shown in Table 2.3. These correlations, when taken in the broader context of global inflation and dramatic wealth redistribution, strongly argue that expanding levels of lending were critical to sustaining economic growth and this lending, in turn, was somewhat dependent on the continuous flow of petrodollar capital from OPEC. There is also a significant shift in terms of where this borrowing is coming from and who is taking on these debts, as

shown in Figure 2.14. Much of these new sources of demand for capital were, understandably, coming from the impoverished and decolonizing Global South which had been hit hard by the 1973 Shock.

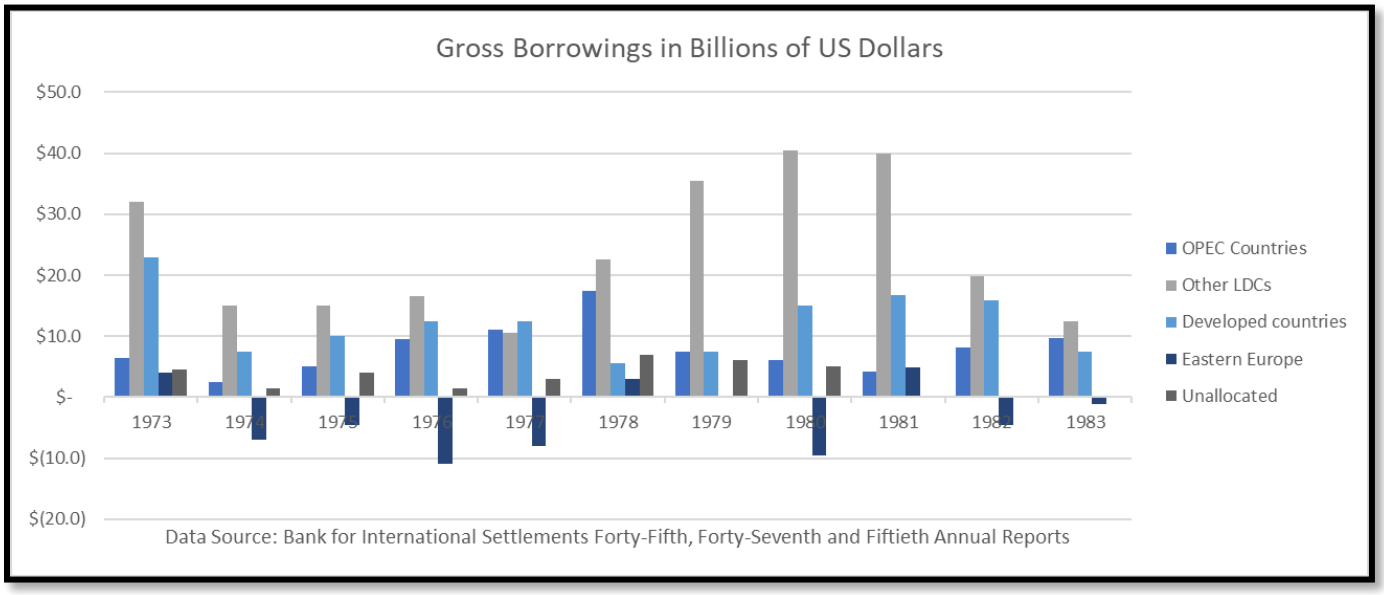


Figure 2.13: Gross Borrowings by Region, 1973-1983

Note: Data for Figure 2.13 was collected from Chapter V: The International Credit and Capital Markets of the BIS Forty-Fifth, Forty-Seventh, Fiftieth, and Fifty-Fourth Annual Reports

Much of these findings are broadly in alignment with other research on the growth of global debt which culminated in the 1982 Debt Crisis. Altamura describes this leg of petrodollar recycling as, "Huge amounts of money, in the form of loans, were transferred to developing countries, which were considered worth borrowers because of the favourable terms of trade for primary commodities, and because of their better growth prospects compared to developed countries." Kopper presents a similar analysis of the process in saying, "For the first time in history, second rate developing borrowers like the developing countries in Latin America, Africa and Asia managed to obtain sizable long-term loans at reasonable rates. A low real interest rate (interest rate minus inflation rate) and the favourable competition for borrowers helped keep interest rates low (and prompted those countries to take loans at an unprecedented scale). These countries would not have run into serious difficulties if the second oil price crisis of 1979-1980 had not seriously affected their balance of payments," which is as shown in

Figure 2.15. El-Gamal and Jaffe's discussion of these specific conditions broadly aligns both with these observations and the discussions of Altamura and Kopper in arguing, "High inflation and an accommodating monetary policy meant that real interest rates were very low, even negative, which encouraged many developing countries to seek more debt…the bulk of this debt went to middle-income countries, many of which were themselves oil exporters that sought to accelerate their industrialization by borrowing against valuable oil reserves." These discussions of the development of international debt during the time of petrodollar recycling stand largely in agreement with much of the other literature present on petrodollar recycling and the 1982 Debt Crisis. The only significant divergence from this broad consensus is Brine & Poovey, whose focus in discussing debt and financialization is on developments within the financial world. In their discussion of this critical period there is no mention of petrodollars and ascribes no causative agency to the growing volumes of international debt.[85]

[85] Altamura, "The Paradox of the 1970s", 530; Kopper, "The Recycling of Petrodollars", 42; El-Gamal and Jaffe, *Oil, Dollars, Debt, and Crises*, 48; Brine & Poovey, *Finance in America*, 346-354

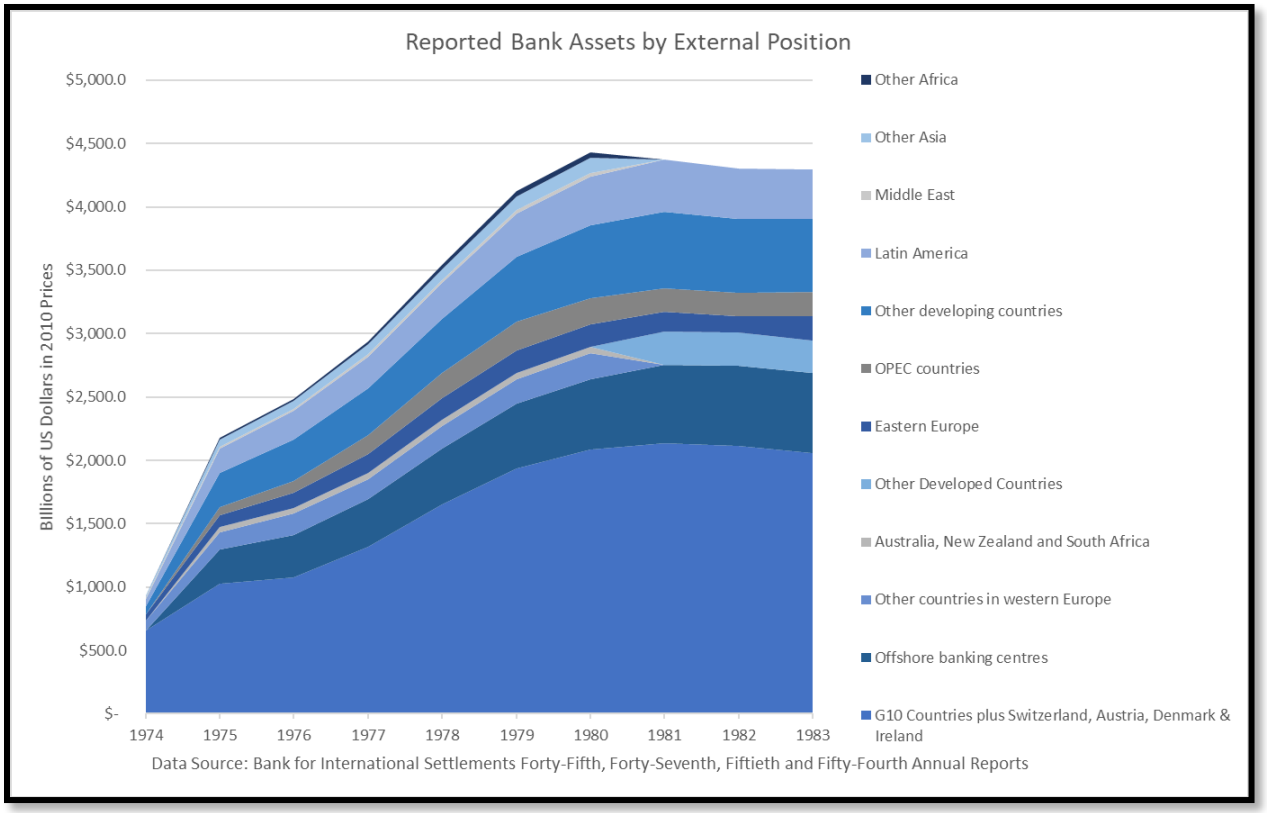


Figure 2.14: Reported Bank Assets by External Position, 1974-1982

Note: Data for Figure 2.14 was collected from Chapter V: The International Credit and Capital Markets of the BIS Forty-Fifth, Forty-Seventh, Fiftieth, and Fifty-Fourth Annual Reports and adjusted for inflation using Morgan Friedman's Inflation Calculator at westegg.com

Yet this consensus does not fully explain the impact of petrodollar recycling, either primary or secondary, on the development of global debt and international finance. There is no debate these funds were essential for creating the necessary conditions for a significant lending bubble between 1974 and 1982 while also providing the necessary capital for funding it. What is left, surprisingly, unexplored is the extent to which this flow of capital had become essential to keeping this new system of debt, lending, and economic activity in operation. El-Gamal and Jaffe, in focusing on the role played by petrodollars in creating bubbles since the 1970s, spend no time discussing what impact any decrease in the volume of these funds during the formative 1974-1982 period may have had on the broader dynamics they enabled. Altamura, as mentioned earlier, mostly confines his discussion of the 1973 Oil Shock's impact to upsetting the existing regulatory order and providing a ready source of relatively

unregulated money for use in the aftermath. Kopper, in focusing on the economic impacts on Europe of petrodollar recycling and discussing the growth of the Euromarket, is also surprisingly silent on the question of the impacts of any decline in petrodollar flows.[86]

What makes this hole in the research especially striking is there is little question the 1973 and 1979 Shocks were critical events for international finance. Altamura, El-Gamal and Jaffe, and Kopper are all in clear agreement the 1979 Shock was critical in destabilizing the new and somewhat precarious financial order built up by petrodollars by imposing a fresh price hike on already heavily indebted oil importers. This makes it quite clear the Embargo and Shock were critical in ushering in and resolving the new, brief period of financial change they triggered. El-Gamal and Jaffe go even further in arguing this same downturn would further undermine OPEC's wealth by greatly reducing global demand for oil in a time when OPEC's members had become accustomed to regular flows of capital. Such research makes it quite clear the Oil Shocks and their capital were quite crucial to the global financial system, both in their presence and their causes. Spiro stands alone among the researchers discussing the role of petrodollar recycling in global markets in his surprising lack of discussion of the 1979 Shock and its role in triggering a broader economic crisis. For Spiro, the question of petrodollars is one of how they initially changed the international monetary order and this question, for his purposes, is suitably answered by the consequences of the 1973 Shock. This persistent tendency to treat the arrival of petrodollars as the most critical juncture in the development of international finance during this period consistently neglects to ask how deeply this phenomenon's influence penetrated international financial markets.[87]

This absence in the literature is more than just a question of understanding the ultimate ending of this period. If, as this research argues and all existing literature strongly suggests, petrodollar capital

[86] Altamura, "The Paradox of the 1970s", 530; Kopper, "The Recycling of Petrodollars", 42; El-Gamal and Jaffe, *Oil, Dollars, Debt, and Crises,* 48

[87] Altamura, "The Paradox of the 1970s", 530; Kopper, "The Recycling of Petrodollars", 42; El-Gamal and Jaffe *Oil, Dollars, Debt, and Crises,* 48; Spiro, *The Hidden Hand of American Hegemony*, 1-5

was essential for triggering an era of growing debt accumulation both in creating the necessary conditions to make such lending essential and providing the funding for this new lending then nothing would better prove the extent of its significance than determining if losing these funds had a significant impact on the development of international finance. Examining the consequences for financial markets of losing the flow of petrodollar capital in the context of the causes of the 1979 Oil Shock would conclusively demonstrate how thoroughly dependent international finance had become on regular flows of oil wealth to function as expected in the 1974-1982 period, as will be discussed more in Chapter Five.

The relationships between oil, debts, and crisis are central for understanding the impacts and consequences of the 1974-1982 petrodollar recycling period. There is little question OPEC's windfall profits were essential for creating this new environment of dramatically increased quantities of international debt and a global financial system founded on it. This, therefore, makes it essential to more thoroughly examine what these funds did to the global monetary environment sustaining these transactions, how the demands of this capital forced and accelerated some of the most significant changes to financial practices since the end of the Second World War, why this capital ceased to flow, and how this halt in OPEC deposits impacted a system that had grown accustomed to receiving, processing, and leveraging a seemingly reliable stream of wealth. Understanding these effects, which remain largely unexamined in the existing scholarly literature, show the true extent of the influence of petrodollar recycling on the growth of financialization by fully illustrating the ways these funds irrevocably transformed finance into the global, largely autonomous field it grew into over the course of the 1980s and 1990s. With these questions on the less examined impacts of primary petrodollar recycling clearly presented, this brings this research to Chapter Three's exploration of the impacts of this process and the wealth redistribution that came with it on the global monetary environment. Such changes in how money behaved, was created, and regulated made many of the innovations discussed in Chapter Four possible, paving the way for the modern period of neo-liberal financialization.

Chapter Three : A Monetary Revolution

Primary petrodollar recycling was far from the only significant factor influencing global financial systems during the early 1970s. The global monetary environment underwent significant changes, beginning with the demise of the Bretton Woods system, with wide-ranging consequences for the financial world. Understanding how the end of Bretton Woods impacted the changing global capitalist economy is critical yet also only the beginning of unravelling the mystery of how petrocapital changed core elements of how global finance operated. Two other key components in this relationship are the new petrodollar standard, which were a series of agreements between the US and OPEC to keep the global oil trade denominated in US dollars, and the transformation of the Euromarket. These developments all unfolded in an environment where regulatory authorities and policymakers increasingly found themselves at a loss for how to effectively respond to the growing crisis. Such critical shifts in the monetary environment, which were partially driven by the demands of petrocapital, were abetted by the inability of regulatory officials to form a coherent, united approach to resolving the problem. This effectively left the development of this transformation in the hands of the private sector.

Central to understanding the monetary question is addressing the demise of the Bretton Woods system. This major event, traced back to the Nixon Shock of 1971, looms large over this period, especially in the debate within the literature over the relationship between the collapse of Bretton Woods and the financialization of the global economy. Understanding this question is, therefore, essential for better understanding how petrocapital changed global finance during the 1974 to 1982 period particularly thanks to the question of volatility. There are two main bodies of theory for how Bretton Woods changed the world of international finance. The first explanation asserts the end of Bretton Woods introduced greater liquidity and volatility to the global financial system, making the processes of financialization as we know it possible. The second position argues that Bretton Woods'

downfall did introduce added volatility, but this mostly rendered the global economy more vulnerable to such shocks and was not on its own sufficient to facilitate the total transformation of global finance which unfolded during the 1974 to 1982 period.

For most of the field of economic history, the fall of Bretton Woods was the critical event in creating the necessary volatility and uncertainty in global financial markets for modern financialization to develop. As José Carlos Braga, Giuliano Contento de Oliveira, Paulo José Whitaker Wolf, Alex Wilhans Antonio Palludeto, and Simone Silva de Deos argue very clearly, the collapse of the Bretton Woods system was essential for changing both the rules of international economic relations and the operations of capitalism itself. This, according to them, was the result of removing multiple postwar institutional limits which largely constrained global finance which stimulated inter-capitalist competition, accelerated the concentration and centralization of capital, and created new opportunities to transform money into more money. They describe this process as the creation of, "fictitious capital", which establishes the parameters for all capital operations. The innovations which made this possible were, according to them, a direct product of the downfall of Bretton Woods and the effective deregulation of the global economy. One aspect they emphasize, the development of financial derivatives, is credited to the increased volatility which was introduced by the end of Bretton Woods. No real mention is given of petrocapital or any aspect of the recycling process.[1]

Brine & Poovey stake out a similar position in arguing:

> "With the nation having abrogated the Bretton Woods agreements between 1968 and 1973, the value of currencies had become flexible, currency had begun to flow to the most advantageous markets, and the United States faced global competitors it had not previously had to consider. When dramatic changes occurred in the real side of the international economy – in agriculture

[1] José Carlos Braga, Giuliano Contento de Oliveira, Paulo José Whitaker Wolf, Alex Wilhans Antonio Palludeto, and Simone Silva de Deos, "For a political economy of financialization: theory and evidence", *Economia e Sociedade, Campinas,* V. 26, Número Especial, (December, 2017), 833-834

> and oil – effects rippled through the global economy system and the United States had no buffer."[2]

According to Brine & Poovey, the end of Bretton Woods was essential for making financialization possible by both freeing up the flow of capital and making the global economic system more vulnerable to price shocks in the real economy, creating both the ideal conditions and demand for increased global liquidity. It would not have been possible, according to them, for modern financialization as it historically developed to take root under the limitations of the Bretton Woods system. For them, asset price shocks were a consequence of the end of Bretton Woods and are not treated as a significant factor in driving financialization.

Altamura's arguments stand in contrast with these other assessments of the role of Bretton Woods. For him, there is no question the collapse of Bretton Woods opened the door to a new financial and monetary world, but he also goes beyond Bretton Woods:

> "My tentative answer in order to understand this paradox, we have to look at the economic and political dynamics of the 1970s and, more precisely, at the response of Western governments to the oil crisis of 1973: debt. As we will see, after 1973, and until the Debt Crisis of 1982, Western governments decided not to counteract the oil crisis but to accept the deficits in order to avoid competitive depreciations and <<beggar-thy-neighbour>> policies, which proved so detrimental in the inter-war years. In order to compensate for the contractionary impact of the oil shock, Western governments decided to push for a <<recycling>> of oil surpluses, that is, transferring money from surplus to deficit countries through the Euromarket."[3]

This argument, generally, is the one which this research most consistently supports. Even though Bretton Woods, without question, introduced a new level of volatility to global capitalism this alone does not explain the significant material changes which unfolded in international finance between 1974 and 1982. Altamura's formulation is, therefore, a useful framework for understanding how Bretton Woods features in the story of petrocapital: as a necessary precondition which does not, alone explain the development of financialization in the 1970s.

[2] Brine & Poovey, *Finance in America,* 344
[3] Altamura "The Paradox of the 1970s", 530

This question of debts, which is critical in Altamura's understanding of the relationship between Bretton Woods and financialization, is a very significant component of the monetary changes which unfolded during the 1974 to 1982 period. The first real turning point was the sudden rise in developing world overall current accounts deficit spiking from $11 billion to approximately $37 billion in 1974, a debt level Christopher Kopper claims was a point of no return. This was the first indicator of a growing trend in this period where, according to Kristin Hallberg, developing nations such as Brazil and Mexico kept their accounts in balance by borrowing money to keep up with the increased costs of oil, manufactured goods and servicing these debts. The sheer size of developing world debt grew enormously over the course of the decade, reaching an estimated total of $245 billion by 1981.[4] Kristin Hallberg claims this was made easier to sustain by the escalating inflation kicked off by the Oil Shock, a brief economic recovery beginning in 1977 and increasingly favourable bank terms for developing oil importers making it cheaper to service debt. During this period, the assets held by banks reporting to the BIS grew dramatically from $214 billion in 1974 to a total of $1.110 trillion by 1979, a 418% increase.[5]

[4] Altamura, "The Paradox of the 1970s", 530; Kopper, "The Recycling of Petrodollars", 42; El-Gamal and Jaffe, *Oil, Dollars, Debt, and Crises*, 48; Spiro, *The Hidden Hand of American Hegemony*, 1-5

[5] Kristin Hallberg, "International Debt, 1985: Origins and Issues for the Future", *World Debt Crisis: International Lending on Trial,* edited by Michael P. Claudon, Ballinger Publishing Company (Cambridge, MA: 1986), 7, 9-10; Kopper, "The Recycling of Petrodollars", 42

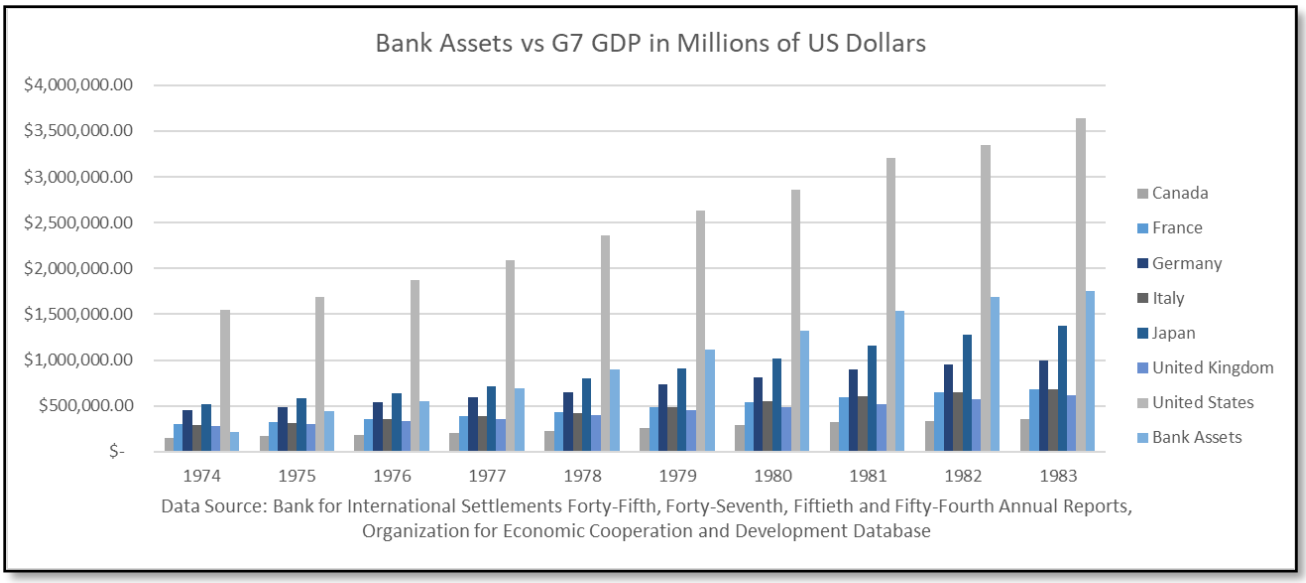


Figure 3.1: Bank Assets vs G7 GDP, Adjusted for Inflation

Note: Data for Figure 3.1 was collected from Chapter V: The International Credit and Capital Markets of the BIS Forty-Fifth, Forty-Seventh, Fiftieth, and Fifty-Fourth Annual Reports and the OECD Online Database in nominal value

One effective way of explaining the nature of this change is comparing the scale of international bank assets to the gross domestic product of the G7 nations, as shown in Table 3.1 and Figure 3.1. As these show, overall size of all bank assets active in global markets increased substantially compared to the seven largest economies on the planet. In 1974 bank assets came in at a total of $214 billion which was slightly more than the smallest of the G7, Canada, whose GDP was $151 billion. In 1979 the situation was completely different with bank assets valued at an estimated $1.110 trillion, an amount making it larger than the second largest economy on the planet, Japan, whose GDP in that year was $911 billion. This explosion in value greatly exceeded the rate at which the combined GDP of the G7 grew during this period. The G7's collective growth rate, from 1974 to 1979, was overall an increase in nominal size of 68% and an inflation-adjusted increase of 7%. When compared to BIS reported nominal bank assets expanding by 418% and 73% in inflation-adjusted value during the same period there is no question the growth of financial assets on a global scale was happening at a meteoric rate.

Not only is there a rapid increase in the sheer size of global finance, there was also a shift in where the new assets were located from being predominantly concentrated in the Global North to seeing a broader distribution throughout the Global South. In 1974 45% of all such assets, for a total of $97 billion, were held within the European reporting area with another 9%, for a total of $19.5 billion, held in the United States as also shown in Figure 3.2. By 1979 this proportion declined to 39% held, for a total of $437.3 billion, in the European reporting area and another 7% held, for a total of $81.9 billion, in the United States. The rate of increase in how much is held in both highly developed areas, which combined held a majority in 1974 that slipped to a simple plurality, was noticeably slower than overall market growth with the European reporting area growing 347% between 1974 and 1979 while the United States grew by 320% compared to the 418% overall increase.

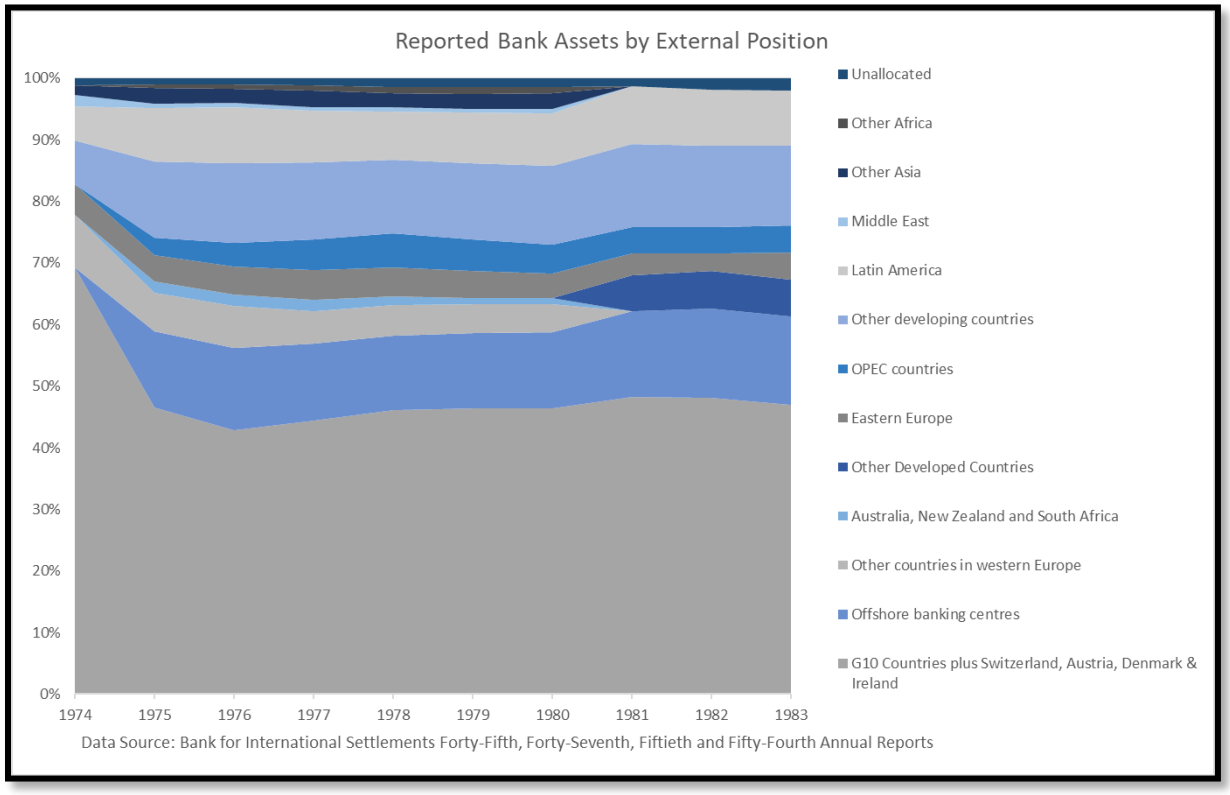


Figure 3.2: Reported Bank Assets by External Position, Percentage Breakdown

Note: Data for Figure 3.2 was collected from Chapter V: The International Credit and Capital Markets of the BIS Forty-Fifth, Forty-Seventh, Fiftieth, and Fifty-Fourth Annual Reports. The category "Middle East" in the BIS data refers to all non-OPEC Middle Eastern countries.

A similar pattern is also present in bank liabilities in terms of where the capital is coming from as shown in Figure 3.3. Like bank, claims liabilities exploded from $219 billion in 1974 to $1.119 trillion in 1979 for an increase of 410%. A solid majority of all capital liabilities reported to the BIS in this period remained in the European reporting area and the United States and combined their percentage of all liabilities slightly increased. The European reporting area grew from $110 billion in 1974 to $528 billion in 1979 showing an increase of 380% while moving from 50% of all liabilities to 47%. The United States went from $13 billion in 1974 to $123.8 billion in 1979 showing an increase of 852% moving from 5% of all liabilities to 11% in 1979. This pattern stands in stark contrast to the dramatic increases of liabilities held in offshore banks and the members of OPEC. Offshore banking centres expanded in their liabilities held from $40.8 billion in 1975, the first recorded year, to $164.6 billion in 1979 showing an increase of 303% while moving from 9% of all liabilities held in 1975 to 14% in 1979. OPEC, whose figures were first recorded as a specific body in 1975, grew from holding $51.8 billion in 1975 to $120.3 billion in 1979 moving from 11% of all liabilities held to 10% while growing by 132%.

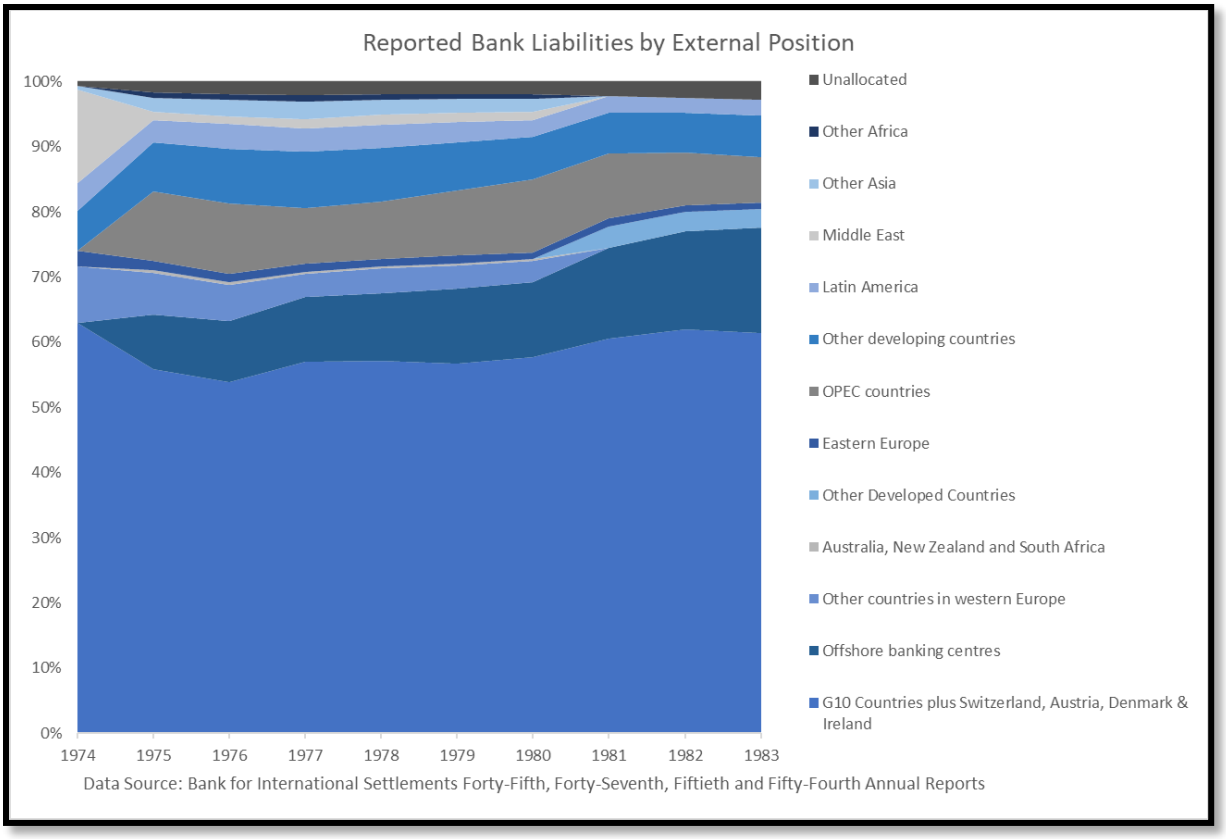


Figure 3.3: Reported Bank Liabilities by External Position, Percentage Breakdown

Note: Data for Figure 3.3 was collected from Chapter V: The International Credit and Capital Markets of the BIS Forty-Fifth, Forty-Seventh, Fiftieth, and Fifty-Fourth Annual Reports. The category "Middle East" in the BIS data refers to all non-OPEC Middle Eastern countries.

Additional information shows the funds circulating in the markets were expanding at a rapid rate. As shown in Figure 3.4 there is a clear discrepancy between the overall size of bank claims compared to the actual growth of new lending in this period. On average $101 billion in new lending was extended each year during this period with the lowest amount being $57 billion in 1975 and the highest at $147 billion in 1979. If these amounts matched the actual increases of the size of combined bank assets, then it would be reasonable to suggest new lending was the main source of increasing size of bank assets, yet the data does not corroborate this. As shown in the data the year-to-year increase from 1974 to 1975 was $227 billion, from 1975 to 1976 was $105 billion, from 1976 to 1977 was $142 billion, from 1977 to 1978 was $203 billion and from 1978 to 1979 was $217 billion. Figure 3.4 demonstrates every single one of these changes in total asset size was substantially more than the

amount of new lending with an average disparity of 74% between new lending and increases in the total amount of assets. This can partially be explained by refinanced loans, accumulated interest, transactions charges and other related activities but it shows the amount of money in lending worldwide grew faster than the rate at which new money was being lent. Clearly something new was taking place in global credit markets along with the growth of such lending to explain such a rate of expansion.

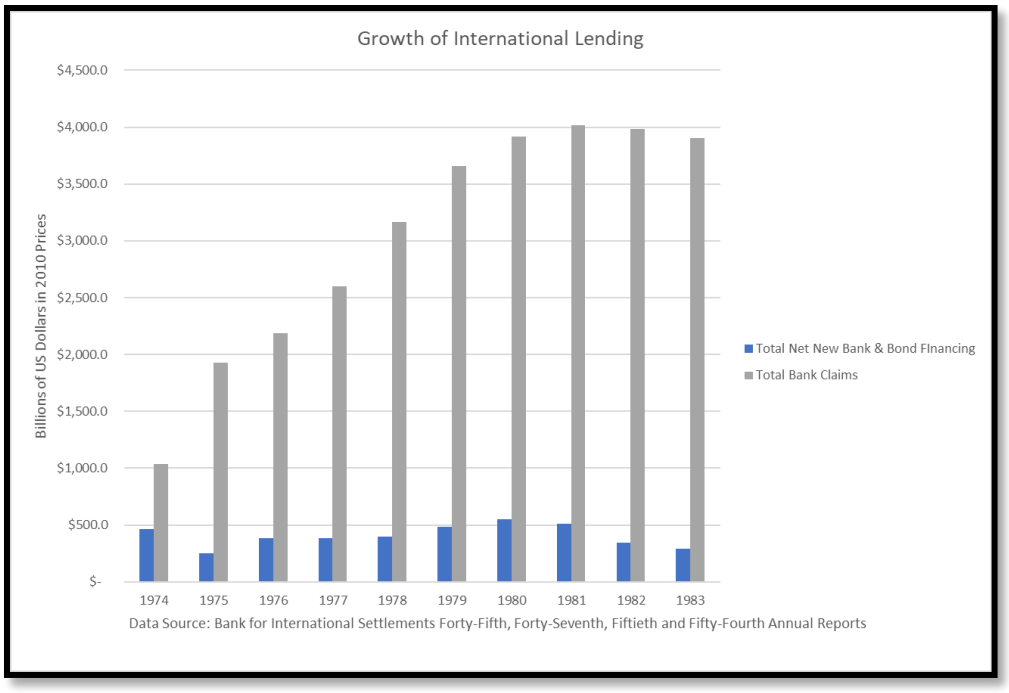


Figure 3.4: Growth of International Lending, Adjusted for Inflation

Note: Data for Figure 3.4 was collected from Chapter V: The International Credit and Capital Markets of the BIS Forty-Fifth, Forty-Seventh, Fiftieth, and Fifty-Fourth Annual Reports and adjusted for inflation to 2010 prices using Morgan Friedman's Inflation Calculator at westegg.com

These were the conditions which drove two main monetary responses, the pursuit of new moorings for the US dollar by American policymakers and the utilization of the Euromarket for processing petrocapital by financial actors, in an atmosphere of regulatory ineffectiveness and retreat. These consequences of the OPEC windfall reinvestment strategies were largely unintended and reactive, showing a consistent pattern of policymakers in the Global North playing catch-up to developments

driven by Global South capital. Even though this re-alignment would ultimately prove to be temporary, its disruptions reconfigured the basic terrain of international finance. It was this newly liquid monetary world, floating on an ocean of petrodollars, that made the implementation of much of the financial innovation the 1970s is celebrated for possible. The petrodollar shock to the monetary order was more than just a sudden, sharp disruption of regulatory priorities as Altamura argues. It was the beginning of a fundamental re-arrangement of the international capitalist monetary system and to better understand how this specific arrangement of circumstances became possible, it is first necessary to explore the causes of the collapse of Bretton Woods and the rise of the petrodollar standard.

Opportunity in Crisis

There is no argument the downfall of the Bretton Woods system, beginning with the Nixon Shock of 1971, was essential to the process of financialization. In crisis came opportunities both for the dollar to retain its primacy and for OPEC to stake out a strong position in the changing global monetary order. Though there is no direct, causal relationship between these two events there is no question that one influenced the other by determining the conditions in which this change played out. These developments were also linked to the same underlying tensions between OPEC and their customers which led to the 1973 Shock, ensuring their resolution would be shaped by the desires of OPEC members to assert economic independence and improve their position in global markets.

The causes of the collapse of the Bretton Woods agreement can be found in their inception and negotiation. The fundamental components of the 1944 Bretton Woods agreements, which became of the foundation of the post-Second World War capitalist monetary order, were largely negotiated according to the priorities of the United States from a position of strength. This is not surprising as according to Barry Eichengreen the United States, by 1944, held approximately 60% of the world's gold reserves and a solid majority of most of the United Nations' sovereign debts. This guaranteed Bretton Woods had to first satisfy American policy objectives to have any hope of being implemented. To achieve this the Bretton Woods system maintained what Eichengreen describes as a modified form of the gold standard where holders of US dollars could exchange those dollar assets for gold at a fixed price of $35 an ounce. It also created a system of fixed exchange rates between participating countries. In effect it created an incentive for other powers to accumulate and use dollars sustained by the future

promise of rebuilding their own gold stocks. Bretton Woods also had the effect of limiting the size of the global money supply by creating an effective cap in the form of gold stocks.[6]

This system, founded on unquestionable American monetary and financial dominance, began facing serious strain beginning in the 1960s. The industrialized nations which suffered most heavily from the Second World War, particularly Britain, France, Germany, and Japan, had recovered and were experiencing a sustained economic boom. Where they were once major importers of American products, they were now exporting growing quantities of goods. Hand in hand with their recovery was the development of much of Latin America, East Asia, and post-colonial Africa. These powers pursued a variety of different policies, ranging from Soviet-inspired command economies in Algeria to the chaebol system in South Korea and import substitution industrialization throughout Latin America, all of which were aimed at starting their own industrial revolutions funded with the proceeds of commodity sales, domestic manufacturing profits, and overseas finance. For commodity dependent exporters, like Chile and OPEC's members, the first objective was taking control of commodity ownership followed by developing domestic refining capabilities. Regardless of how successful these specific policies were, when they are taken in the aggregate the result was significantly more competition for American manufacturing from reconstructed industrial economies and growing demand for commodities the world over from an increasingly diverse, hungry pool of buyers than was present when Bretton Woods and the Marshall Plan were first negotiated. When combined with the consistently growing appetite of American consumers the result was a consistent drain on American financial resources which manifested in a consistently declining balance of payments throughout the period as shown in Figure 3.1. This payments imbalance paralleled the growing accumulation of dollars by the newly recovered

[6] Barry Eichengreen, *Globalizing Capital: A History of the International Monetary System*, Princeton University Press (Princeton & Oxford: 2008), 91-93

economies as shown in Figure 3.6. This data clearly shows as these economies were recovering their currency reserves were increasing while American reserves were declining.[7]

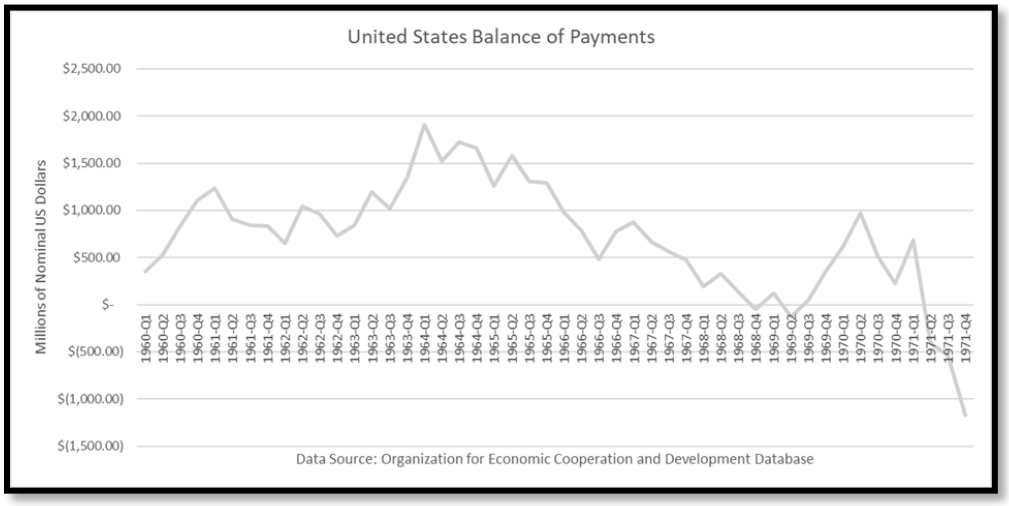
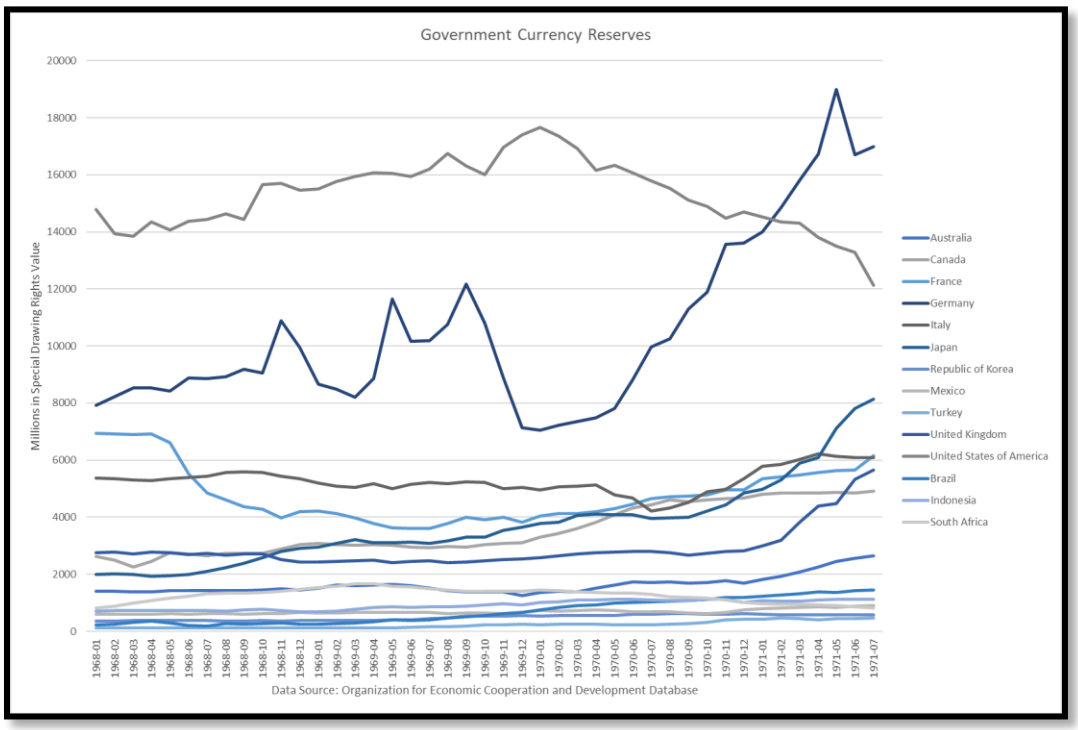


Figure 3.5: United States Quarterly Balance of Payments, 1960-1971

Note: Data for Figure 3.5 was collected from the OECD Online Database for historical quarterly balance of payments data by country.



[7] Eichengreen *Globalizing Capital*, 91-93; Frieden, *Global Capitalism*, 280-283

Figure 3.6: Government Currency Reserves, 1959-1972

Note: Data for Figure 3.6 was collected from the OECD Online Database for historical monthly currency reserves data.

One area where this was especially problematic, according to Jeanne d'Arista, was in US gold stocks. As she argues, the value of the US dollar under Bretton Woods depended heavily on retaining sufficient gold stocks to sustain the value of the dollar in an increasingly developing world. In the face of growing demand for gold from a more prosperous planet this, according to Michael de Groot, rapidly became a liability especially for Western European nations who sought to rebuild their gold stocks by using their growing supplies of dollars to repurchase them. This particular problem, according to Janick Marina Schaufelbuehl, had been a consistent concern for US policymakers going back to President Eisenhower. According to Shaufelbuehl, American decision makers were constrained by the competing need to stimulate the economies of Western Europe, limit the outflow of US dollars and preserve their value, and the perceived demands of the Cold War for larger and larger military expenditures. The result of all these pressures was the escalating decline of US gold reserves as countries bought up gold at the fixed Bretton Woods price of $35 an ounce. Thanks to this steady change in the global economic climate, itself a product of postwar reconstruction efforts, the stability of the Bretton Woods system was now coming under increasing pressure. The situation for the United States and the value of the dollar was becoming increasingly untenable.[8]

A critical turning point in this trend was the Gold Crisis of 1968, so known because of the significant run on gold and the wave of gold speculation that swept financial markets. The first signs of trouble, according to Michael Bordo, Eric Monnet, and Alain Naef, could be seen in the 1967 Sterling

[8] Jane D'Arista, "The evolving international monetary system", Cambridge Journal of Economics, 2009, 33, 640; Michael De Groot, "Western Europe and the collapse of Bretton Woods", *International Journal*, 2019, Vol. 74 (2), 283-286; Janick Marina Schaufelbuehl, "'The advantage of being inside the wall when it is built.' US multinationals' direct investments in the Common Market, the balance of payments deficit and Bretton Woods (1958-74)", *Journal of European Integration*, Vol. 43, No. 6 (2021), 668

devaluation crisis, At the heart of this crisis was the Gold Pool, a consortium of central banks including the Federal Reserve who worked together to maintain the value of gold within the Bretton Woods framework. Their decision to release increasingly large sales of gold in a bid to prop up the value of the Pound Sterling and preserve the value of the dollar rapidly depleted the resources of the Gold Pool's member banks. This was exacerbated by speculative activities on gold markets, particularly in the London Metals Market, leading to further strain on the Gold Pool's ability to respond. The Federal Reserve particular felt the pinch thanks to the size of the American share of the Gold Pool and, according to Eichengreen, France's decision to leave the Pool in June of 1967 forcing the US to cover their share of the pool. ThIs moment was, according to Bordo, Monnet, Naef, and Eichengreen, a turning point both in central bank cooperation in the later Bretton Woods period and the ultimate collapse of the existing monetary order. The demands of an increasing prosperous world were more than American monetary resources could hope to contain.[9]

Further macroeconomic data supporting a globally-grounded explanation for the fall of Bretton Woods can be seen by analysing a potential relationship between US inflation rates and the overall balance of payments. If, as the data shown in Figures 3.1 and 3.2 demonstrates, the recovery of Western European and Japanese manufacturing was having a negative impact on the American government's currency and gold reserves by forcing more gold out in exchange for dollars then it stands to reason this slow devaluation would have further economic impacts. Inflation and balance of payments data shows quite starkly there were clear correlations between these two variables. Figure 3.7 shows an inconsistently positive correlation between American inflation and the balance of payments in each year from 1960 to 1965, a period which was also characterized by a consistently

[9] Michael Bordo, Eric Monnet, and Alain Naef, "The Gold Pool (1961-1968) and the Fall of the Bretton Woods System: Lessons for Central Bank Cooperation", *The Journal of Economic History,* Vol. 79, No. 4 (December 2019), 1038-1042; Eichengreen, *Globalizing Capital*, 122

strong export-oriented trade balance for the United States. This correlation is rather weak and inconsistent, suggesting there was not a direct relationship between the US balance of payments and prices at home. What this initial period suggests is the positive balance of payments was fluctuating, to an extent, in conjunction with consumer prices implying a series of mostly stable trading and monetary relationships with limited inflationary spillover into the US economy.

It is beginning in 1966 that this relationship changes rather dramatically. As shown in Figure 3.7, 1966 is the beginning of a consistent trend of inverse correlation between inflation and the balance of payments, showing that as the balance of payments dropped inflation rose. This clearly shows, in the late Bretton Woods period, the growing competition from abroad was a factor in undermining the value of the dollar at home and in global markets. These trends were not, alone, sufficient to bring down the Bretton Woods system but they clearly were aggravating factors in a context of an ongoing monetary drain on American reserves which was also undermining the integrity of Bretton Woods. The same dynamics of changing power relationships between economic actors at the heart of the struggle between OPEC and the Seven Sisters were also present in the monetary world.

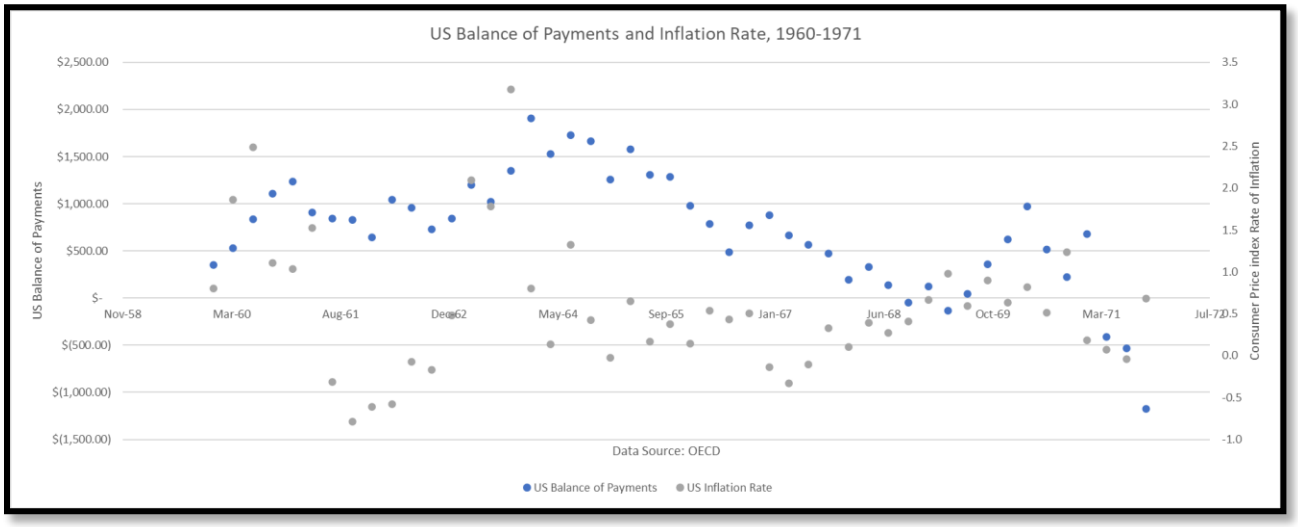


Figure 3.7: US Balance of Payments and Inflation Rate, 1960-1971

Note: Data for Figure 3.7 was collected from the OECD Online Database for historical quarterly inflation rates and balance of payments data.

These conditions brought about the end of the Bretton Woods system rather abruptly on August 15th, 1971, when US President Richard Nixon ended the convertibility of dollars into gold. This resulted in an immediate economic panic, known as the Nixon Shock, as the world's governments scrambled to respond while the US government steadily devalued the dollar. The Bretton Woods system of fixed exchange rates ended as currencies now floated freely, their value determined by market forces instead of set pegs. Along with triggering an unexpected rise in inflation this new system created a degree of monetary instability, causing a degree of chaos in global markets. This also brought about critical changes in the monetary order as financial institutions and actors were now free to speculate with currency itself. Currencies had finished their transformation, which began with the accumulation of Eurodollars and the rise of the Eurocurrency market, from mediums of exchange to tradeable assets. These conditions made the rise of the petrodollar standard possible and the specific developments which both built and maintained this new monetary reality will be examined in detail through US State Department cables.[10]

[10] Frieden, *Global Capitalism*, 339-342; Eichengreen *Globalizing Capital* 136-141; Dembinski, *Finance: Servant or Deceiver?*, 23

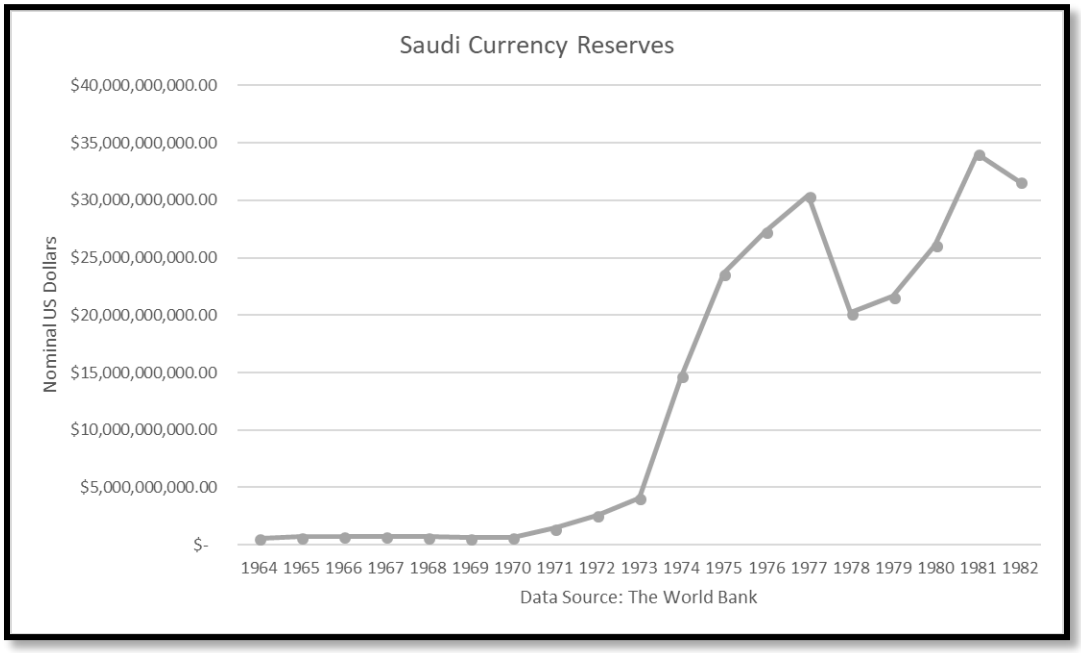


Figure 3.8: Saudi Currency Reserves, 1964-1982

Note: Data for Figure 3.8 was collected from the World Bank's online databank for annual currency reserves data by country

It was these circumstances that made the rise of the petrodollar standard possible. This refers to a series of economic agreements initiated in 1974 by US Secretary of State Henry Kissinger and King Faisal of Saudi Arabia where the Saudis committed to purchasing significant quantities of American debt, investing their windfall capital in American businesses, and pushing OPEC to only sell their oil internationally in US dollars. This arrangement was cemented by the vast dollar holdings accumulated by OPEC's members, particularly the Gulf monarchies, serving as a further incentive to ensure these assets retained value. This system, according to Eichengreen, Momani, and Obadi and Othmanova, is one of the key pillars holding up the value of the US dollar in the present day and in the chaos of the post-Bretton Woods world offered a powerful guarantee of value for a now-vulnerable currency. The new petrodollar arrangement created an incentive for foreign powers to hold on to their dollar assets

and continue using it as a reserve currency just as the end of Bretton Woods had created an incentive to dump them.[11]

As shown in Figure 3.9, the Saudi monarchy started rapidly accumulating huge volumes of currency and diverted a substantial portion to their reserves. From 1973 to 1974 the total value of their currency reserves, in nominal US dollars, jumped from approximately $4 billion to $14.7 billion. As the decade wore on the Saudis continued to accumulate currency, increasing the size of their reserves with approximately 80%, as claimed in a US State Department cable from February 8th, 1978, denominated in dollars. These reserves were one of the other key foundation stones of the petrodollar standard. From the perspective of both the Saudis and the United States, these significant currency reserves created a strong incentive for both parties to maintain cordial economic relations.[12]

These agreements helped shore up the value of the dollar in a time of growing volatility yet conditions were not always as clear or secure as has been suggested by scholars like Eichengreen as shown with the 1978 OPEC currency basket debates. As Eichengreen argues:

> "Complaints mounted about U.S. policy and the losses to which it exposed foreign holders of dollars. OPEC again discussed the possibility of pricing oil in another unit. Saudi Arabia and other members of the cartel made noises about moving their reserves back into other currencies. Since doing so might weaken the dollar, their noises raised concerns that other countries might move pre-emptively in order to avoid ending up holding the bag, making talk of a dollar crash self-fulfilling."[13]

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[11] Barry Eichengreen, *Exorbitant Privilege: The Rise and Fall of the Dollar*, Oxford University Press (Oxford: 2011), 63-64, 123; Bessma Momani (2008) "Gulf Cooperation Council Oil Exporters and the Future of the Dollar", New Political Economy, 13:3, 297; Saleh Mothana Obadi and Soňa Othmanová. "Oil Prices and the Value of US Dollar: Theoretical Investigation and Empirical Evidence". Ekonomický časopis 08, 776; Wikileaks. Confidential cable from Jeddah Embassy to Dhahran Embassy and Secretary of State December 12, 1974, https://search.wikileaks.org/plusd/cables/1974JIDDA07310_b.html (Accessed March 11, 2020)

[12] Wikileaks. Declassified cable from Jeddah Embassy to Cairo Embassy, Tehran Embassy, Amman Embassy, Kuwait City Embassy, Muscat Embassy, Doha Embassy, Dhahran Consulate, Secretary of State, Abu Dhabi Embassy and Sana'a Embassy February 8 1978, https://search.wikileaks.org/plusd/cables/1978JIDDA00976_d.html, (Accessed July 5, 2018)

[13] Eichengreen, *Exorbitant Privilege*, 84

He later concludes this by saying, "OPEC talked about pricing oil in a basket of currencies but did nothing." This conclusion, while supported by data available at the time of publication, is one that later documents have shown is an overstatement of OPEC's reliance on dollar reserves. The very reasons OPEC ultimately remained with the dollar briefly propelled their members, particularly the influential Saudis, to apply pressure on the United States to change their monetary policy to one more friendly to OPEC's priorities. This reinforces how much power OPEC's members enjoyed during the 1974 to 1982 petrodollar recycling period while also showing their growing influence in the global economy in ways that reached beyond oil and petrodollar deposits.[14]

Though the foundations and incentives of the petrodollar standard have kept it intact to the present day, it was still in a state of flux during these early years. In 1978, amidst the Oil War, there were discussions within OPEC to move away from the dollar and set the price of oil using a currency basket approach. These discussions were prompted by the sustained devaluation of the dollar which came to a head in 1978, causing many in OPEC to feel the arrangement was mostly at their expense. Even the Saudis, whose substantial dollar reserves, economic partnerships, and security agreements with the United States were guarantees for their fidelity, were considering moving off the US dollar. From the perspective of the Saudis their reliance on dollar deposits made them especially vulnerable, turning what was seen by many as an asset into a growing liability. Saudi representatives went so far as to assert in discussions with US ambassadors that American monetary policies were a deliberate attack on OPEC. The United States, for its part, saw this threat as sufficiently serious that the Secretaries of the Treasury and State both visited the Kingdom, lobbying the Saudis to remain with the US dollar and oppose the OPEC shift to a currency basket. This challenge was averted by changes in US monetary

[14] Eichengreen, *Exorbitant Privilege*, 87

policy towards anti-inflationary measures which alleviated Saudi concerns and ensured the petrodollar standard remained intact.[15]

The sequence of events surrounding the 52nd Conference and the 1978 currency basket debate, according to these cables, begins on February 5th, 1978, with a "Confidential" cable sent from the American Embassy in Jeddah to the US Consulate in Dhahran in the oil-rich Saudi Eastern Provinces. It discusses recent remarks made by Sheikh al-Yamani, the Saudi oil minister, to the Washington Post stating OPEC "will be forced" to adopt a new oil pricing system. The cable further elaborates on this statement arguing the Saudi Arabian government was concerned the increasing weakness of the dollar would decrease the value of Saudi dollar holdings saying, "has begun to question our assurances the dollar will soon bottom out or recover". This, the cable claims, had already convinced the Saudis to look for alternative methods for oil pricing to secure their position. It also states Yamani had re-affirmed the long-standing Saudi position that Saudi oil policies would be directly linked to the progress of securing a desirable peace settlement with Israel. This cable establishes three key themes that emerge in later cables in this year: the Saudis were feeling their dollar positions had become a liability, their position

[15] Wikileaks. Declassified cable from Jeddah Embassy to the Secretary of State, Algiers Embassy, Vienna Embassy, Brussels Embassy, Quito Embassy, Paris Embassy, Libreville Embassy, Bonn Embassy, Jakarta Embassy, Tokyo Embassy, Kuwait City Embassy, Lagos Embassy, Doha Embassy, Dhahran Embassy, Tehran Embassy, Abu Dhabi Embassy, London Embassy, and Caracas Embassy March 12 1978, https://search.wikileaks.org/plusd/cables/1978JIDDA01904_d.html, (Accessed July 5, 2018), Wikileaks. Declassified cable from Jeddah Embassy to Secretary of State, Algiers Embassy, Vienna Embassy, Brussels Embassy, Quito Embassy, Paris Embassy, Libreville Embassy, Bonn Embassy, Jakarta Embassy, Tehran Embassy, Tokyo Embassy, Kuwait City Embassy, Lagos Embassy, Doha Embassy, Dhahran Consulate, Abu Dhabi Embassy, London Embassy, United Nations Mission (Geneva), Caracas Embassy March 28 1978, https://search.wikileaks.org/plusd/cables/1978JIDDA02347_d.html, (Accessed July 5, 2018), Wikileaks. Declassified cable from Dhahran Consulate to Secretary of State, Algiers Embassy, Manama Embassy, Jakarta Embassy, Tehran Embassy, Kuwait City Embassy, Tripoli Embassy, Lagos Embassy, Jeddah Embassy, Damascus Embassy, Abu Dhabi Embassy, Caracas Embassy June 13, 1978, https://search.wikileaks.org/plusd/cables/1978DHAHRA00751_d.html, (Accessed July 5, 2018)

gave them a say in US monetary policy, and they were more than willing to use this position for extracting political concessions.[16]

This cable is followed by a lengthier confidential assessment sent on February 8th, 1978, from the Jeddah Embassy to embassies in Bahrain, Egypt, Jordan, Iran, the United Arab Emirates, Qatar, Kuwait, Oman, Yemen, the Dhahran Consulate and the Secretary of State. This assessment makes seven main points of contention. The first was the declining value of the dollar, combined with decreasing oil revenues and increasing government expenditures, has many in the Saudi government concerned their budget surplus will soon dry up. The second concern was "virtually all Saudis we have spoken with in recent months" is the dollar's declining value. This was because, according to the cable, an estimated 80% of all Saudi-owned foreign assets are held in dollars and "almost all" government revenues are paid and enumerated in dollars. Third was the Saudis are seriously looking at moving to another system, such as pegging the price of oil to IMF Special Drawing Rights, to better protect their revenues and purchasing power. This was exacerbated by how 25% of their imports came from "the strong currency countries of Germany and Japan". Fourth were the fears expressed in the February 5th cable that Saudi revenues were expected to decline in the coming year due to contracting sales and reduced production, creating a serious shortfall in current accounts for the Kingdom. Fifth were that government expenditures, due to ongoing critical infrastructure projects, were expected to increase with detrimental consequences for their decreasing surplus. The sixth and seventh points argue this worsening fiscal situation has Saudi economic planners predicting budget deficits in the 1980s which they wished to avoid and had empowered more conservative government officials to push for reduced spending by the government.[17]

[16] Wikileaks. Declassified cable from Jeddah Embassy to Dhahran Consulate February 5 1978, https://search.wikileaks.org/plusd/cables/1978JIDDA00895_d.html (Accessed July 5, 2018)
[17] Wikileaks. Declassified cable from Jeddah Embassy to Cairo Embassy, Tehran Embassy, Amman Embassy, Kuwait City Embassy, Muscat Embassy, Doha Embassy, Dhahran Consulate, Secretary of State, Abu Dhabi Embassy and

This cable paints a very dire picture for Saudi finances and the survival of the petrodollar. It makes it clear the Saudi economy and government were heavily dependent on dollars but this, contrary to the accepted consensus of the literature, was not inspiring any real loyalty to maintaining the dollar as the mechanism for oil pricing. In fact, the weakening position of the dollar convinced elements of the Saudi government to seriously look at alternative measures while also finding ways to tighten their fiscal belt. It is possible expressing such sentiments were a negotiating tactic. Regardless of this was or was not the case the Jeddah embassy took these concerns seriously enough to distribute them to all other diplomatic outposts in the Middle East, showing the embassy staff felt it had dangerous implications for American policy in the region. Far from being taken for granted that Saudi Arabia's large dollar positions ensured their loyalty the petrodollar system, American and Saudi officials saw this as a probable reason for dropping the dollar in favour of a currency basket or SDRs.

The pressure continued to mount as the year wore on. In the lead-up to the 51st OPEC Conference in Geneva another cable, marked as "Confidential", was sent on March 12th from Jeddah to the Secretary of State and US embassies in every OPEC nation, the United Kingdom, France, Belgium, Austria, Japan and West Germany. It states Saudi Deputy Oil Minister al-Turki had just informed the Embassy Office that the upcoming OPEC conference would not discuss the matter of pricing oil in dollars. He did, however, warn if the US dollar continued to decline in value that OPEC would act to protect their interests. He also ascribed this policy to a deliberate attempt by the US government to weaken OPEC's members by gutting their dollar surpluses. The cable also notes that publicly Saudi officials have consistently affirmed their support for selling oil in dollars and had not taken a firm stance on this issue.[18]

Sana'a Embassy February 8 1978, https://search.wikileaks.org/plusd/cables/1978JIDDA00976_d.html, (Accessed July 5, 2018)

[18] Wikileaks. Declassified cable from Jeddah Embassy to the Secretary of State, Algiers Embassy, Vienna Embassy, Brussels Embassy, Quito Embassy, Paris Embassy, Libreville Embassy, Bonn Embassy, Jakarta Embassy, Tokyo

The widespread distribution of this cable strongly suggests this news was important and worrying. On one hand it implied there was some time for the US to change tack and adjust its monetary policies to prevent the fall of the petrodollar while on the other it clearly indicated the clock was ticking. The Saudis, for their part, were clearly attempting to hedge their bets by publicly stating they had no intention of abandoning the dollar while privately applying pressure on the United States. The assertion that US monetary policy was seen, potentially, as an attack on OPEC in general is also significant. This rather inflammatory claim could be seen as an attempt to exert more pressure on the United States. It could also show that Saudi Arabia was openly stating their intentions to choose between prioritizing their relationship with OPEC over their relationship with Washington DC. Between the obvious hedging and pressure tactics it is clear, given the earlier context, the Saudis were not quite ready to leave the dollar but were also preparing for taking such a drastic step. The communication of these intentions in a discrete, private manner by directly speaking with the embassy office further confirms this.

A subsequent confidential cable suggests Saudi influence was not as potent as is implied in the literature. On March 28th, 1978, Jeddah Embassy notified the Secretary of State, US embassies in OPEC nations, major US allies and the mission in Geneva regarding the upcoming OPEC conference. This cable claimed, contrary to earlier assurance given by the Saudi government, the conference would be discussing the question of which currency would be used for oil pricing. This information was provided by al-Turki who also stated the Saudi government had not made any decision either way on the issue. The cable concludes by stating the Saudis, while never stating they would stop accepting dollars for oil, were considering all ramifications and recommended providing an estimate from US intelligence

Embassy, Kuwait City Embassy, Lagos Embassy, Doha Embassy, Dhahran Embassy, Tehran Embassy, Abu Dhabi Embassy, London Embassy, and Caracas Embassy March 12 1978, https://search.wikileaks.org/plusd/cables/1978JIDDA01904_d.html, (Accessed July 5, 2018)

analysts describing the likely consequences of any major shift in Saudi pricing policies ahead of the April 3rd meeting.[19]

This cable strongly suggests the Saudis were either not as capable of pressuring the rest of OPEC to remain with the dollar or were seriously exploring their options. Taken in the context of earlier cables it seems likely this was less a question of the Saudis not having the means to exert influence and more one of the Saudis withholding it in exchange for a better offer from the United States. This is also the first time, since this debate began, where the United States is engaging in any form of pressure of its own. The contents of the requested report are not provided in the cables but given the claims made in this document the Saudis could not fiscally separate themselves from the US dollar it is quite likely the report's data and arguments showed Saudi Arabia needed the United States. This sort of subtle pressure shows, far from being a solid alliance, the issue of the petrodollar was becoming a point of contention between the two and the US officials were concerned their ability to influence events was waning. Even so this step was a small one, suggesting the Jeddah Embassy wanted to retain a range of options and did not feel the situation had reached a tipping point.[20]

This pattern of buying time and hedging bets continued at a May 6th OPEC meeting in Taif. According to an unclassified cable sent on May 7th, 1978, from Jeddah Saudi representatives were actively working to steer the conversation away from the question of pricing oil in dollars. This cable, like many previous instances on this matter, was sent to US representatives in OPEC nations, major US allies and the Secretary of State. The comment suggests this action was taken as a positive sign though the Saudis, at that time, refused to commit to a position on the petrodollar question. Even though the

[19] Wikileaks. Declassified cable from Jeddah Embassy to Secretary of State, Algiers Embassy, Vienna Embassy, Brussels Embassy, Quito Embassy, Paris Embassy, Libreville Embassy, Bonn Embassy, Jakarta Embassy, Tehran Embassy, Tokyo Embassy, Kuwait City Embassy, Lagos Embassy, Doha Embassy, Dhahran Consulate, Abu Dhabi Embassy, London Embassy, United Nations Mission (Geneva), Caracas Embassy March 28 1978, https://search.wikileaks.org/plusd/cables/1978JIDDA02347_d.html, (Accessed July 5, 2018)
[20] Ibid

cable concedes the embassy has no inside sources who will be present at Taif they were confident Saudi efforts to focus on long-term matters will effectively derail the conference, preventing any major decisions from being made.[21]

This is policy of buying time with delays is clearly on display in a June 13th, 1978, cable from Dhahran Consulate. In this Confidential communication Dr. Khader Herzallah, the Assistant Deputy Minister for Petroleum under al-Yamani, relayed the dollar's weakness was doing serious harm to the economies of other OPEC powers. He says there was growing pressure on the Saudis, who had so far refused to take a firm position in favour of the currency basket plan, to support a pricing basket approach including IMF Special Drawing Rights as an option. One significant shift conveyed by Dr. Herzallah was OPEC powers were now clearly stating they would not seek to replace the dollar with another currency though they still felt a currency basket would be beneficial to them. He then makes the first direct request in this ongoing dialog of specific action by the United States saying, "If the dollar strengthens between the June OPEC meeting and the possible September meeting then there might be no need for a new pricing formula." Previous cables show clear displeasure with the weak position of the US dollar, but this is the first time in 1978, according to these cables, where the Saudis made their position known in such a direct fashion. This suggests sometime between the May 6th Taif meeting and the June 13th cable the Saudi position on the petrodollar had solidified in its favour so long as the dollar strengthened in value.[22]

[21] Wikileaks. Declassified cable from Jeddah Embassy to Secretary of State, Algiers Embassy, Vienna Embassy, Brussels Embassy, Quito Embassy, Paris Embassy, Libreville Embassy, Bonn Embassy, Jakarta Embassy, Tehran Embassy, Tokyo Embassy, Kuwait City Embassy, Beirut Embassy, Tripoli Embassy, Lagos Embassy, Doha Embassy, Dhahran Consulate, Abu Dhabi Embassy, London Embassy, United Nations Mission (Geneva), Caracas Embassy May 7 1978, https://search.wikileaks.org/plusd/cables/1978JIDDA03442_d.html, (Accessed July 5, 2018)
[22] Wikileaks. Declassified cable from Dhahran Consulate to Secretary of State, Algiers Embassy, Manama Embassy, Jakarta Embassy, Tehran Embassy, Kuwait City Embassy, Tripoli Embassy, Lagos Embassy, Jeddah Embassy, Damascus Embassy, Abu Dhabi Embassy, Caracas Embassy June 13, 1978, https://search.wikileaks.org/plusd/cables/1978DHAHRA00751_d.html, (Accessed July 5, 2018)

Later cables show US officials going to great lengths to win over the Saudis to their position and keep oil on the dollar. The Saudis, in turn, continued to press their case for a stronger dollar and clamping down on inflation. On July 25th Undersecretary of State Richard Cooper met with Saudi Arabian Monetary Authority Governor Abdul Aziz Quraishi to discuss currency policy and oil prices. In a cable reporting on the outcome of the meeting sent by the Jeddah Embassy Quraishi first addressed reports an OPEC committee had approved moving ahead on the currency basket issue. He assured Cooper this was not a final decision, stating it had to be approved by the OPEC Ministerial Council to go into effect. He expressed, at great length, the harm a weak dollar was doing to OPEC nations and the role this played in fuelling the push for a currency basket policy. Quraishi then pressed Cooper on what the US was doing to strengthen the value of the dollar. Cooper replied the US saw this as a primary concern and was doing all it could to strengthen the value of the currency. The meeting ended with no definite conclusion though Quraishi graciously thanked Cooper for his time, leaving the door open for future discussions.[23]

During this period of negotiations, the US was engaging in its own measures to shore up the value of the dollar. One way this was done was by the Federal Reserve's increases in US interest rates as shown in Figure 3.9. From January until May of 1978 the interest rate remained below 7%, slowly increasing by small increments. From June to October the rate increased from 7% to 8.26%. In November it would jump from 8.26% to 9.5%. Each of these increases raised the cost of extending new credit in US dollars with the intent of decreasing the size of the money supply.

[23] Wikileaks. Declassified cable from Jeddah Embassy to Secretary of State, Algiers Embassy, Vienna Embassy, Manama Embassy, Ottawa Embassy, Quito Embassy, Paris Embassy, Libreville Embassy, Bonn Embassy, Jakarta Embassy, Tehran Embassy, Rome Embassy, Tokyo Embassy, Kuwait City Embassy, Tripoli Embassy, Lagos Embassy, Muscat Embassy, Doha Embassy, Dhahran Embassy, Abu Dhabi Embassy, London Embassy, Caracas Embassy, https://search.wikileaks.org/plusd/cables/1978JIDDA05460_d.html, July 25 1978, (Accessed July 5, 2018)

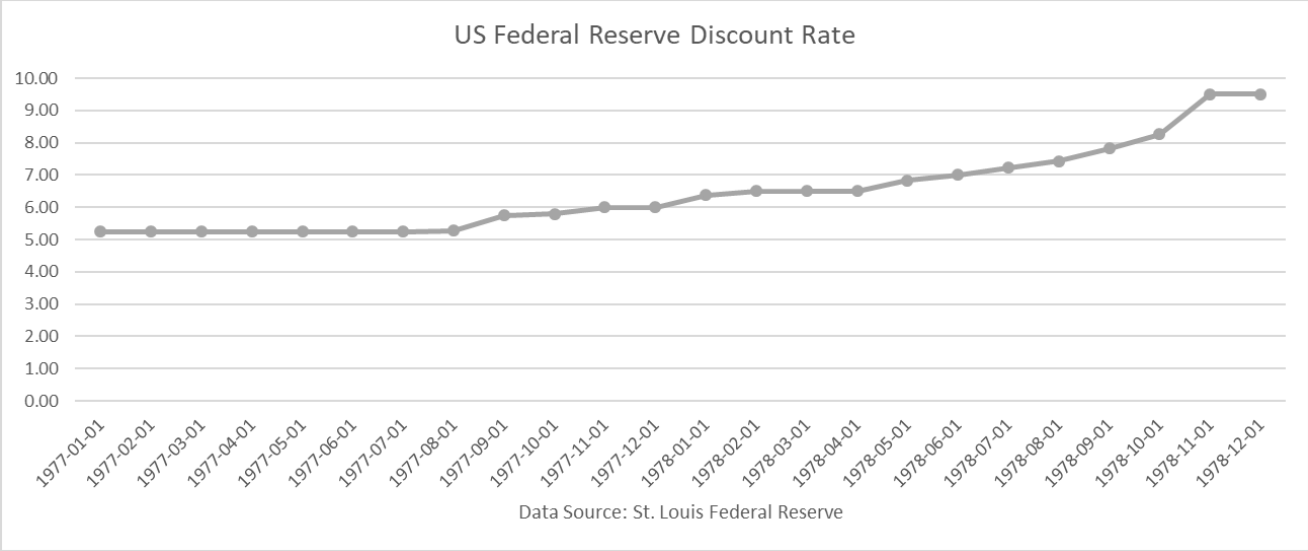

Figure 3.9: US Federal Reserve Discount Rate, 1977-1978

Note: The data for Figure 3.9 was collected from the St. Louis Federal Reserve online database

These actions to shore up the value of the dollar were well-received in Saudi Arabia. In a November 5th "Confidential" cable sent from the US office in Riyadh to the Dhahran Consulate, the Jeddah Embassy and the Secretary of State US officials reported on the results of a meeting with representatives of the Saudi Arabian Monetary Authority (SAMA). They stated the SAMA representatives saw these changes as signs of positive developments. The SAMA representatives had taken note of the dollar's rebound in value claiming this gave them further confidence in continuing existing arrangements with the United States. They also stated if this position could hold until the upcoming 52nd OPEC conference in December it would be possible to defeat the more militant members, ensuring the petrodollar would remain intact. This meeting shows a solid turning point in the discussion as it is the first time Saudi officials expressed total confidence in holding their position at the 52nd Conference.[24]

[24] Wikileaks. Declassified cable from USLO Riyadh to Secretary of State, Dhahran Consulate, and Jeddah Embassy, https://search.wikileaks.org/plusd/cables/1978RIYADH00940_d.html November 5 1978 (Accessed July 5, 2018)

This optimism, combined with the admonition to continue pushing a strong dollar policy, was repeated in a November 26th, 1978, cable marked as Secret from Jeddah to the Secretary of State. It reports on a meeting held between US Treasury Secretary W. Michael Blumenthal, Saudi Finance Minister Aba Khayl, SAMA Governor Quraishi and the Minister of Petroleum Sheik al-Yamani. In this meeting the Saudi representatives reiterated the prior reports of the SAMA representatives discussed in the November 5th cable, stressing it was critical the dollar continued to gain value if a pro-US position on oil prices was to be reached at the 52nd Conference. Most critical in this document is the absence of any discussion of the question of an OPEC currency basket policy. This implies there was no longer any debate within the Saudi government on supporting a petrodollar position for OPEC. An unclassified December 16th, 1978 cable confirms not only that the Saudis held firm in their position but came away from the conference having achieved this goal. It discusses a local opinion piece where Sheik al-Yamani is quoted as saying Saudi Arabia will remain firm in their commitment to selling oil in the US dollar, despite current weakness, stating moving away from the dollar would be detrimental to the Kingdom and expected its value to continue to recover in 1979.[25]

This new monetary order's impact on financialization is quite significant. Eichengreen, Spiro, Momani, and Obadi and Othamanova all depict the petrodollar standard as one of the key components upholding the dollar's value because it provides an additional reason, in conjunction with the significant quantities of US dollars held in currency reserves, to stockpile and use it. This, in turn, gave it value for use in financial transactions, serving as a secure asset and means of exchange throughout the world. Based on the urgent response of American policymakers and representatives to its possible demise in

[25] Wikileaks. Declassified cable from Jeddah Embassy to Secretary of State, https://search.wikileaks.org/plusd/cables/1978JIDDA08352_d.html, November 26 1978 (Accessed July 5, 2018); Wikileaks. Declassified cable from Jeddah Embassy to Secretary of State, Algiers Embassy, Vienna Embassy, Manama Embassy, Quito Embassy, Paris Embassy, Libreville Embassy, Bonn Embassy, Jakarta Embassy, Tehran Embassy, Kuwait City Embassy, Tripoli Embassy, Lagos Embassy, Muscat Embassy, Doha Embassy, Dhahran Consulate, Abu Dhabi Embassy, London Embassy, Caracas Embassy, https://search.wikileaks.org/plusd/cables/1978JIDDA08774_d.html, December 16 1978 (Accessed: July 5, 2018)

1978 it is clear keeping this system intact was a critical interest worth defending. All of this argues this consequence of the Oil Shocks was just as critical in the process of financialization as the end of Bretton Woods. Where the fall of the Bretton Woods system freed up currencies to float freely the petrodollar system helped ensure the large quantity of dollars active in global markets, particularly those recycled through the churn of petrodollar recycling, would retain value in a time when access to oil was vitally necessary. Such a shift was also directly linked as, prior to the Nixon Shock, the dollar held value from gold ensuring it did not need any other basis for maintaining value. Ending Bretton Woods created a void filled three years later by petrodollars, laying a foundation block for the new monetary order just as finance was in a state of rapid change.

Tying the dollar to oil access just as oil was becoming more unpredictably expensive was an effective guarantee for keeping the dollar at the centre of global economics. For OPEC's members the petrodollar monetary system guaranteed the value of their now-substantial dollar reserves, ensured the United States now had a vested interest in maintaining good relations with the oil cartel, and in the case of Saudi Arabia solidified the growing alliance between these two powers. Such a shift was unthinkable even in the wake of the Nixon Shock but was now firmly consolidated as a key component of the global monetary system. The tensions between the dominant American economy and the recovering and developing economic powers of the world were just as much at work in the collapse of this order as they were in shaping what ultimately replaced it. Regardless, it was still a concession from the American hegemon to the developing mid-periphery that was granted in a bid to alleviate the impact of the redistribute effects of the 1973 Oil Shock.

The Euromarket's Oil Transformation

Central to the processes that were transforming the monetary order was the Euro-dollar market, one of the main channels for processing petrodollar surpluses deposited by OPEC members. This market was not new in 1973 and according to Catherine Schenk was born during the 1950s in bank subsidiary offices located in London whose parent banks were hoping to take advantage of British foreign currency bond regulations to make a profit. Banks wishing to participate would move funds from their headquarters offices to these subsidiaries, providing the means for engaging in Eurodollar market transactions. Profits were then funnelled back to the headquarters officers. According to Daniel R. Kane, the foundation of the Euromarket's business was in timed, dollar-denominated deposits which receive higher rates of interest than other deposits thanks to the greater risk involved in taking them on. As R.B. Johnston describes it, these deposits could then be used to extend lines of unsecured, noncollateralized credit for a whole host of different purposes with interbank lending, which will be discussed in greater detail later, as a core component of Euromarket business. Stefano Battilossi describes this process as one where those seeking funds for the Euromarket would borrow money by seeking deposits before then effectively lending it by placing these deposits with another bank seeking such funds. All agree that regulatory conditions in the London bond markets, domestic currency controls, and British monetary policy which encouraged reviving London as a global financial centre gave further incentive for these banks to participate through their subsidiaries, providing the means for fuelling this market's growth and development over the course of the 1970s as shown in Figure 3.11.[26]

[26] Catherine R. Schenk, "The Origins of the Eurodollar Market in London, 1955-1963", *Explorations in Economic History,* Vol. 35, Issue 2, (April 1998), 223-225; Catherine Schenk, *The Decline of Sterling: Managing the Retreat of an International Currency, 1945-1992,* Cambridge University Press (Cambridge: 2010), 225-230; Daniel R. Kane, *The Eurodollar Market and the Years of Crisis*, Croom Helm (London and Canberra: 1983), 7-12; Johnston, *The Economics of the Euro-Market*, 9-10; Stefano Battilossi, "International Money Markets: Eurocurrencies", *Handbook of the History of Money and Currency*, Springer Nature (Singapore: 2019), 2

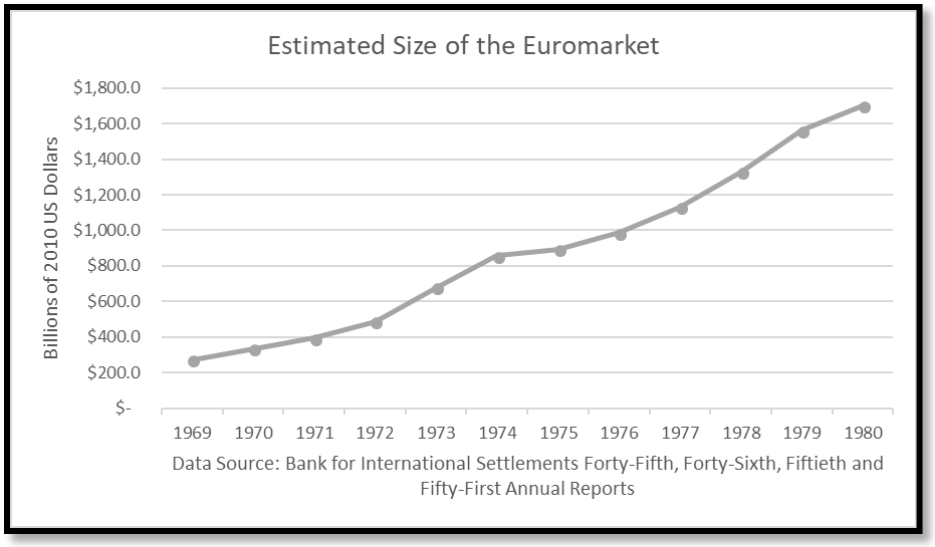

Figure 3.10: Estimated Size of the Euromarket, Adjusted for Inflation

Note: Data for Figure 3.10 was collected from Chapter V; International Credit and Capital Markets of the BIS Forty-Fifth, Forty-Sixth, Fiftieth, and Fifty-First Annual Reports and adjusted to 2010 prices

There are four sub-periods in the development of the Euromarket worth calling attention to showing the presence of petrodollar recycling likely played the decisive role in its expansion as shown in Table 3.2. The specific time segments called out correspond to shifts occurring in the Euromarket during this tumultuous period. The first, ranging from 1965 to 1968, covers the end period of the Bretton-Woods system when it was still functioning as designed despite growing pressures which makes it a useful baseline for measuring the Euromarket before the Nixon and Oil Shocks. The second period, ranging from 1969 to 1972, covers the upheaval which led to the Nixon Shock and its immediate aftermath. The third and fourth periods, ranging from 1973 to 1976 and 1977 to 1980, cover the First and Second Oil Shocks which were defined by the rapid influx of capital from OPEC exporters into international financial markets where the Euro-market received significant quantities of such capital. Data on Euromarket growth in this period, as shown by the standard deviations of the data sets, leaves little question the Oil Shock periods showed far more volatile growth than was the case during the Johnson period. Even though, as shown in Table 3.2, the Euromarket grew more rapidly in terms of percentage in the first two periods this growth was less volatile. This strongly suggests that while the

Nixon Shock had a significant impact on the Euromarket, it is reasonable to conclude the processes of petrodollar recycling were more destabilizing for this developing money market than the end of Bretton Woods.

Euromarket Growth and Volatility, Billions of 2010 US Dollars Source: BIS Annual Reports					
Period	Minimum	Maximum	Intraperiod Change	Interperiod Change	Standard Deviation
Johnson Administration, 1965-1968	$ 34.10	$ 154.90	77.99%	N/A	50.12022213
Nixon Shock, 1969-1972	$ 271.77	$ 488.10	44.32%	43.00%	92.04886553
Oil Embargo & Petrocapital Recycling, 1973-1976	$ 678.15	$ 985.88	31.21%	28.02%	129.1307806
Oil War & Oil Shock, 1977-1980	$1,132.32	$1,702.51	33.49%	12.93%	252.3717835

Table 3.1: Euromarket Growth and Volatility

Note: Data for Figure 3.10 was collected from Chapter V; International Credit and Capital Markets of the BIS Forty-Fifth, Forty-Sixth, Fiftieth, and Fifty-First Annual Reports and adjusted to 2010 prices

It was during the initial period of instability following the Nixon shock that the question of the Euromarket's credit creation potential was raised by central banks:

> "There has been in recent years considerable controversy over the question whether the Euro-currency market is a source of credit expansion additional to the national money markets, thereby complicating attempts by national authorities to control the growth of aggregate demand. It is sometimes taken for granted that this is the case, but this is in fact very difficult to demonstrate particularly since it depends on the degree to which monetary authorities are alert to the implications of the Euro-currency market for their domestic financial targets. Disagreement centers on the extent to which the market's expansion reflects a path between financial markets or, alternatively, an addition to the value of world credit which would not have taken place in the absence of this Euro-currency market.[27]

Regulators differed on how to best measure this impact, with some claiming a credit multiplier applied to the Eurocurrency market was the most accurate method for better understanding its role as described in detail here:

> "If the equilibrium size of the Euro-currency market is seen as determined by the supply and demand for funds to expand their business, banks have to make their terms more attractive to marginal borrowers, thus reducing their return on assets. Similarly, to finance an expanding loan portfolio, banks have to offer higher interest rates. Since assets and liabilities in national money markets are relatively close substitutes for Euro-currency assets and liabilities, interest

[27] Bank for International Settlements Archives, Basel, 7.18(15), Papers Alexandre Lamfalussy, LAM 20, December 9th, 1974

> rates on Euro-currency assets should be strongly affected by the same factors that affect interest rates and credit expansion in national markets.
>
> In this respect, the Euro-currency market is similar to a national banking system in an open economy with fixed exchange rates. If it expands credit more rapidly than the rest of the world, this tends to depress Euro-interest rates vis-à-vis rates in other financial markets which induces funds to flow out of the market. Conversely, if this market creates credit at a lower rate than the rest of the world, this tends to induce an inflow of funds. Moreover, the rates at which credit circulates to national money markets necessarily affects the volume of funds the Euro-market will be able to attract."[28]

That this topic was being debated within the BIS was reflective of a much broader argument within the world of finance over how to best understand the Euromarket. Stefano Battilossi's research on the Eurocurrency market shows the credit multiplier analysis discussed in the archival document was from the losing side of that debate. As described in the archival document, the credit multiplier effect assumed that the Eurocurrency market operated like a national banking system with similar consequences for the global economy as any other actor of similar scale and access to financial markets. As Battilossi argues, this model did not stand up to scrutiny either in the form of key structural factors such as the large interbank component of the Euromarket or in being able to provide robust estimates of the Euromarket's size based on their existing multipliers. These flaws gave rise to what Battilossi describes as the portfolio approach in which, "banks and nonbank financial intermediaries compete for loanable funds with securities markets by issuing liabilities and purchasing claims from borrowers." Battilossi concludes this meant growth in the Euromarket was driven by the ability of banks to compete with other financial actors in attracting a larger share of this expanding, global market. That BIS personnel were expressing uncertainties on how to best understand one of the most vital channels of recycled petrodollars is another example of how much of this process was developing in uncharted territory while also being symptomatic of their historical context.[29]

[28] Ibid
[29] Battilossi, "International Money Markets: Eurocurrencies", 6-7

One particularly critical component of this growing, dynamic market was its uses in interbank lending. Interbank lending had long been a critical component of the Euromarket, with Battilossi arguing this business was essential for its growth during the latter half of the 1960s. According to Battilossi the Eurocurrency market's interbank component represented at times up to 50% of total transactions, thanks heavily to how attractive such credits were for market actors. As Battilossi describes it, the Eurocurrency market before the petrocapital boom was the ideal environment for interbank lending thanks to the lack of regulatory costs, low information and transaction costs, and was legitimized by the large number of participating banks which included some of the largest New York multinationals operating in global finance. These components, along with the Eurocurrency's ability to globally redistribute liquid assets in a fairly swift fashion, meant that much of OPEC's investible surplus deposits in the Euromarket became utilized for facilitating liquidity in a high-demand market.[30]

As money flowed through the Eurodollar market in increasing volumes it exploded in size and scale, increasing its capacity to influence the financial system. According to Altamura, "the crisis was fundamental in keeping the Euromarket unregulated and to triggering the rise of international finance by providing much needed funds to the Western banking and financial sector and pushing banks to find new markets and customers to compensate for sluggish domestic performances. "In the words of Daniel R. Kane, "If the years of crisis boded ill for the international monetary system, the same cannot be said for their effect on the Euro-dollar market, which emerged from the crises both larger and more resilient than ever." The Eurodollar market expanded in this period from a regional to a global market with many links to national banking systems. R.B. Johnston states this growth transformed the market

[30] Stefano Battilossi, "Financial innovation and the golden ages of international banking: 1890-1931 and 1958-81", *Financial History Review*, 7, (2000), 161-162

into one of the "predominant channels for the flow of short- and longer-terms capital between national economies."[31]

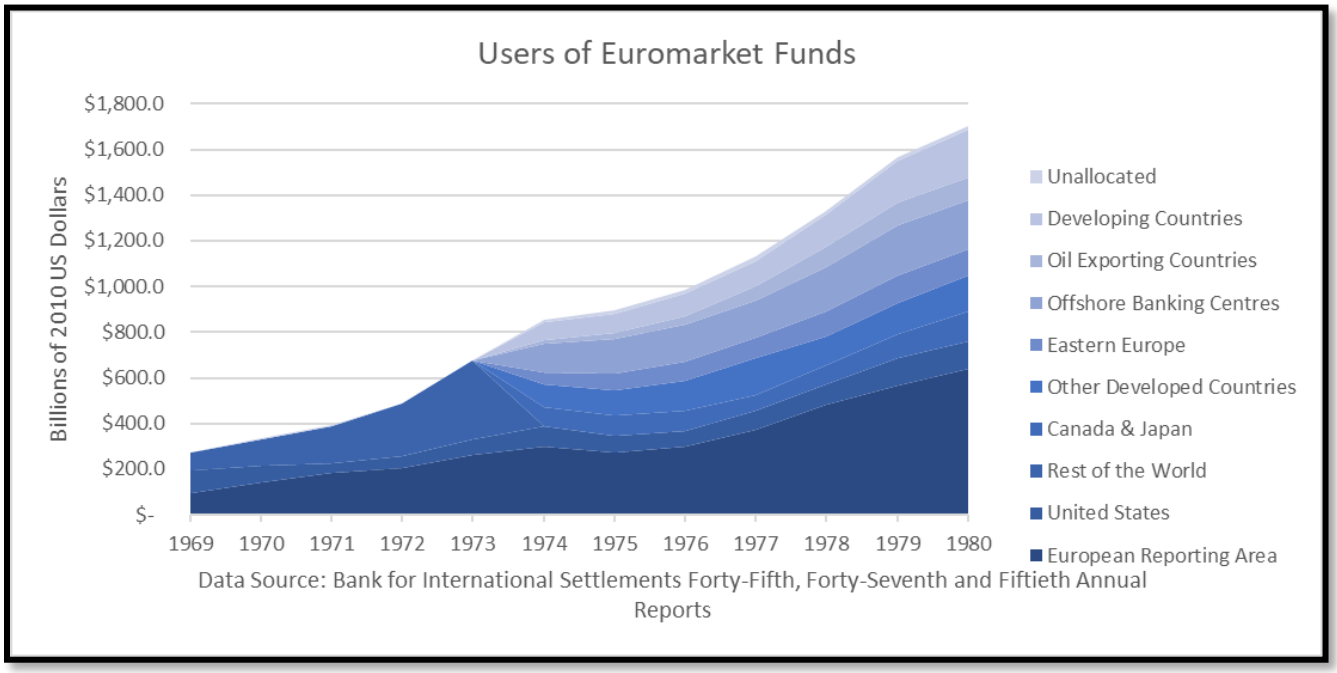

Figure 3.11: Users of Euromarket Funds

Note: Data for Figure 3.11 was collected from Chapter V; International Credit and Capital Markets of the BIS Forty-Fifth, Forty-Sixth, Fiftieth, and Fifty-First Annual Reports and adjusted for inflation to 2010 prices using The Inflation Calculator by Morgan Friedman at westegg.com. BIS data began referring to all OPEC members as, "Oil Exporting Countries" beginning in 1974.

This situation changed when the Oil Shock of 1973 enters the picture. The data from the BIS only starts measuring the windfall profits from OPEC starting in 1974, suggesting this was when substantial volumes of capital began entering international credit markets. From 1973 to 1974 the total size of the Euromarket increased by 34% to $177 billion. This modest increase was followed by an even smaller period of growth, parallel to the period when most OPEC powers were investing in consolidating their hold over domestic oil production facilities, only moving to $205 billion for a 15% increase. From here the expansion escalates with the Eurodollar market $247 billion by 1976 and $300 billion by 1977

[31] Altamura, *European Banks and the Rise of International Finance,* 219; Kane, *The Eurodollar Market and the Years of Crisis,* 126; Johnston, *The Economics of the Euro-Market,* 33, 148-152

for increases of 20% and 21% respectively. By 1979, at the dawn of the Second Oil Shock, the Eurodollar market had reached a total size of $475 billion for an overall increase from 1974 of 168%. In real value this was an increase of 45%, slightly more but still comparable to the growth seen in the immediate Bretton Woods period. This considerable disparity between real and nominal increase in the size of the market, with the 1971-1973 period seeing an 85% nominal increase in comparison to the 165% nominal increase from 1974-1980, shows a much higher degree of inflation and volatility in global markets during this period compared to the two years following the end of Bretton Woods.

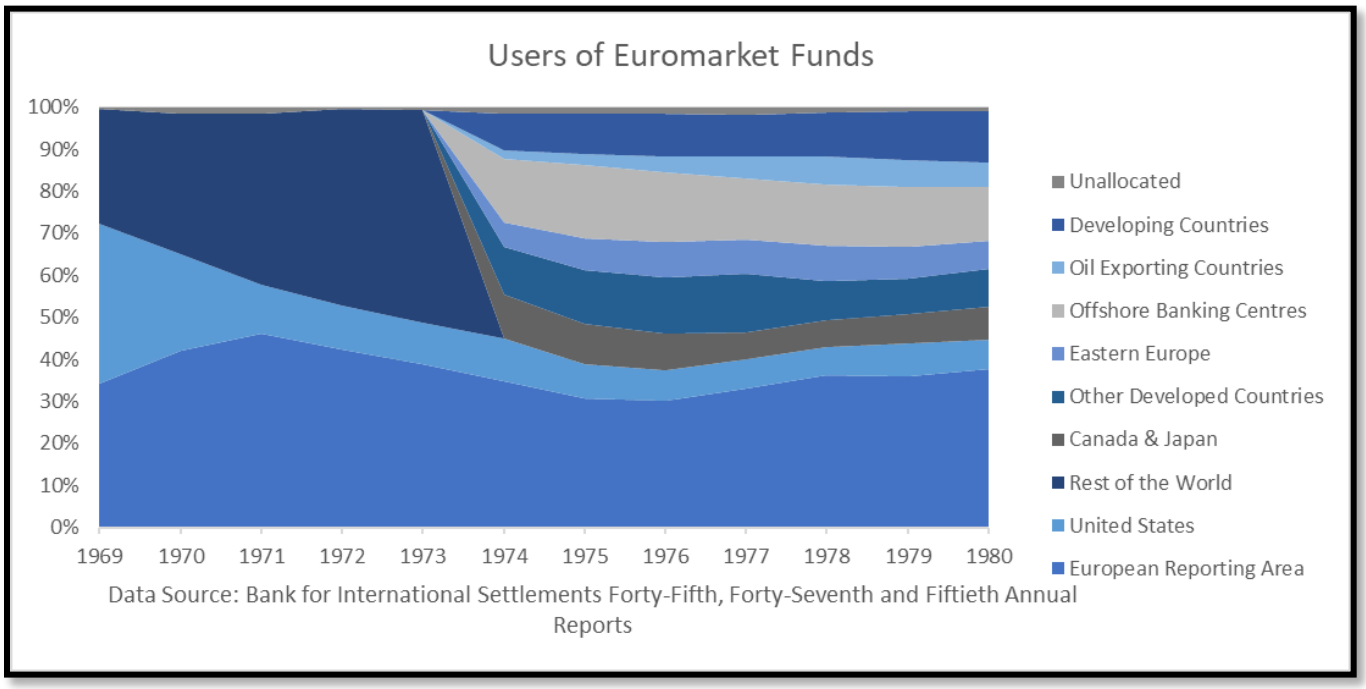

Figure 3.12: Users of Euromarket Funds, Percentage Breakdown

Note: Data for Figure 3.12 was collected from Chapter V; International Credit and Capital Markets of the BIS Forty-Fifth, Forty-Sixth, Fiftieth, and Fifty-First Annual Reports and adjusted for inflation to 2010 prices using The Inflation Calculator by Morgan Friedman at westegg.com. BIS data began referring to all OPEC members as, "Oil Exporting Countries" beginning in 1974.

There are two key points to emphasize in analysing the data on Euromarket use. The first is the change in granularity of the data recorded by the BIS. As shown in Figure 3.13 prior to 1974 the BIS recorded everything outside of the United States and the European Reporting Area as "Rest of the World." This makes some sense earlier in the period where, in 1969, only 27% of all Eurodollar funds

used were in the “Rest of the World” but by 1973 the situation had changed dramatically to where 50% fell in this category. That this highly Eurocentric approach changes in 1974, as petrodollars are flooding into the market, shows an increasingly global appetite for credit that was previously dominated by European and American interests. At no point between 1974 and 1979 do the previously majority controlling European and American debtors ever return to a combined majority of users of Eurodollar market funds. This clearly shows more of these funds were being utilized worldwide with the Eurodollar market becoming irreversibly global in nature. A similar dynamic is also true of sources of funding as shown in Figure 3.14.

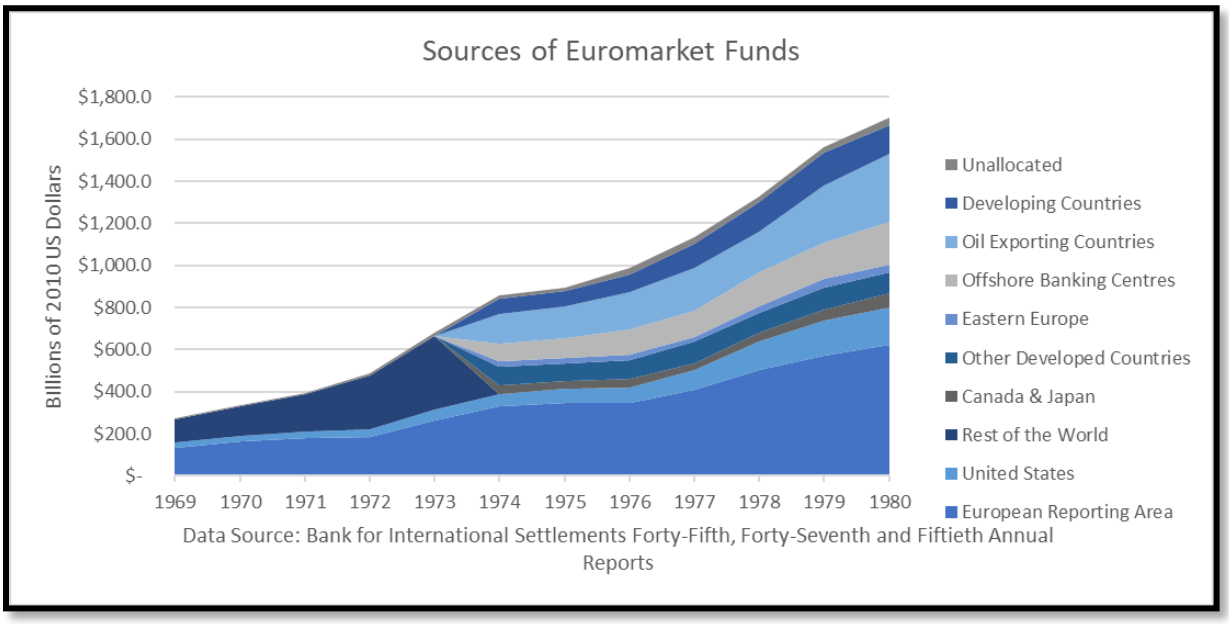

Figure 3.13: Sources of Euromarket Funds

Note: Data for Figure 3.13 was collected from Chapter V; International Credit and Capital Markets of the BIS Forty-Fifth, Forty-Sixth, Fiftieth, and Fifty-First Annual Reports and adjuted for inflation to 2010 prices

This data demonstrates just as users for Eurodollar funds were becoming more globally diverse the same was true, to a lesser extent, for sources of funding for this market. Even within this pattern there is one clear trend that is especially critical in this period. As shown previously the users of Eurodollar funds, outside of the United States & Europe, was a broad distribution with no clear, singularly dominant recipient of such funds. This is not true of sources of Eurodollar funding as is shown

in Figure 3.15. Beginning in 1974 until 1979 the largest source of new Eurodollar funds outside of Europe came from oil exporting countries. The next largest source, offshore banking centres, only managed to close the gap to a difference of $9 billion in 1978 but this was an exception to this broader pattern. Oil exporting nations even eclipsed the United States throughout this period as a source of Eurodollar funds with no point ever in the 1974-1979 period where the United States even came close to meeting the wealth flowing from oil-exporting actors. This matches with the data and literature arguing OPEC members were major investors in this market as a source rather than users of the credit it provided.

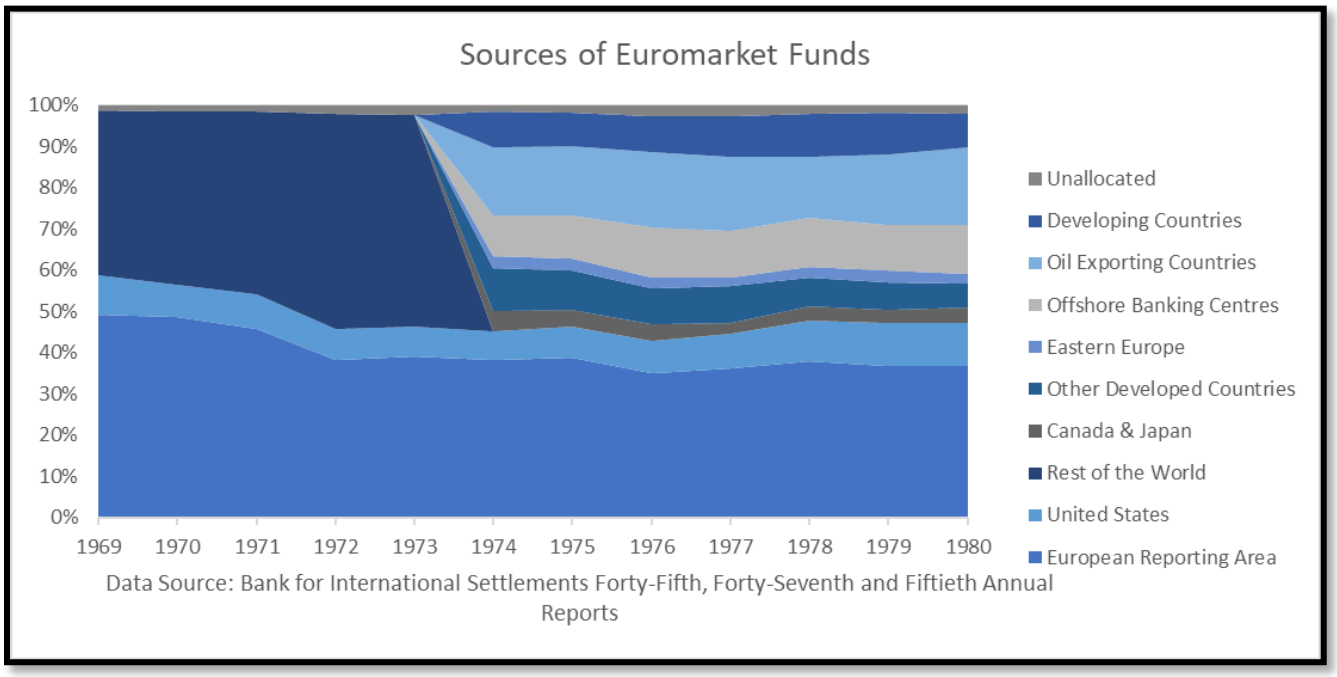

Figure 3.14: Sources of Euromarket Funds, Percentage Breakdown

Note: Data for Figure 3.14 was collected from Chapter V; International Credit and Capital Markets of the BIS Forty-Fifth, Forty-Sixth, Fiftieth, and Fifty-First Annual Reports and adjuted for inflation to 2010 prices

Another key factor in the decision to use the Eurodollar market by borrowers and depositors, along with its liquidity and lack of regulation, was its perceived lack of any political entanglements. This was a critical factor in the decision-making process as it allowed for borrowing nations to avoid any potential political crisis that would emerge from depending on the United States as a direct source of funding for alleviating their economic woes. Its flexibility made it highly desirable for sovereign lenders

as the combination of rolling credits with high liquidity made it easy to acquire substantial loans. Eurodollar trading also provided an effective outlet for preventing global deflation of the value of OPEC windfalls and global currency reserves. Adding further incentive was due to the standard practice, then and now, of selling oil in US dollars. The Eurodollar market was the best place to get large quantities of relatively unregulated dollars. This political neutrality, combined with the liquidity and access to currency, of the Eurodollar market made it ideal for handling petrodollar windfall and recycling.[32]

The Eurodollar market's explosive growth was not, however, without risks. As it was largely an offshore market, it operated in a legal grey area which according to Stefano Battilossi generated considerable uncertainties shown in the consistent inconsistency in court rulings surrounding Eurodollar assets in that period. This went hand in hand, according to Battilossi, with a higher risk of default on the underlying asset. Its extreme liquidity was also a significant factor, as according to WP Hogan and Ivor F. Pearce the Eurocurrency market could only keep redistributing funds as long as funds kept flowing into and through it. If, as they claim, there were any disruptions or potential loss of new liquidity then the Euromarket would, potentially, face serious problems in keeping everything afloat. Finally, the lack of institutional backing that made this market so lucrative was also a significant factor in the risks it imposed on investors. As Benjamin Braun, Arie Krampf, and Steffen Murau argue, the Eurodollar market's offshore "shadow banking" status meant that any official protections or guarantees which did exist were the development of responses by central banks to systemic risk rather than as part of a more comprehensive, robust system of supports and protections. Even though, as they point out, such protections were ultimately granted by central banks under such trying conditions this nonetheless

[32] Momani, "Gulf Cooperation Council Oil Exporters and the Future of the Dollar", 13:3 (2008), 293; Kane, *The Eurodollar Market and the Years of Crisis*, 105-109

presents a greater degree of uncertainty than is present in onshore transactions thanks to the lack of robust protections intended to mitigate systemic risks.[33]

Such concerns were expressed by contemporaries to these developments. Wolfgang Stützel, writing in 1981, summarized these critiques very succinctly as a question of accumulating market risk.[34] Stützel argues the very nature of the Eurodollar market presents two major problems. The first was:

> "there are risks resulting from transformation of maturities, from short-term positions to long-term positions. This special kind of risk threatens not only (i) financial intermediaries, credit agents or banks - which all invest short-term funds in long-term loans or securities - but also (ii) final borrowers who finance long-term real investment through shortterm credits, as well as (iii) initial lenders who buy marketable securities having longer maturities than the time period for which they originally wished to invest their money."[35]

The second, according to Stützel, were the risks brought about by changes in currency exchange rates. He claimed fluctuations in current account deficits brought on by the Oil Shock completely upended an already uncertain international exchange system. He further emphasizes other analysts argued one of the main problems of the Eurodollar market was the very liquidity that made it so attractive for petrodollar recycling and OPEC investment, creating uncertainty as to if investments had solid backing in hard collateral.[36]

The BIS made similar observations regarding similar challenges imposed by the volume of capital being moved into and through the Euro-currency market by petrodollar recycling at the outset of the period:

> "Observers of the Euro-currency market have always been torn between admiration and doubt. Its rapid growth over the last ten years, its capacity for innovation and its adaptability have been

[33] Stefano Battilossi "International Money Markets: Eurocurrencies", 28, W.P. Hogan and Ivor F. Pearce, *The Incredible Eurodollar: Or Why the World's Monetary System is Collapsing*, Unwin Paperbacks (London: 1982), 63-66; Benjamin Braun, Arie Krampf, and Steffen Murau, "Financial globalization as positive integration: monetary technocrats and the Eurodollar market in the 1970s", *Review of International Political Economy*, Vol. 28, No. 4, (2021), 799-800

[34] Wolfgang Stützel, "New Thoughts on the Recycling of Petro-Dollars", *The World Economy*, Vol. 4 Issue 1 (March 1981), 53

[35] Stützel, "New Thoughts on the Recycling of Petro-Dollars", 54

[36] Stützel, "New Thoughts on the Recycling of Petro-Dollars", 52-53

marking it out more and more clearly as the true international market. On the other hand, however, persistent fears are voiced on the subject of both the risk of insolvency on the part of certain borrowers and illiquidity of banks. These fears are fostered by the fact that there are no lenders of last resort in the Euro-currency market and also by the fact that it is difficult for the national monetary authorities to exercise strict control over its operations.

This ambivalent verdict has been reinforced by the developments that have followed the oil crisis. On the one hand, the volumes of Euro-currency operations has registered a renewed upsurge, but, on the other, fresh signs of instability, not to say precariousness, have emerged. These lend strength to the anxieties that exist and, if nothing is done to dispel them, they may cause a far more serious crisis of confidence than all the threats to the market on the technical side."[37]

For the BIS, the liquidity problem was felt in different ways by sovereign and private borrowers. For sovereign borrowers, the challenge was rooted in the limits of the various borrowing countries:

"The scale of borrowing by the governments of the developing countries and of the industrial countries to meet their balance-of-payments deficits is such as to arouse greater aggravation. If – by virtue of the recycling of the Arab funds – recourse to the Euro-currency market is regarded, if not as the sole, at any rate as the chief means of covering oil deficits, it is reasonable to assume that this process is bound sooner or later to run up against the limit formed by the individual countries' debt capacity. A large number of developing countries have already reached this limit and some of the industrial countries now appear to be approaching it. The Euro-currency market is therefore threatened by the risk of default on the part of afflicted borrowers that have run up excessive debts. But apart from the strictly financial aspect, this problem also takes on a political dimension. It will give no cause for alarm unless the western countries waste too much time in setting up the multilateral aid arrangements which have been indispensable if the solvency of the oil importers is to be safeguarded."[38]

Private borrowers faced similar yet related challenges:

"As far as these borrowers are concerned, it has to be admitted that some part – which is difficult to estimate – of Euro-currency credits is used to finance speculative transactions on the commodity markets, or even to a certain extent on the exchange markets, or is tied up at long term in real-estate investments.

This fear, which has always haunted international banks, seems to have been borne out from time to time by the difficulties encountered by certain establishments whose unwise management has been sanctioned – here and there- by rescue and take-off operations carried out for the most part, on the initiative of the monetary authorities."

Along with concerns of speculation were similar fears of liquidity problems:

[37] Bank for International Settlements Archives, Basel, 7.18(15), Papers Alexandre Lamfalussy, LAM 20, September 23rd, 1974
[38] Ibid

> "a tightening of bank liquidity as from default on the part of one of the more long-term borrowers, but from massive expenditures [emphasis theirs] of funds siphoned off by movements or fears which, whether justified or unjustified, would undoubtably lead to a collapse of the market…
>
> At present time a feeling of anxiety reigns in international banking circles. But anxiety is a poor counsellor if it spreads it can have cumulative effects capable of shaking any banking structure, however sound and sturdy it may have been to begin with.
>
> This is the problem that I feel needs to be tackled, not surely, of course, in banking circles but also by the monetary authorities."[39]

Ultimately, they felt it was still possible to contain such conditions:

> "Here again, the instruments are available; whether it is a question of controlling the Euro-banks' liquidity or the quality of their paper, or a question of placements of official funds, open-market operations in currencies, or the sharing of responsibility for extending assistance to the Euro-banks among the various central banks concerned, the techniques and the means are available and can be brought into operation when the time comes."[40]
>
> Observations by Midland Bank on July 8th, 1974 regarding the short terms of many of these

deposits presented a significant problem show Stützel and the BIS's concerns had some grounding in fact. As petrodollar recycling was picking up momentum Midland Bank responded by restricting deposit sizes to better protect their overall liquidity:

> "For liquidity reasons Midland Bank presently matches these funds by investment at call or overnight and prefers to place them at call with the Discount Houses. Since such secured investments with the Discount Houses are categorised as Reserve Assets, the effect is to inflate Midland Bank's IBEL's [Interest-bearing eligible liabilities] without benefit to its normal trading activities, possibly to the extent of incurring a quite unacceptable penalty.
>
> The course open to Midland Bank is to place limitations on the size of deposits taken from this source, either overall or as to the interest-bearing content only."[41]

Midland did, however, seek further guidance from the Bank of England as to what would ultimately best serve the national interest in such circumstances and were prepared to adjust policy to meet these needs:

[39] Ibid
[40] Ibid
[41] Hong Kong Shanghai Banking Corporation Archives, London, "Arab Oil Money in the London Market Memo", UK 0141-0933, July 8th, 1974

> "However, Midland Bank seeks the reaction of the Bank of England as to whether it is in the national interest that such short deposits from Arab oil producing countries should be encouraged. It is also mindful of the ramifications for the Discount Market if very large and unexpected calls are made.
>
> If the Bank of England consider it expedient that such depositors' needs are met, Midland Bank ask that the Bank of England give consideration to allowing Midland bank to classify as inter-bank lending any lending to the Discount Houses, in excess of its 12½% ratio, which is related specifically to matching these deposits."[42]

The swelling of the Euromarket with petrodollar funds during this period caused considerable stresses for the banks involved in the process. A combination of uncertainty, risk, and indebtedness left the market in a very vulnerable position that was also changing dramatically. The main sources and users of this market had shifted from predominantly existing within the Global North to a broader, more diverse set of players. OPEC rapidly rose from being an insignificant factor in the Euromarket to be a highly influential player whose actions dominated the discussions of regulators and central banks. Just as OPEC was rising into the role of a key supplier of surplus credit much of the developing world was depending more and more on these funds to stay solvent. While analysts concluded it was possible to keep using the Euromarket as an alternative channel for recycling funds, they also clearly feared quite rightly that this ad-hoc solution was nowhere near sufficient for meeting the challenges of petrodollar recycling. In many ways the Euromarket solution was becoming a serious problem for financial markets and, as was speculated as early as 1972, providing a substantial flow of new capital for extending largely unregulated credit though the findings presented in Chapter Five suggest there were serious potential limits for this answer to the petrocapital question.

Ultimately, what was most critical about the Euromarket and petrocapital is how funds flowing in did not just pass through this market. They became unsecured, uncollaterialized credit for funding longer-term loans for new credit creation for use by any economy that could afford to borrow it. The ascendancy of the private sector as the primary source of new credit in the global economy began with

[42] Ibid

the Euromarket's rapid expansion during the petrodollar recycling years. This swing from public to private control over international credit creation developed for ensuring the necessary liquidity to address the global balance of payments crisis exacerbated by unprecedented currency uncertainty and was a key turning point in modern economic history. This leads to the question of what regulators were doing during this crisis to assert control over unruly markets and if those efforts were effective in achieving those ends. Unfortunately, as available evidence shows, regulatory authorities were slow to respond, often pursuing narrow national interests, and unprepared for a crisis of this magnitude.

Private Sector Takes the Lead

All these developments put a very critical question into the discussion: why did regulators, either by default or deliberate action, effectively leave the resolution of such a significant monetary crisis in the hands of the private sector? According to Altamura there were serious efforts to construct a multilateral framework for regulating the Euromarket between 1971 and 1973 before the 1973 Oil Shock effectively destroyed the political will to follow through. Kane and Johnston, similarly, point to attempts by regulatory authorities during the early years of the Euromarket to bring this unregulated frontier under control. The answer, based on available sources, appears that they had little choice in the matter. Multinational financial actors moved as quickly as they could to confront the problems presented by petrodollar recycling and the 1973 Oil Shock but what actions were taken, with the IMF Oil Facility as the sole multinational attempt at resolving petrodollar recycling, would not reach fruition until well after private sector responses had become entrenched features of the global financial system. This was exacerbated by the limitations placed on the IMF Oil Facility's ability to lend at scale to the countries with the greatest need. Critical to these delays and insufficiencies were the different interests, frictions, and goals of the intended partners as shown by the ultimately limited role played by the IMF Oil Facility. These conflicts were likely further exacerbated by central banks, through no fault of their own, having prepared themselves for a very different crisis than what was unfolding in the 1970s. This left them uniquely unready for addressing the petrodollar crisis thanks to being positioned for addressing the wrong set of problems and conditions.[43]

Research by Tom Cutler and David M. Wight on the IMF Oil Facility largely agrees this multinational effort was actively undermined by the conflicting interests and goals of the IMF's most influential members. As Tom Cutler argues, writing shortly after the Oil Facility's creation, part of this

[43] Atlamura "The Paradox of the 1970s" 539-540; Kane, *The Eurodollar Market and the Years of Crisis* 126; Johnston, *The Economics of the Euro-Market,* 33

was thanks to how the fund was supported. He argues the reality of the fund procuring much of their funding from private sector sources and oil exporters forced them to set terms which were less favourable than prevailing market rates, all of which were thanks to limits imposed by the Fund. According to Cutler, the facility only managed to account for 26% of the increase in oil import costs and approximately 20% of payments deficits in 1974, a proportion that while significant still demonstrates how vast the petrodollar recycling problem was for the global financial system. Wight, thanks to access to archival sources which Cutler did not enjoy, goes further by demonstrating that US policymakers actively worked to undermine the effectiveness of the IMF Oil Facility. Preventing the oil facility from becoming a significant factor in petrodollar recycling and encouraging investment in American business concerns and international financial markets. This would be achieved in part, according to Wight, by squeezing oil-poor low-income countries to better keep the price of oil down. Wight's work demonstrates the structural flaws which hobbled the Oil Facility's ability to address the problem were thanks to deliberate policy choices by the United States which were aided by the competing interests of the other major supporters of the Fund.[44]

The archival sources clearly show this consensus of active undermining, sabotage, and interference by the United States playing off of the conflicting desires of the IMF's main contributors is well-grounded in fact. This additional work demonstrates the thoroughness of these problems, as particularly demonstrated by acts of bad faith by the United States shown in BIS and Wikileaks documents. The oil facility was always intended, from the outset, to be an additional channel of support for oil importing countries. The IMF itself argued in 1974:

[44] Tom Cutler, "Recycling Petrodollars to the Third World: A Critique of the IMF Oil Facility", *World Affairs,* Vol. 139, No. 3 (Winter 1976/77), 189-192, 193; David M. Wight, "The Petrodollar Era and Relations between the United States and the Middle East and North Africa, 1969-1980", (University of California Irvine, 2014), 101-102, 106

> "The concerns expressed above also suggest a need – and this is of prime importance – to promote alternative channels of finance, through which capital can flow from the surplus to the deficit countries. The Fund's recently established oil facility is one such channel. Other official facilities or arrangements for the purpose of providing short-term balance of payments financing include the regular or traditional facilities of the Fund; inter-central bank swap arrangements, which for the industrial countries involved are not suitable for the direct financing of oil deficits but could serve to bridge over a period in which such financing was being arranged; and a heterogeneous variety of programs involving the providing of assistance, through both institutional and bilateral arrangements, to the less developed countries."[45]

The oil facility received critical support from the United States on May 30th, 1974, but this came with the expectation that only credit-worthy nations should benefit, effectively freezing out 30 of the world's poorest countries. This forced the IMF to reconfigure the Fund in 1975 to make it more accessible to importing countries. The IMF also found, on April 4th, 1975, the sums that needed disbursing were sufficiently large that it was necessary for the Fund to borrow $5 billion in Special Drawing Rights in addition to funds already borrowed for 1974 for the oil facility's operations to continue. From 1975 to 1977, from when the Oil Facility first reported data on expenditures to just after the termination of the oil facility in March 1976, the IMF disbursed a total of $15.6 billion in Special Drawings Rights to oil importing countries. In contrast to this substantial sum of capital was the estimated $61.9 billion invested by OPEC's members in short-term instruments and money market accounts. The scale of the Oil Facility, coupled with the delay in bringing it into action, ensured the private sector would establish and maintain a dominant role in processing petrodollars through the monetary system.[46]

These delayed efforts were, as asserted by Wight, in part thanks to the conflicting interests held by the major economic powers. This is best summarized in a report to the State Department on the

[45] *International Monetary Fund Annual Report*, (Washington, DC: April 1974), 27

[46] "I.M.F. OIL FACILITY SUPPORTED BY U.S." The New York Times. The New York Times, May 31, 1974. https://www.nytimes.com/1974/05/31/archives/imf-oil-facility-supported-by-us-purpose-would-be-to-help-nations.html.; "I.M.F. Weighs Ending Its Special Oil Facility." The New York Times. The New York Times, October 28, 1975. https://www.nytimes.com/1975/10/28/archives/imf-weighs-ending-its-special-oil-facility.html.; https://www.imf.org/external/pubs/ft/ar/archive/pdf/ar1977.pdf, 51, 54; IMF Annual Report, 94-95

press reaction to the newest oil recycling proposals, quoting the Chicago Tribune, "It would be rash to expect the necessary cooperation to materialize quickly, despite the urgency of the crisis. It may be two years or more before even the most efficient sort of quote collective bargaining end quote can bring oil prices down. It will take patience and some sacrifice – on the part of Americans as well as Europeans and Japanese." This is reinforced in discussion of a New York Times piece arguing one of the main problems facing regulators was the lukewarm support provided to both US Secretary of State Henry Kissinger's proposed plan and calls by the French government for an international conference of consuming and producing nations. British representatives expressed stronger support, showing interest in the details of the proposed international lending facility. German officials, by contrast, "basically agreed with the Kissinger plan" but were totally opposed to any major cuts in German energy imports that were proposed as a measure to reduce dependence on OPEC oil. It also faced, as per a Washington Post article, outright rejection from Arab oil exporters who felt they were not receiving any greater say in the global monetary system. Other cables show the Japanese government actively cooperating with OPEC, going so far as to deposit petrodollar funds in London banks to help secure their access to oil supplies.[47] This aligned with earlier statements made in September from the British Chancellor of the Exchequer Healey arguing against "beggar-thy-neighbour" policies ultimately concluding:

> "There is wide difference in need of individual countirs [original spelling in document]. UK is steadily receiving substantial net inflow of foreign funds and is having no difficulty in financing its part of the international oil deficit. (For details see London 11725.) UK has no needed to draw on the 2.5 billion dollar borrowing arrangement made in Euromarkets last march. UK expected that oil produced off its shores will meet about half of UK's requirements in 1977 and more than all of its requirements by 1980. UK's problems in this regard are less than those faced by some others."[48]

[47] Wikileaks. PRESS REACTION TO SECRETARY'S OIL PLAN, unclassified cable from the Department of State to France Paris, November 16th, 1974, https://search.wikileaks.org/plusd/cables/1974STATE253539_b.html (Accessed March 4th, 2020)

[48] Wikileaks. CHANCELLOR HEALEY'S VIEWS ON INTERNATIONAL MONETARY AND ECONOMIC TOPICS, unclassified cable from United Kingdom London to Department of State, France Paris, Germany Bonn, Italy Rome, Japan Tokyo, Organization for Economic Co-Operation and Development (Paris), Secretary of State, U.S. Mission to European

All of this was further complicated by the policies of the United States, the most significant economic and financial player of the G7. Multiple cables and discussions regarding economic aid, procuring Saudi investment, and other similar contracts show the United States and France were actively working in the shadow of the Oil Embargo both to ensure their relations with the Persian Gulf exporters and provide security for their economy. Further complicating the situation, according to Cooper, was the domestic environment in the United States where the Watergate scandal had effectively consumed President Richard Nixon's administration, reducing him to a powerless figurehead with little ability to move any significant new agreements or legislation through Congress. Competition behind closed doors even as governments were publicly assuring one another of their cooperative intentions showed how limited such promises of coordinated action were. Such tensions and disagreements left financial regulators the world over in a weak position for executing any sort of collective response.[49]

These same challenges confronting negotiators and the IMF were equally present in later negotiations initiated by the OECD in 1975 to resolve the new challenges facing the global economy with a new oil solidarity fund. The BIS became involved officially involved as the agent for executing this fund on January 24th, 1975, placing this first significant action in providing additional supports well over a year

Union (Formerly EC) (Brussels); September 12th, 1974, https://search.wikileaks.org/plusd/cables/1974LONDON11768_b.html (Accessed: March 4th, 2020)

[49] Cooper, *The Oil Kings,* 174-181; Wikileaks. FRENCH ECONOMIC AND COMMERCIAL DELEGATION IN SAUDI ARABIA, unclassified cable from Saudi Arabia Jeddah to Department of State, France Paris, and Secretary of State; March 6th, 1974; https://search.wikileaks.org/plusd/cables/1974JIDDA01098_b.html (Accessed: March 12th, 2020); Wikileaks. JOINT US-SAUDI ECONOMIC COMMISSIONS: SAUDI ENTHUSIASM, secret cable from Saudi Arabia Jeddah to Secretary of State; March 11th, 1974; https://search.wikileaks.org/plusd/cables/1974JIDDA01192_b.html (Accessed: March 12th, 2020); Wikileaks. SAUDI NEEDS FROM U.S. STILL UNDER STUDY, confidential cable from Saudi Arabia Jeddah to Department of State, Saudi Arabia Dhahran, and Secretary of State; April 11th, 1974, https://search.wikileaks.org/plusd/cables/1974JIDDA01892_b.html (Accessed: March 12th, 2020); Wikileaks. JOINT COMMISSION ON ECONOMIC COOPERATION, unclassified cable from Saudi Arabia Jeddah to Department of State, Saudi Arabia Dhahran, and Secretary of State; June 24th, 1974, https://search.wikileaks.org/plusd/cables/1974JIDDA03610_b.html (Accessed: March 12th, 2020) Wikileaks. US-SAUDI COOPERATION ON FINANCE, limited official use cable from Saudi Arabia Jeddah to Department of State and Secretary of State; July 3rd, 1974, https://search.wikileaks.org/plusd/cables/1974JIDDA03834_b.html (Accessed: March 12th, 2020)

after the 1973 Shock had begun and contemporaneous to the beginnings of the IMF Oil Facility. This fund, however, was even more limited than the IMF Oil Facility as outlined in the proposal's second, third, and fourth points:

> "2. Such credits could be given either at the time when a country contributed to a loan, or at any alter date during the life of the contribution.
>
> 3. Up to a certain point the Bank envisages being able to make funds available in this way simply as straight credits, in whatever form might be agreed upon between it and the central bank concerned.
>
> 4. Beyond that point, the Bank would hope to be able to provide the central banks of contributing countries with additional financing, should they require it. In that case however the Bank might, in order to protect its own liquidities, have to ask the central bank in question to provide it with a stand-by facility for an equivalent amount."[50]

Such measures, while argued as necessary for ensuring the BIS's ability to service the needs of solidarity fund participants, meant any participants needed to have some degree of liquidity to work with, in addition to additional costs imposed by the 1973 Oil Shock, to fully benefit. Given the Oil Shock's global impact on fiscal conditions and the shortcoming in the IMF Oil Facility's 1974 iteration caused by similar concerns this leaves little doubt the first attempt by the BIS at resolving this problem was inherently self-selecting.

By 1977 it was clear this mechanism was leaving oil-deficit countries behind. This is shown in discussions among the OECD Ministers who soberingly concluded the international payments situation which resulted from the 1973 Oil Shock was far from resolved:

> "16. Ministers reviewed the international payments situation. They welcomed the progress made towards a more appropriate payments position by some of the larger Member countries. While some of the smaller Member countries are also making progress in the right direction, many of them are still running unusually large current account deficits. Ministers underlined the need for continued efforts to arrive at a more sustainable pattern of current-account positions in the OECD area. They agreed on the need to ensure that adequate official financing facilities are available to back up appropriate stabilization programmes. In this connection they heard a statement by the Managing Director of the International Monetary Fund on the progress made in negotiating additional resources to finance balance of payments through the IMF. Many

[50] BIS Archives, 7.18(14), January 24th, 1975

> ministers stressed the importance they attached to implementation of the OECD Financial Support Fund in addition to the IMF facility.
>
> 17. Ministers noted that present conjunctural difficulties are exacerbating longer-run structural and development problems, as well as the employment and balance-of-payments difficulties, of some Member countries. Ministers therefore agreed that the competent bodies of the Organization dealing with the various aspects of these problems should, in a positive and co-ordinated way, take into consideration the means to overcome such difficulties."[51]

The OECD's efforts were clearly falling short of their goal. The IMF Oil Facility and the OECD Financial Support Fund were, thanks to a failure of international cooperation and active interference by the United States, simply not up to the task of recycling so much capital or keeping the monetary system afloat. The requirements for borrowers to be active contributors before having access to emergency funds limited the extent to which the Fund could be used in times of crisis. The higher cost of IMF lending compared to the private sector further discouraged its use, a factor that was compounded by the IMF's dependence on the private sector to finance their operations. Its further limitation to only covering members of the OECD meant non-members were left with either the IMF Oil Facility or the private sector for emergency funding. In many ways the OECD and IMF solutions fell woefully short of the challenges posed by petrodollar recycling, thanks ultimately to active efforts to prevent it from becoming a viable solution.

Similar conditions prevailed in the Euromarket, where regulators had long struggled to effectively manage this area of finance. There were many attempts to do so such as in the United States during the 1960s before the crisis. Several laws and regulations sought to regulate banking activities such as interest rates, deposit levels, and interest ceilings, as was the case with US Federal Reserve Regulation Q whose restrictions helped encourage the rise of the Eurodollar market, related to the Eurodollar market and international deposits. These, ultimately, had the unintended consequence of encouraging US banks to invest more money into the Eurodollar market in pursuit of the greater

[51] BIS Archives, 7.18(14), June 29th, 1977

potential profits where such regulations were not a factor. British policy also sought to establish capital controls to shore up the pound sterling in the post-war period though this ultimately pushed the City of London to pursue less controlled offshore business. Even with this push and pull uncertainty by 1968 the US Federal Reserve was becoming increasingly resigned to the power of this market while British regulators saw the growth of banking in London, ultimately, as a net positive even while trying to maintain some level of control.[52]

Further attempts by regulators operating outside of London to get some control of the situation from 1976 to 1978 largely succeeded in pushing market actors into offshore banking or doubling down on their London subsidiaries. These changes also went hand in hand with changes in capital controls regulations. As the Eurodollar market became more ubiquitous laws limiting the flow of capital were relaxed. During the mid to late 1970s several capital controls regulations were relaxed in the United States and other key Eurodollar market actors, prompting a flood of new investment. This occurred in a context where regulators initially allowed the Eurodollar market to do what was necessary to absorb the impact of the 1973 Shock and then argued continued relaxation of regulations made it possible for countries to swiftly rebuild their depleted currency reserves. Such arguments were buttressed by the failure of previous regulations to gain any control over the market prompting a reduction of reserve requirements by US banks in 1978, making it even easier to invest in the Eurodollar market. Parallel to these American actions capital control regulations were relaxed in France, the United Kingdom and Germany making it easier for market actors to move currency into and out of the Eurodollar market.[53]

The infusion of petrodollar capital came at a time when global markets and major governments needed quick funds for balancing their books. The combination of demand from borrowers for funds

[52] Johnston, *The Economics of the Euro-Market,* 12-16, Schenk, "The Origins of the Eurodollar Market in London", 236-239

[53] Kopper, "The Recycling of Petrodollars", 40; Johnston, *The Economics of the Euro-Market,* 21-22, 249-250, 260, 262; Kane, *The Eurodollar Market and the Years of Crisis,* 113-114

and demand from depositors for reliable, substantial return on investment created a ferocious, self-fuelling dynamic. As money poured into the market more poured out with interest rates, new financial instruments, and the trust of policymakers it was all going to work out lubricating the process. This final element is the one that needs to be examined. The decisions regarding the Eurodollar market, on the receiving end, were not happening in an economic vacuum and neither was the fallout of the Oil Shocks. These external pressures are ones that need to be discussed to reach a clearer understanding of what was going on in a market that was more real in balance books than in physical space. Tensions in the halls of power and on the streets were just as real as the Eurodollar market's assets.

These examples of hesitation, attempts at restraining the market, and concerns before and after the 1973 Shock show the decision to use the Eurodollar market as a "shock absorber" was not made lightly. Broader conditions the Shock created unleashed considerable social dislocation and upheaval, creating an atmosphere of panic among policymakers. Commentators, forecasters, and policymakers including the CIA and the Shah of Iran were warning the world's oil supply would soon be outstripped by demand, creating near-certain global economic doom with perpetually higher prices but one of many new, unpleasant normals. A 1975 address by Bundesbank Deputy Governor Otmar Emminger left no question there were genuine fears that failing to effectively recycle and accommodate the increased petrodollar flow would destabilize global finance, initiating a new Great Depression. Such conditions were far from ideal for developing a fully analysed solution forcing whatever was immediately available had to be pursued. It is clear in the eyes of policymakers and regulators letting the Eurodollar market soak up the wealth and operate as necessary may have been an immediate lesser evil in the face of many greater ones.[54]

[54] Frieden, *Global Capitalism,* 366-367; Clayton, *Market Madness,* 115-118; Emminger, "International Markets and the Recycling of Petrodollars", 99-100

In a historical moment where policymakers and regulators were scrambling for quick, easy solutions the Eurodollar market provided an immediately useable opportunity. This is understandable as the Eurodollar, according to Johnston, was ideally suited thanks to its liquidity to handle both the inflow of money and increased demand for loans to pay increased oil costs. Such a decision was not the result of any sort of deliberate consideration but was an aggregate trend resulting from the actions of many different governments operating under the same balance of payments problem. Leaving the Eurodollar market to its own devices was the best readily available solution in that moment as it avoided the necessity of a new, supranational organization to mediate petrodollar flows by allowing the forces of the free market to resolve the problem. Even so this came at the cost of increased national debt for deficit countries.[55]

The other side of the relative lack of action by regulators on the Eurodollar market during this period was its use as a "shock absorber" for the impact of the petrodollar windfall. In the eyes of those arguing for the shock absorber approach, as claimed by Giorgio P. Szegö, the choice was either letting banks and the Eurodollar market handle the windfall however they could or run the risk of potentially destabilizing inflation in the Middle East and wherever OPEC funds were spent. Such developments were occurring in a market with a highly limited set of actors on both sides. Even so the volume of funds strained the markets to their limits thanks to the high demand on the depositing end for quick return on investment and the borrowing end for urgently needed capital. Just as the Oil Embargo caused a major market crisis the influx of petrodollars into the Eurodollar market made it possible to keep financing these loans and bonds with fresh, hot cash. One can ultimately conclude the Eurodollar market, in this

[55] Johnston, *The Economics of the Euro-Market,* 26-27, 148, 155-156

period, prevented a relapse by now-debtor nations into tight currency controls and a retraction of free trade at the cost of increased national debt.[56]

One potentially significant factor in explaining why these measures were both slow in arriving and insufficient for meeting the challenges is determining whether regulators had been preparing for the wrong crisis. If regulatory agencies were anticipating a different sort of financial disruption than what unfolded in 1973 it is more understandable why they effectively left the private sector to handle things while they spent the better part of 1974 cobbling together a united response despite existing political obstacles. For the BIS and other central bank governing boards, their assumptions were guided most strongly by the experience of the 1968 Gold Crisis. As is shown in BIS archival documents, the most likely cause of a flood of capital recycling into global markets was a price shock caused by speculative activities similar circumstances to the Sterling and Gold Pool crises. For central bank regulators from the G10 and Switzerland the challenge presented before them was cast in stark terms:

> "1. In modern conditions, owing – among others – to the ever increasing proportion of liquid financial assets in total wealth, speculative capital flows across the frontiers are liable, as recent experience shows, to large amounts of such dimension and/or to be concentrated in an interval of time of such short duration that external monetary reserves and automatic credit lines of the traditional type available in the system can scarcely cope with.
>
> The result may well be a devaluation of the currency of the country losing reserves, or a revaluation of the currency of the country gaining reserves, forced upon the respective monetary authorities by the pressure of events quite apart from the existence of a fundamental disequilibrium which would alone justify such a measure. Speculation, therefore, would gain and be encouraged to act again on other occasions."[57]

In many ways this speculative diagnosis is rather accurate in describing some of the impacts of petrodollar recycling. The flood of petrodollars, in conjunction with the broader trends of inflation which followed in the wake, coincided with the devaluation of the US dollar throughout the 1970s while recycled dollars flooded into many other markets. Where this analysis falls short is in terms of scale and

[56] Giorgio P. Szegö, "The Role of International Banking in the 'Oil Surplus' Adjustment Process", *Journal of Banking and Finance*, No. 7 (1983) 497, 505-506, 501, 505-506, 511, Kopper, "The Recycling of Petrodollars," 39-42
[57] BISA, 7.18(12), November 30th, 1968

cause. The OPEC embargo triggered a flood of capital into numerous markets that was fuelled by a $300 billion international redistribution of wealth through windfall profits. It was also caused by a major asset price bubble driven by a large-scale, genuine shortfall in global supply and not market speculation, as this analysis and other related discussions consistently asserted would be the case. This is reinforced by the main questions they wanted answered:

> "4. This proposal raises a number of problems which should be considered by G10 experts, namely:
>
> 1) how to distinguish its impact on the potential for the market-driven capital movements (should losses and gains be balanced ?) from impact due to basic factors of the balance of payments;
>
> 2) whether all short-term capital movements should be considered as only those flows which are of perverse nature;
>
> 3) whether and to what extent financing monetary authorities will be able to enter into transactions of unknown amount and duration;
>
> 4) whether and to what extent monetary authorities of the receiving country can enter into an open-ended monetary commitment without the certainty that the capital flows entitling it to benefit from the facility are reversible;
>
> 5) how to establish at what point of time the facility is to be repaid;
>
> 6) whether the participating countries should be all the members of the Group of Ten or the European countries alone on the assumption that monetary correctives of short-term capital movements between US and Europe are to be found in the existing swap network.
>
> 7) whether other alternative solutions are more appropriate for the attainment of the same aims."[58]

A draft proposal for a reinforced swap network that was expected to move the speculative currency in short-term deposits between central banks shows such ideas were in play which likely drew some inspiration from the earlier Gold Pool:

> "1. To the extent that currency reserves accruing is a central bank(s) member of the group are in excess of an amount which that bank(s) judges to be appropriate or prefers to employ elsewhere, the surplus funds shall, with the agreement of the BIS, be placed with the latter in the form of three-monthly deposits (or swaps). The BIS shall have the right to terminate any such transaction in all or in part at two days' notice. Renumeration will be paid by the BIS on each amount received from a member of the Group of such a swap as may be agreed between

[58] Ibid

> that member of the Group and the BIS, provided that in the case of US dollars this rate shall not exceed the highest of the following rates ruling at the time of deposit (or swap) is made:"[59]

The clear focus of this policy is to mitigate such problems by providing increased liquidity. This initial conclusion betrays two underlying assumptions. The first is the main flow of capital would largely be entering specific, speculation-fuelled markets which, given recent experiences with asset bubbles, was not an unreasonable conclusion. The second is much of the funds recycled would be captured by central banks and effectively neutralized through the swap network. Both given circumstances were not the case beginning in 1973. Petrodollar capital inundated all the major financial markets with investments in everything from short-term instruments to long-term industrial financing. It also was more concentrated in the short-term Eurodollar market than in long-term government securities issued by the central banks, further limiting the central banks' most direct influence over financial markets.

Such conclusions are broadly in alignment with the role that speculative market activities played in exacerbating the 1968 Gold Crisis. As Bordo, Monnet, and Naef argue, market speculation was critic al in pushing the price of gold to unsustainable levels and likely loomed large in the minds of central banks and regulators. Arran Hamilton and Raj Roy's research, which show that speculative pressures went beyond just the Gold Crisis and played a significant role in applying growing pressure to the Pound Sterling and by extension the US Dollar, gives further weight to the significance of speculative activities in a recent currency crisis. It, therefore, makes sense for the BIS to be searching for a repeat of this same pattern as it had, so far, driven the worst monetary crisis to the capitalist world prior to the Nixon Shock of 1971. For the BIS to be watching and prepared for contagion exacerbated by market speculation made perfect sense given the historical context. Unfortunately, as shown in Chapter Two

[59] BIS Archives, 7.18(12), December 7th, 1968

and earlier in this chapter's discussion of the Eurocurrency market, the petrodollar recycling crisis stemmed from a substantively different cause.[60]

The challenges and opportunities posed by the Eurocurrency market were, as shown in archival sources, also part of the discussions around handling a sudden influx of speculative funds in financial markets. The problem was, again, the limited scope of their anticipated crisis as shown in the discussion of handling a recycling crisis mediated through the Eurodollar market. It is quite clear from the report the BIS was considering how the Eurocurrency market would be utilized in these circumstances as part of their deliberations:

> "3) Should speculative exchange movements into the Euro-currency market be observed
>
> (a) The central bank incurring the loss will take up funds in the Euro-currency market either direct or, subject to the BIS's agreement, through the intermediary of the BIS. The terms on which this is done will be in line with the prevailing market situation. At the same time the basic assumption must be that the central bank incurring the loss will take whatever credit measures are necessary to bring foreign exchange outflow rapidly to a halt;"[61]

Such measures, if implemented swiftly enough, would very directly deflate the size of the Eurodollar market by restricting the supply of Eurocurrency. In the conditions assumed of a singular speculative bubble driving market disequilibrium the Eurodollar market was expected to provide additional options for policymakers. This came with the assumption that restricting the flow of capital would be a necessary element for any such solution, a measure that was never carried out during the 1970s:

> (b) "Central banks that have received large-scale speculative inflows will for their part support the recycling operations by creating favourable conditions fo an increase in their commercial banks' money exports (examples: the Bundesbank and Indian National Bank). In additional, they will take other appropriate measures to counteract the inflow of speculative funds from abroad."[62]

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[60] Bordo, Monnet, and Naef, "The Gold Pool (1961-1968) and the Fall of the Bretton Woods System", 1039; Arran Hamilton, "Beyond the Sterling Devaluation: The Gold Crisis of March 1968", *Contemporary European History*, Vol. 17, Issue 1 (2008), 76-78; Raj Roy, "The Battle for Bretton Woods: America, Britain and the International Financial Crisis of October 1967-March 1968", *Cold War History*, Vol. 2, No. 2 (January 2002), 34-38

[61] BIS Archives, 7.18(12), January 28th, 1969

[62] Ibid

When the petrodollar crisis struck finance in 1974 the opposite problem was prevailing. There was a new, substantial flow of hot capital that needed to be neutralized. Unfortunately for G10 representatives these capital flows could not be cut off thanks to their core value being derived from a necessary asset for the functioning of the global economy. This ensured the quantity of funds reaching the Eurodollar market would both be constant and beyond the capabilities of central bankers to address.

The final conclusions of the G10 group and the terms of their agreement show this focus on speculative capital remained the overriding concern for all involved parties. Their final conclusions begin as follows:

> "2. The central-bank Governors noted that there already exist substantial facilities that can be, and have been, used to achieve a return flow of speculative funds. There is the Federal Reserve swap network of $10.5 billion with 14 central banks and the BIS. In addition, important multilateral and bilateral facilities have, as and when necessary, been organized on an ad hoc basis. For example, such facilities have at different times been arranged in favour of the Bank of Canada, the Bank of England, the Banque de France and the Banca d'Italia."[63]

For these G10 representatives there was little question that adequate facilities existed for coping with large-scale capital recycling. As they specifically argued on this point:

> "3. The Governors noted that facilities between central banks, or with the BIS, have been established extremely quickly in time of need. If, at any time in the future, it appears that arrangements are needed in order to cope with an unusually large movement of speculative funds. The central banks of the group declare themselves ready to obtain funds immediately, at the request of the President of the BIS, to assign the additional facilities as the group may judge appropriate. Additional banks of countries outside of the Group of Ten and Switzerland could be included in any such group arrangements."[64]

Their conclusion shows the extent of their confidence in their capabilities for addressing the expected speculative capital crisis:

[63] BIS Archives, 7.18(12), February 10th, 1969
[64] Ibid

> "6. The Governors consider that the BIS, both with its existing resources and with other funds obtained from central bank and market sources, can make a positive contribution towards the alleviation of the impact on reserves of speculative movements of funds."[65]

Such a turn to the Eurocurrency market makes given the recent collapse of the Gold Pool. The decision to utilize the Eurocurrency "shock absorber" was shaped in a context where the most recent attempt at intergovernmental monetary cooperation had failed rather spectacularly. For BIS reporting banks and participating institutions, the Eurocurrency market offered a clear, readily available alternative for securing liquidity in times of monetary crisis.

The BIS, Group of Ten and Swiss central bank governors had a plan ready to protect capital markets from a sudden inflow of speculative money. They had investigated the potential outcomes and reached agreements on how to best implement a mitigating policy. Unfortunately for these regulatory agencies the plan was insufficient for tackling the challenges of 1970s petrodollar recycling. This is reinforced by the places where their predictions for the likely impacts of a capital recycling problem accurately line up with specific aspects of the petrodollar recycling process. The core problem in the entire discussion is it assumed the root cause would be due to rampant speculation in one or a few specific markets instead of being initiated by a global supply shock followed by an unprecedented quantity of windfall capital. In many ways their best preparations provided some limited guidance yet ultimately left the G7 bereft of direction.

The ascendancy of the private sector in processing these channels of capital was thanks to a combination of highly contingent factors. Regulators confronting this challenge were facing a problem they were not properly prepared to resolve. This was further constrained by the divergent goals of the potential partners in confronting the challenge. Between German desires to keep energy consumption uninterrupted, France's desires for a global conference that was unacceptable to OPEC's members,

[65] Ibid

American indecision thanks to the Watergate Scandal coupled with their own goals in the Middle East, Japan's moves to power through the crisis through cooperating with OPEC, and Britain's acceptance of large petrodollar flows into their banking system as sufficient to counterbalance any problems ensured that any multinational response would be fractured. The Euromarket shock absorber had fallen out of regulatory control and was actively contributing to the growth of international credit markets. Regulators were not just having to tackle the challenge of petrodollars, they also had to tackle additional problems that were directly linked to the new environment which emerged to address the core problem. Given such trying circumstances it is no wonder they ultimately were forced to leave much of these processes to the private sector, regardless of their best, though disjointed and uncoordinated, efforts to the contrary.

Chapter Four : Adapting to Uncertainty

The transformation of the global monetary environment, enabled in part by the effective abdication of control by policymakers to market actors, created a new series of challenges for banks. On one hand, the dramatically increased liquidity entering markets ensured a stable flow of capital for bankers. On the other, this was a newly unstable environment. The previous hegemony of Bretton-Woods, dollars, and gold was thoroughly shattered by the Nixon Shock and the Oil Embargo laid bare the extent to which the North American, Western European, and Japanese industrial core's depended on commodities extracted in mid-peripheral states like OPEC's members. These twin challenges created new risks for bankers who sought new assurances as a hedge in unstable times. Unfortunately for all actors involved new developments like international loan syndication, interest rate futures, and swap contracts mostly served to expand the size of markets and globalize risk.

These concerns of harnessing liquidity and ensuring the security of contacts are seen consistently throughout the development of all three of these financial practices. Though they all have antecedents, and in the case of international loan syndication were already in limited use, prior to the Oil Shock the evidence consistently shows these instruments reached their recognizable, more modern usages as a direct result of the petrodollar recycling process. Whether their primary intended purpose was to ensure the security of credit, create safe channels for greater liquidity in capital stocks, or hedge against future market volatility each was conceived and developed under conditions where petrodollar-induced volatility was the overriding concern for bankers. The inherently reactive nature of these conditions is reflected in the development of these contracts and their rapid growth. Their rise to global importance was the result of a very improvisational, adaptive process which focused on meeting the needs of the immediate moment with less consideration for the potential future impacts and consequences. Each also faced their own, unique problems.

This line of investigation builds on earlier work by Mahmoud El-Gamal and Amy Myers Jaffe. They argue petrodollars played a significant role in the development of modern finance by providing the necessary capital for global financial markets. As they state quite clearly, "The credit boom of the 1970s led the way for other financial avenues of globalization." The place where this research diverges is in the focus. Where El-Gamal and Jaffe mostly discuss the larger macroeconomic factors and how petrodollars funded the modern debt cycle this research delves into how these funds changed the way finance handled capital. Processing these funds did not just expand the clientele for financiers to include the governments of the decolonizing Global South, they also forced financial institutions to change how they operated. These transformations, in turn, dramatically expanded the global debt networks which are the focus of El-Gamal and Jaffe's research, making them more pervasive and interconnected. Petrodollars were more than a source of capital and debt; they were a direct driver of multiple important financial innovations in this period.[1]

This stands in contrast to a more gradual, intellectually driven approach favoured by Brine and Poovey. They argue, "In one sense, modern finance originated within the discipline of economics. In another sense, the roots of finance lay outside every university discipline: traces of finance can be found in business practices as old as exchange itself, in apprenticeships and guilds, in futures markets for agricultural crops, and in schools of commerce and accounting, where business skills were passed along to younger generations." According to Brine and Poovey growing financial centres of Wall Street and London had, "gradually morphed into conglomerates of theory-driven, model-dependent, computerized businesses, with refined and carefully delineated investment styles, which both employed and helped train their staffs to market – and engineer – new products for an ever-growing population of institutional and private investors." Such an analysis of these developments carries a sense of steady,

[1] El-Gamal and Jaffe, *Oil, Dollars, Debt, and Crises*, 1-3, 49

logical evolution from previously existing practices to present conditions. For Brine and Poovey the emphasis is on the development of new theories and practices using proven, tested methods to meet new challenges. This research, as will be made clear in this chapter, diverges not on the question of the origin of these instruments but rather in how they developed. There is no question instruments like international loan syndication, interest rate futures, and swaps had important predecessors which were used as models. Where this work departs from Brine and Poovey is in arguing these developments were heavily driven by the demands imposed by petrodollars on global finance, both in terms of the growing debt systems they created and the requirements of their depositors. Intellectual frameworks shaped these responses but they were operating largely in a responsive, post-hoc fashion rather than as a series of clear evolutions justified by market conditions. Financial institutions found themselves in a similar position where they were frequently left catching up to market needs, quite unlike Brine and Poovey's assertions of increasingly refined, predictable actors.[2]

International lending and credit saw enormous upheaval during the Oil Shocks period. Oil importers, particularly in the developing world, faced the challenge of paying for increasingly expensive oil and other commodities whose costs were pushed upward by the global wave of inflation. This created dramatically increased need for funding which was now more readily available thanks to the substantial deposits of funds by OPEC powers, arms producers and other actors doing business with oil exporters. The combination of accumulated assets and demand resulted in a perfect storm for global credit movement international syndication as the best available option for moving large quantities of capital without imposing undue risk on any single financial actor while also meeting the growing needs of increasingly indebted borrowers. The solution was the international loan syndication.

[2] Brine & Poovey, *Finance in America*, 294-295

The explosion of international loan syndication quickly became a viable ad hoc solution for addressing the immediate problems associated with petrodollar recycling while also created systemic vulnerabilities. The creation of global loan syndicates required bringing numerous regional banks into the world of international finance as new sources of additional capital. This effectively bound banks who were largely focused on local and regional investing into global concerns which they had little power to directly influence. Even though loan syndication made it possible for global markets to limp along through the crisis of petrodollar recycling they did so at the cost of exposing local and regional economies to greater levels of risk if anything went wrong in global markets. The case of the Bank of Scotland, a largely regional bank that expanded into global syndication swiftly in this period, helps illustrate the ultimate downsides that came with internationalizing lending syndicates.

This position is largely in alignment with that which is presented by Yener Altunbas, Blaise Gadanecz, and Alper Kara on international loan syndications. What is of particular interest here is both the extent to which these loans were directly financed by the Eurodollar market, which they argue was key to making international loan syndication possible and was also awash in petrodollars in this period, and the extent to which such financing globalized business for regional actors like the Bank of Scotland. This focus on such a regional institution shows the extent to which international loan syndication had effectively globalized banking in every possible sense, bringing previously local players into the global scene in a significant way. Such pervasive market saturation further guaranteed the market crisis of 1982 ensured such actors were now exposed to new, internationally oriented risks. This is further emphasized by the considerable extent to which syndicated lending depended on Eurodollar credits.[3]

Interest rate futures fit in a similar pattern as international loan syndication. Futures themselves have a long history, with modern futures dating back to mid-19th century Chicago

[3] Yener Altunbas, Blaise Gadanecz, and Alper Kara, "(2006) "The evolution of syndicated loan markets", *The Services Industries Journal*, 26:6, 693-695

agricultural markets as a tool for stabilizing prices and guaranteeing contracts. Even interest rate futures were not the first financial future to be offered on markets with that distinction going to currency futures, a direct adaptation of commodity futures, that rose in the immediate aftermath of the downfall of Bretton Woods. In this sense they could be seen as a logical evolution, inevitable in its development and emergence as a financial product. This is the position taken by Brine and Poovey and many others who directly link the origins of financial futures to the earlier rise of agricultural futures contracts. As far as form and development is concerned this well-supported by available sources, with agricultural futures being the clear antecedent to their financial counterparts.[4]

Yet this is where the broader macroeconomic impact of the 1973 Oil Shock comes into play. Even though currency futures at least conceptually developed prior to Bretton Woods interest rate futures were a purely reactive development which emerged in the highly volatile petrodollar world. Guaranteeing interest rates on key financial assets, starting with US Treasury bonds and Eurobonds, was a direct consequence of a new reality where the underlying interest rates influencing the cost of lending were now much less stable. They also further served these interests of security and stability for financial actors by, at least in theory, guaranteeing a future supply of credit. Even though they delivered on these promises for individual market actors the eventual collapse of the petrodollar system in the 1982 Debt Crisis demonstrated the true limitations of this seemingly secure instrument.

Swap contracts were the only instrument which were a truly novel development during the 1974 to 1982 period. This is reflected in the relative lack of discussion of swaps in the literature, with Raphael Hodgson being one of the few examples of published research on swap instruments during the 1970s. In swaps one can find the ultimate synthesis of the desire to ensure liquidity and security of contracts. These new arrangements made it possible for banks and other market actors to quickly

[4] Brine and Poovey, *Finance in America*, 296-299

secure needed stocks of currency and later lending capital on short notice at pre-determined conditions. Though there is no direct source specifically tying the explosion of the swap contract to the Oil Shocks, there is archival evidence the swap contract first rose into prominence and changed specifically to accommodate the needs of petrodollar-stressed banks. Hodgson's research, while helping push the point of origin for swaps beyond the generally accepted example of the first accepted swap contract in 1981, focuses mostly on the development of their preceding instrument, the back-to-back loan. In doing so Hodgson emphasizes the deficiency of the structure of such loans over the broader market conditions, arguing the eventual rise of the formalized swap agreement was a clear evolution for financial actors. This research will clearly show these developments were a direct product not just of volatile market conditions but specifically of conditions driven by petrodollar credit flows and investing decisions. Such a specific focus moves the swap's rise from being a logical evolution from back-to-back loans to being a specific, unintended response to the impact of petrodollar recycling.[5]

One significant challenge facing researchers studying the rise of these instruments is the relative lack of available documentation. This is, in part, because of the relative novelty of over-the-counter derivatives. As was noted in the 1993 Group of 30 report on derivatives trading, which included interest rate futures and swap contracts, no real studies or examination of their management were conducted done during the tumultuous 1970s and 1980s. The first proper measurement of the global swap market was not available until 1986. International lending syndication, similarly, was poorly tracked by regulators throughout the period. The rise of these new financial practices in this period is a story shrouded in secrecy, a lax regulatory environment, and rapid adaptations of these instruments to an increasingly diverse array of applications.[6]

[5] Hodgson, Raphael. "The Birth of the Swap." Financial Analysts Journal 65, no. 3 (2009): 32-35. Accessed August 5, 2020. www.jstor.org/stable/40390182.
[6] Global Derivatives Study Group, *Derivatives: Practices and Principles*, The Group of Thirty (Washington, DC: 1993), 7; BIS 56th Annual Report, 61, 78

The rise of these instruments in this uniquely unpredictable yet fecund market environment was largely a reactive, adaptive process where banks struggled to keep up with the demands of an increasingly unstable global economy. They were very much a product of both the broader conditions where a direct clash between core and mid-periphery brought far-reaching consequences and of the specific challenges that petrodollar recycling brought to finance. Without the combination of systemic instabilities unleashed by the 1973 Oil Shock, the lack of a decisive global policy response, and the new demands of lenders in need of more capital then these instruments would not have developed into their modern, widely used forms. This environment was critical for the rise of these instruments, laying the foundations of the globalization finance and its rise to dominance.

International loan syndication was not new when the Oil Shock of 1973 began. It was, however, still a novel and infrequently used method of finance both by lenders and borrowers. Its explosion during the petrodollar recycling period is well-documented, as is the impact this had on international debt. To understand how syndicated lending impacted the development of international credit markets and changed during the critical period of the 1970s it is first necessary to define what syndicated lending is. According to William Ballantyne there are three essential elements to any syndicated loan are, "a syndicate of banks each bank being severally liable under the agreement; a managing or agent bank; and a guarantor, probably ECGD or some like organisation." Such syndicates are bound together by complex agreements determining how the syndicate will be governed, terms of repayment and provisions for partial default. Syndicated loans are defined as having the following features: access to large amounts of credit unavailable through direct lending by a single bank, access to major institutions for borrowers with poor credit, allows borrowers to tailor the loans to their specific needs, solid profit margins for the lenders, reduced risk and the means to engage in lending they normally could not afford to do so under other circumstances. Syndication brings the specific benefits to lead banks and participants of access to lending, markets, and potential profits they normally could not pursue for fear of overleveraging and unsustainable levels of debt.[7]

How these syndicates are structured generally falls into one of two categories: direct loan and participation syndicates. Anant K. Sundaram describes the difference as follows:

> A direct loan syndicate is a multilateral loan agreement in which participant banks, having signed a single (common) loan document, advance funds to the borrower-the obligations of the participant banks are several, rather than joint. A participation syndicate, on the other hand, is similar to a principal-agent relationship-a 'lead bank' usually executes a loan agreement with the

[7] Altunbas, Gadanecz, and Kara, "The Evolution of Syndicated Loan Markets", 689-690; William Ballantyne, "Syndicated Loans", *Arab Law Quarterly*, Vol. 11 No. 4 (1996), 374-375; Khambata, *The Practice of Multinational Banking,* 225-226

> borrower and it then forms the syndicate by entering into a participation agreement with other banks. The important difference is that sub-participants are not 'co-lenders' unlike in the direct syndication case.[8]

The interests of all banks involved in such agreements are secured through mechanisms such as syndicate democracy ensuring participating banks have some degree of say in how everything unfolds regardless of if the syndicate is a direct loan or participation syndicate. Many such agreements, according to Philip R. Wood, included provisions allowing for syndicate members to call for default on a syndicate loan if any loans held by the borrowing party are defaulted even if they are not loans related to the syndicate, giving an additional point of leverage and pressure for the whole. Such a threat is given teeth by clauses stating a default against any one participant in the syndicate is treated as a default on the entire agreement and all participating banks. Such security gives further reason for banks to join in with a syndicate as it gives more incentive for the borrower to make good on their obligations. In short, the access to new markets and credits is balanced with guarantees for the participating lenders they will reap the profits from such agreements. The threat of losing credit access with multiple parties makes syndicate participation a potent tool for guaranteeing borrowers pay not just for syndicate loans but all other loans they may be parties to.[9]

The role of the agent bank in such agreements is consistently seen as critical by Khambata and Sundaram to how loan syndicates function. The agent bank, sometimes also referred to as the lead bank, takes on the costs and responsibilities of managing the whole package for everyone involved. This reduced management, research and resource cost for the participating banks is one of the main incentives for lenders to syndicate. Participants are further protected from abuses by the agents through guarantees in the syndicate agreements based on the principles of syndicate democracy

[8] Anant K. Sundaram, "Syndications in sovereign lending", *Journal of International Money and Finance*, Issue 8 (1989), 461
[9] Philip R. Wood, "Sovereign Syndicated Bank Credits in the 1970s", *Law and Contemporary Problems*, Vol. 3 No. 74 (Fall 2010), 9, Sundaram 458, 462

providing a level of oversight for the activities of the agent bank. The potential agent banks, in turn, enjoy a greater share of the profits in exchange for taking on the role of loan management for their partners. In essence not only does a syndicated loan agreement give security and profit to the lenders along with access to previously unavailable credit to borrowers it also reduces the actual burden of management and allows banks who lack such expertise to engage in investing they could not do themselves. Managers, in turn, benefit from even greater profits giving incentive to take up the role of the agent bank.[10]

In short, syndicated lending is a potent joint financial instrument with many benefits and few drawbacks for participants. In exchange for reduced management costs and greater flexibility in lending the participating banks gained access to additional markets. This access enjoyed greater security than conventional, direct loans did as the syndicate agreements made it possible for participants to punish borrowers for reneging on syndicated loans or other, unrelated loans. The profitability, accessibility, liquidity, and specificity possible in these arrangements made them an attractive option for banks seeking to diversify their portfolios. It is perfectly understandable, as shown in all the literature, why banks would engage in syndicated lending and why borrowers sought out such loans. This brings the discussion to the next logical question of how international syndicated lending rose, how this was all connected to the Eurodollar market, and by extension petrodollar recycling.

The foundation of modern loan syndication was based on practices refined by earlier American bankers dating back to the 1930s for syndications made up of American banks for the purpose of funding American enterprises. From these earlier beginnings syndicated lending developed steadily over the course of the 1950s and 1960s with the key innovations developing in multinational as opposed to domestic markets, yet these were still conditions where syndicates largely consisted of banks from

[10] Khambata, *The Practice of Multinational Banking*, 226; Sundaram, "Syndications in sovereign lending", 461

the same country instead of those of later periods where they crossed international boundaries. The formative years for leaping from largely domestic operations to truly international syndication, according to Altunbas, Gadanecz, and Kara, was between 1968 to 1972. According to Philip R. Wood, this period of evolution began on April 10th, 1968, with an arrangement for credit with the British Standard Bank as the lender and the Japanese Mistui Trust as the agent bank. Wood argues it was this agreement that became the first post-1945 example of an international loan syndication, setting the precedent for later international loan agreements to be bundled into singular contracts and agreements.[11]

According to Altunbas, Gadanecz, and Kara the Eurodollar market was essential for the rise, development and spread of popularity of syndicated lending on the international stage. According to Altunbas, Gadanecz, and Kara the Eurodollar market provided an available pool of capital for investment, innovation, and an unregulated space where they were free to experiment with different forms of lending and financial agreements. Some of these syndications, as shown by the work of Barry Howcroft writing in 1985 and the experience of the Bank of Scotland in the upcoming subsection, were even solely composed of Eurocurrency credits and assured security thanks to their syndication. Battilossi even shows that the Eurocurrency market was later fed by these same syndications, with borrowers often temporarily redepositing some of the proceeds from such loans in the Euro-currency market which helped refinance other Eurocurrency positions.[12]

The Eurodollar connection and the rapidly expanding demand for credit in the Global South throughout the 1970s clearly establish a direct connection between the Oil Shocks and the rise of

[11] Altunbas, Gadanecz and Kara, "The Evolution of Syndicated Loan Markets", 690, Wood, "Sovereign Syndicated Bank Credits in the 1970s", 8-9

[12] Altunbas, Gadanecz and Kara, "The Evolution of Syndicated Loan Markets", 690-691, Barry Howcroft, "Marketing a Eurocurrency Syndicated Loan", *International Journal of Bank Marketing*, 3, 1 (1985), 50; Stefano Battilossi, "The Eurodollar Revolution in Financial Technology. Deregulation, Innovation and Structural Change in Western Banking in the 1960s-70s", *Working Papers in Economic History*, Universidad Carlos III de Madrid (November: 2009), 8-9

international loan syndication. This was, according to Altunbas, Gadanecz, and Kara, thanks to a combination of the increased need for capital by oil importers and the sudden flood of petrodollars into the system providing far more means for extending credit. According to Ballantyne the "the almost frenetic activity in this market in the late 1970s and early 1980s accelerated in particular by the dramatic rises in the price of oil in 1973", clearly tying the explosion of this market was directly tied to the flow of oil wealth. The ease of acquiring bank loans through the Eurodollar market, in comparison to bonds, was also likely increased thanks to the surge in petrodollars entering this highly liquid market. The surge in petrodollars, coupled with the unwillingness of governments to directly participate in the process of recycling, put private banking in a uniquely critical role opening the door for greatly increased international syndicated lending channels for sovereign borrowers.[13]

Primary literature during this period provides further evidence for a tie between the Oil Embargo and the growth of syndicated lending. In a Bank of England Quarterly Report the connection between petrodollars and syndicated loans is stated quite clearly saying, "The interest and importance of the market lies not only in its rapid growth and in its role in the recycling of OPEC surpluses, but also in the distinctive nature of this form of intermediation."[14] They further claim one common hypothesis in period for the expansion of syndicated lending was due to the greater volume of capital needed by oil-importing developing nations only this form of lending could provide.[15] BIS sources provided a similar explanation regarding international syndicated lending in 1974 stating syndicated lending, though not new, changed credit markets in this period as shown here:

> "Another device that proved highly effective was the technique of loan syndication, i.e. the sharing-out of a loan between a fairly large number of banks. This served to remove virtually all

[13] Khambata, *The Practice of Multinational Banking,* 228; Ballantyne, "Syndicated Loans", 373, Altunbas, Gadanecz and Kara, "The Evolution of Syndicated Loan Markets", 692-694; Wood, "Sovereign Syndicated Bank Credits in the 1970s", 8

[14] A.E. Fleming & S.K. Howson, "Conditions in the syndicated medium-term euro-credit market", *Bank of England Quarterly Bulletin* (September 1980), 311

[15] Fleming & Howson, "Conditions in the syndicated medium-term euro-credit market", 314

> limitations on the size of loans which could be handled by the market. Whereas in the Euro-bond market, for example, the largest issues floated have never gone beyond $100 million, the Euro-currency market has been able to cope with loans of $1,000 million or more. This absorptive capacity was of particular importance in 1973 because of increasing recourse to the Euro-currency market by semi-governmental and public agencies with very large borrowing requirements, together with the increasing volume of borrowing for the financing of large energy-related projects."[16]

This uncertainty may have also been a consequence of the changing nature of international syndicated lending during this crucial period. The first key change was who the borrowers were. There was a noticeable shift starting in 1974 from corporate clients in industrialized countries to oil importing developing nations. The spreads for loans contracted as an increasingly competitive market made syndicated lending even more attractive to borrowers who, in turn, were able to also negotiate longer maturity periods for the loans involved. These favourable terms were responsible for a wave of refinancing in 1978 to keep everything afloat and moving combined with the increasing use of syndicated lending by national governments. Part of what enabled such easy, free lending was the widespread belief that governments could never default on their obligations. This was founded on their power to tax, which theoretically guaranteed a source of collateral for securing any accrued debts. Hand in hand with the changing spreads, increasing competition for borrowers and growing usage was the standardization of documentation and terms for loan syndication by 1979. There are also shifts in where these deals were being made. Initially the heart of international syndicated lending was in London thanks to the high quantity of Eurodollar funds held by numerous banks already operating in the area. As the decade wore on, additional, secondary centres for lending arose as demand grew and London's capacity to process the loans was exceeded. Everything from where the loans were happening to their terms and who was borrowing changed greatly from 1974 to 1979, transforming the new financial instrument into a widespread tool for moving significant pools of resources on a global scale.[17]

[16] Bank for International Settlements Forty-Fourth Annual Report, June 10th 1974, 159
[17] Altunbas, Gadanecz and Kara, "The Evolution of Syndicated Loan Markets", 694; Ballantyne, "Syndicated Loans", 373; Mark Carey and Greg Nini, "Is the Corporate Loan Market Globally Integrated?", *The Journal of Finance*, Vol.

These loans did not just provide additional security for major lenders and increase the ease of moving capital on a global scale. They also, unintentionally, succeeded in drawing in growing numbers of local and regional banks with little to no real experience in any sort of international lending. Major banks, while experiencing unusually high levels of available credit for lending thanks to petrodollar recycling deposits, still had some limits on how much they could lend to meet the growing demands of sovereign and commercial borrowers. Their solution was to turn to smaller banks with few, if any, commitments to international lending and approach them with enticing offers. Macroeconomically these agreements enmeshed numerous local and regional banks in international markets, ensuring any problems with these loans would reverberate throughout local and regional finance. In short, these syndications effectively globalized these largely regional operations and guaranteed any larger crisis would be felt at all levels of finance. Such mechanisms were also used to help facilitate raising Eurocurrency market credits, creating new avenues for even larger movements of capital across international boundaries.

Even though international syndications grew dramatically between 1974 and 1982, the actual quantities of funds lent between during this period are difficult to pin down. A Bank of England article on the subject claims the Bank began collecting systemic data on international syndicated lending in 1973. Unfortunately, the very same article only provides two specific figures for the end of this period claiming there was an estimated $72 billion in new syndicated credits extended in 1979, a 25% increase over 1978, resulting in a total of $150 billion syndicated credits estimated to be outstanding in the market. Charts showing the overall patterns, spreads and developments are provided but these two numbers are the only specific figures given on the size and growth of this instrument. The Bank of England's Quarterly Bulletins in this period also do not differentiate syndicated lending from other forms

LXII No. 6 (December 2007), 2973, Khambata, *The Practice of Multinational Banking*, 227-228, Wood, "Sovereign Syndicated Bank Credits in the 1970s", 8

of credit extended by financial actors. The Bank for International Settlements was equally lacking in providing any sense of scale. They specifically mention syndicated lending as a game-changer in the Forty-Fourth Annual Report there is no consistent tracking of this instrument in later literature. They claim in 1972 the estimated size of the syndicated loan market, mostly consisting of roll-over credits, was $11 billion and in 1973 rose to a total of $22 billion.[18] Even this figure, by their own admission, was not held with confidence for the following reasons:

> "In absolute terms the increase in claims on non-banks came to $9.5 milliard, or, if the incomplete figures for claims on residents are included, $14.9 milliard. Even so, this is still a long way short of the estimated $22 milliard increase in syndicated Euro-currency loans. There are several factors which help to explain the difference between these two figures. Firstly, the sum of $22 milliard refers to the Euro-currency transactions of banks throughout the whole world and not only to those in the eight reporting countries. Secondly, a large part of the syndicated loans to public agencies shows up as loans to banks in the statistics, and private financial institutions are also important as borrowers in the medium and long-term Euro-currency market. Thirdly, the $22 milliard is a gross figure, i.e. it does not make allowance for the redemption of old loans. Fourthly, syndicated loans partly take the form of stand-by credits and may not be fully drawn upon. On the other hand, the $14.9 milliard figure is in some respects more comprehensive since it also includes non-syndicated loans to non-banks."[19]

In the following year, the BIS claimed the overall size of the syndicated loan market had grown in 1974 to $30.2 billion up from the 1973 figure that was estimated to now be $24.1 billion instead of the $22 billion estimated in the Forty-Fourth Annual Report. There is a brief mention in the subsequent Annual Report of increasingly selective syndicated lending policies and longer maturity periods but nowhere is the estimated total amount of such loans mentioned. There is no mention of syndicated lending anywhere in the Forty-Eight Annual Report and the Forty-Ninth Annual Report only briefly mentions a drop in syndicated loan spreads back to levels seen in early 1974. In the Fiftieth Annual Report there is more in-depth discussion of the expansion of the use of this instrument, banks desire to

[18] Fleming & Howson, "Conditions in the syndicated medium-term euro-credit market", 311-312; BIS Forty-Fourth Annual Report, June 10th 1974, 159
[19] BIS Forty-Fourth Annual Report, June 10th 1974, 166-168

extend greater credits and lending and new forms of syndicated lending such as "club loans" but again no figure estimating the scale is provided anywhere in this report.[20]

These discrepancies and inconsistencies presented a significant challenge for effectively analysing the syndicated loan market during this formative period. Thankfully one source, the Bank of Scotland, proved to be an effective case study for gauging the growth, development, and normalization of international loan syndications in global markets during this period. This is thanks to the Bank of Scotland's smaller size and conventionally regional focus, in contrast to the larger London banks with long-standing global business interests, which made international lending of any sort a new, case by case field of activity. This was further assisted by the Governing Board's campaign, beginning in the late 1960s, to centralize all operational information in their hands. The Bank's organizational shift, when combined with the Bank's traditionally regional focus, meant all new international syndications were a direct concern of the Board and were discussed in significant detail. The result was a wealth of material for analysing the funding, scope, and structure of the Bank's syndications. Their regional focus also made the Bank of Scotland a useful proxy for assessing the depth of the market's expansion beyond major international players like Barclay's, Lloyd's, or HSBC. All these factors make the Bank of Scotland an effective subject for better understanding the growth and development of international loan syndication during the 1974 to 1982 petrodollar recycling period.[21]

[20] BIS Forty-Fifth Annual Report, June 9th 1975, 130, BIS Forty-Sixth Annual Report, June 14th 1976, 77, BIS Forty-Ninth Annual Report, June 11th 1979, 106, BIS Fiftieth Annual Report, June 9th 1980, 111-112
[21] BIS Forty-Fifth Annual Report, June 9th 1975, 130, BIS Forty-Sixth Annual Report, June 14th 1976, 77, BIS Forty-Ninth Annual Report, June 11th 1979, 106, BIS Fiftieth Annual Report, June 9th 1980, 111-112; Richard Saville, *The Bank of Scotland, A History, 1695-1995*, Edinburgh University Press, (Edinburgh, UK: 1996), 643

The Bank of Scotland was, at the outset of the petrodollar recycling crisis, not a significant player in global banking. According to Richard Saville much of their business was focused on lending to businesses in Scotland and the broader British shipbuilding and shipping industries. They were also early investors in oil exploration in the North Sea, providing them with opportunities to cultivate both expertise in and connections to the world of petroleum industry financing. The long-term, capital-intensive nature of many of these projects made syndications an ideal tool for financing the growing offshore oil industry. These early forays into the North Sea became the Bank of Scotland's point of entry into international business operations, as would be exemplified with their first major foray beyond their usual clientele. On February 6th, 1973, near the outset of the OPEC price war which drove the first real increase in the price of oil since 1945, the Bank of Scotland's board of governors concluded the world was now entering an energy crisis. Their response to the challenge of rising oil prices was to form a new multinational bank in partnership with Barclay's Bank and Banque Worms. This new venture, the International Energy Bank, was established to better raise funds for investing in new oil exploration. According to the Bank minutes such operations required significant, sustained capital investment to overcome the challenges imposed by the formidable environmental conditions. These preparations built on their earlier experiences, providing the Bank of Scotland with sustained exposure to the world of international finance. Even so, the pace of this primarily regional, industrially-focused bank's entry into international lending can only be described as rapid, enthusiastic adoption.[22]

[22] Saville, *The Bank of Scotland, A History,* 646-655; Bank of Scotland, GB1830 BOS/1/2/1/79, Record of The Minutes 1974-1977, Minutes of the Weekly Board, 9 Jul 1974-21 Jun 1977, May 13th, 1975 entry, 2763, Bank of Scotland collection at the Lloyds Banking Group plc Archives (Edinburgh), United Kingdom

Bank of Scotland International Loan Syndications Source: Bank of Scotland Board Minutes, 1973-1982					
Year	**Number of Loans**	**Amount Loaned**	**Number of Euro Loans**	**Value of Eurocurrency Loans**	**% Eurocurrency**
1973	4	$ 32,713,804.00	2	$ 8,500,000.00	26%
1974	7	$ 59,696,535.00	3	$ 9,000,000.00	15%
1975	23	$ 126,779,036.00	9	$ 26,500,000.00	21%
1976	27	$ 219,527,920.00	8	$ 81,000,000.00	37%
1977	27	$ 197,121,025.00	15	$ 123,000,000.00	62%
1978	42	$ 433,375,000.00	24	$ 143,325,000.00	33%
1979	57	$ 418,895,043.00	40	$ 284,560,000.00	68%
1980	42	$ 418,229,423.00	23	$ 270,210,000.00	65%
1981	38	$ 536,537,333.00	15	$ 109,903,333.00	20%
1982	13	$ 324,015,944.00	0	$ -	0%
Total	280	$ 2,766,891,063.00	139	$ 1,055,998,333.00	38%

Table 4.1: Bank of Scotland International Loan Syndications, 1973-1982

Note: Data for Table 4.1 was collected from the Bank of Scotland Governing Board Minutes for 1973 to 1982 from the Bank of Scotland collection at the Lloyds Banking Group plc Archives (Edinburgh)

As shown in Table 4.1 the Bank of Scotland became heavily invested in international syndications in a very short span of time. In 1973 they only extended four syndicated loans, two of which were syndications used to raise funds from the Euromarket for other business operations. In 1974, just as the Oil Embargo crisis was beginning to take hold, they participated in seven such loans. The Bank of Scotland was also consistently an agent bank in each of these transactions, taking a direct role in the management of the funds. Three of these loans were dedicated to shipbuilding, an industry which the Bank of Scotland had long invested in, while another four were specifically for oil exploration in the North Sea. Only four loans were extended that fell outside of these categories. One was a Eurocurrency loan to the British government organized by Barclay's, a Eurocurrency loan to British arms manufacturer Vickers, additional lending for construction in Yugoslavia and Poland, and a sovereign loan to the Republic of Chile. Even with the outset of this new period of investment and opportunity the Bank of Scotland pursued a conservative, traditional approach with some room for diversification. This all changed in 1975.[23]

[23] Bank of Scotland, GB1830 BOS/1/2/1/78, Record of The Minutes 1971-1974, Minutes of the Weekly Board, 28 Dec 1971-25 Jun 1974, February 6th, 1973, June 26th, 1973, October 2nd, 1973, October 30th, 1973, April 2nd, 1974,

The Bank of Scotland's first major foray into the new world created by petrodollar recycling was a syndicated loan to the Iranian Ports & Shipping Authority. The Bank of Scotland put forward $42,342,000 as part of a larger syndication for a series of ambitious modernization investments by the Shah of Iran. This initial exploration would remain in stark contrast to the Bank's usual pattern, as shown by investments in Swedish shipbuilding and investments in the oil industry throughout the second and third quarters. The real shift towards fully embracing this new opportunity came on September 10th, 1975, when the Bank of Scotland formally approved of the International Division's new plan of expanding their involvement in these rapidly growing markets. The Bank followed through on this new approach, extending a total of $31,777,036 from September until the end of 1975. These loans differed significantly from earlier examples in the same year in their focus on general overseas lending as opposed to targeted investment in shipping and oil, as best exemplified by their participation in a loan syndicate extended to the Emir of Dubai. The Bank's involvement dramatically expanded in the following year, with the total amount loaned by 85% from the $122,519,036 extended in 1975 to £226,771,094 by the end of 1976. The Bank also departed from their earlier pattern of taking a lead role on syndications, with all their new credit largely being extended as a participant rather than as an agent. Business entered a brief slump, as shown in Table 4.1, in 1977 and 1978 just as OPEC's overall investments in global markets were entering a period of decline, as shown in Figure 4.1, before rebounding in 1979 with the onset of the 1979 Oil Shock. Throughout this period the Bank of Scotland's

May 28th, 1974, pp. 2463, 2519, 2556, 2564, 2621, 2629, 2656, Bank of Scotland collection at the Lloyds Banking Group plc Archives (Edinburgh), United Kingdom; Bank of Scotland, GB1830 BOS/1/2/1/79, Record of The Minutes 1974-1977, Minutes of the Weekly Board, 9 Jul 1974-21 Jun 1977, August 6th, 1974, September 10th, 1974, October 15th, 1974, December 18th, 1974, and May 3rd 1975 entries, pp. 2664, 2684, 2699, 2719, 2060-2796, Bank of Scotland collection at the Lloyds Banking Group plc Archives (Edinburgh), United Kingdom; Saville, *The Bank of Scotland, A History,* 650-655

investments, exposure, and involvement in the growing global international syndication race expanded, reaching its peak in 1981 with a total of $414,527,333 extended in syndicated lending that year.[24]

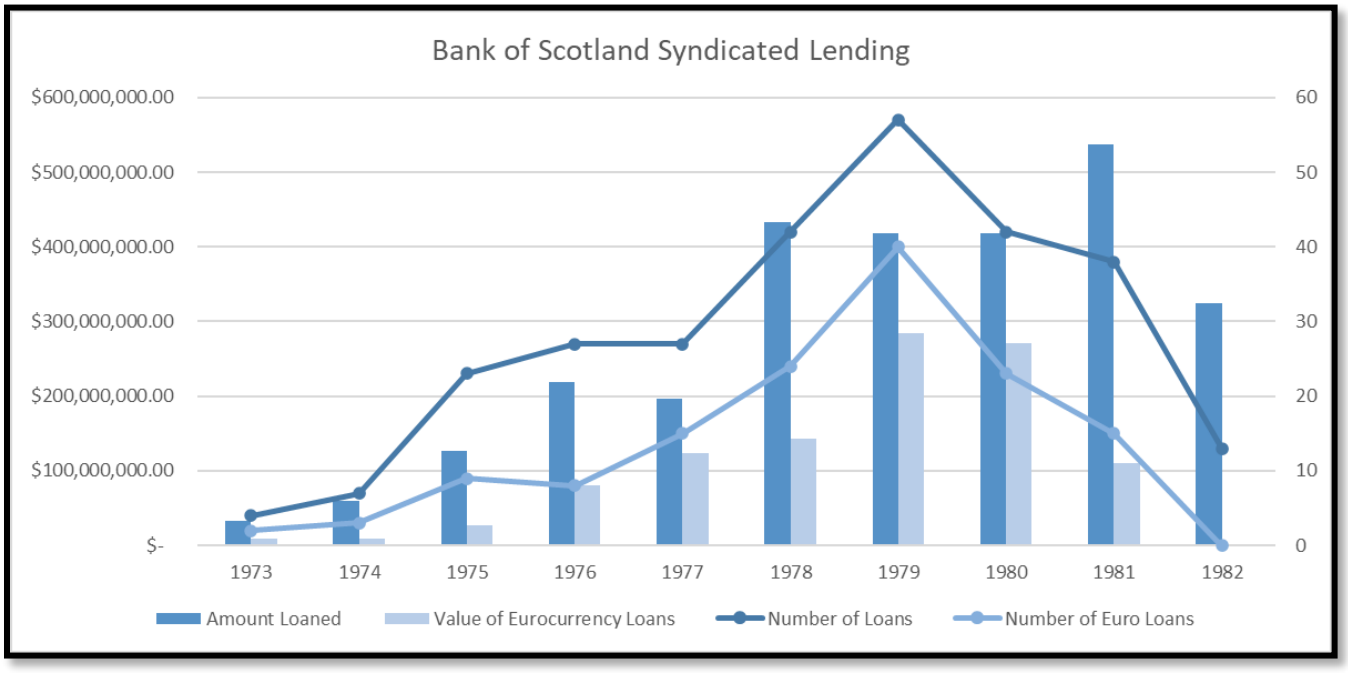

Figure 4.1: Growth of International Loan Syndications, Bank of Scotland

Note: Data for Figure 4.1 was collected from the Bank of Scotland Governing Board Minutes for 1973 to 1982 from the Bank of Scotland collection at the Lloyds Banking Group plc Archives (Edinburgh)

The next significant shift for the Bank of Scotland in this period can be seen in 1980. From 1973 until 1979 Bank of Scotland international syndications followed a consistent pattern where increases in the amount of capital extended in lending was matched by an increase in the total amount of lending which took place in the same year. International syndications, as discussed previously, attracted lenders by offering promises of diminished exposure while offering a substantial amount of credit for borrowers. Therefore, it is not surprising most of the Bank's participation in such syndications largely consisted of multiple small loans. Beginning in 1980 this trend sharply reverses, with the Bank of Scotland extending

[24] Bank of Scotland, GB1830 BOS/1/2/1/79, Record of The Minutes 1974-1977, Minutes of the Weekly Board, 9 Jul 1974-21 Jun 1977, February 4th, 1975, February 18th, 1975, April 29th, 1975, October 26th, 1975, September 10th, 1975, October 14th, 1975, October 26th, 1975, November 25th, 1975, December 9th, 1975, and December 23rd, 1975 entries, pp. 2717, 2729, 2752, 2809, 2797, 2801, 2806, 2815, 2820, 2826, Bank of Scotland collection at the Lloyds Banking Group plc Archives (Edinburgh), United Kingdom

fewer loans while also extending a more significant quantity of capital in each case. Such a conservative strategy, considering the growing global recession which followed the 1979 Oil Shock and the growing risks in the financial world, is an understandable given the changing conditions facing the Bank. This makes 1979 the end of an era both for the Bank of Scotland and for other market actors.[25]

Such growth was quite lucrative for the Bank of Scotland and for the world of finance at large. As is shown in the minutes for a special meeting of the Board International Committee, held on March 28th, 1978:

> "A presentation on the background details outlining International Division's historical share of assets and its contribution to group profits was given and comparison of the Bank's figures with those of the English Clearing Banks and the NatWest Group was made. In all cases, international businesses' contribution was on a steady upward trend although there were a number of differences between each of the banks. As a general rule, the proportion of total assets in international banking is always higher than the proportion of profits attributable to it although, because of the low infrastructure requirements of international banking, it tends to contribute a higher return on capital than domestic banking."[26]

This reported tendency, both in the Bank of Scotland and their colleagues at RBS and the English clearing banks, explains both why these contracts were pursued and a key contradiction in this avenue for investment. The minutes are very direct on the business case for pursuing these international syndications on the grounds of lower requirements for support compared to domestic operations and higher returns on capital, showing a profitable combination of lower costs combined with higher returns. What began as a potential challenge to the stability of the international financial system in 1974 had become a regularized, rewarding avenue for investment by 1978 that was more promising than seeking out business opportunities closer to home. What throws these possibilities into question is

[25] Bank of Scotland, GB1830 BOS/1/2/1/80, Record of the Minutes 1977-1982, Minutes of the Weekly Board, 5 Jul 1977-14 Dec 1982, January 13th, 1981, February 10th, 1981, March 10th, 1981, March 24th, 1981, and August 17th, 1982 entries, pp. 3349, 3356, 3363, 3369, 3448, Bank of Scotland collection at the Lloyds Banking Group plc Archives (Edinburgh), United Kingdom

[26] Bank of Scotland, , GB1830 BOS/1/2/6/5, Various Committee Minutes 1977-1980, Minutes of various Committees, including: Computer Committee, International Committee, Investments Committee, Oil Committee, Personal Finance Services Committee, Property Committee and Staff Committee. 11 Oct 1977-23 Dec 1980, March 28th, 1978 entry, Bank of Scotland collection at the Lloyds Banking Group plc Archives (Edinburgh), United Kingdom

the tension present was the tendency of international operations to demand a greater quantity of assets in proportion to the actual profits gained in comparison to domestic investments. Even though international syndication had become increasingly common practice for these British banks, it was still mired in systemic risks which could not overcome the contradictions at the core of the recycling process. Even though there were immediate, tangible benefits to pursuing these loans, these clear gains simply could not paper over the asset base which was necessary for these opportunities to be possible in the first place.

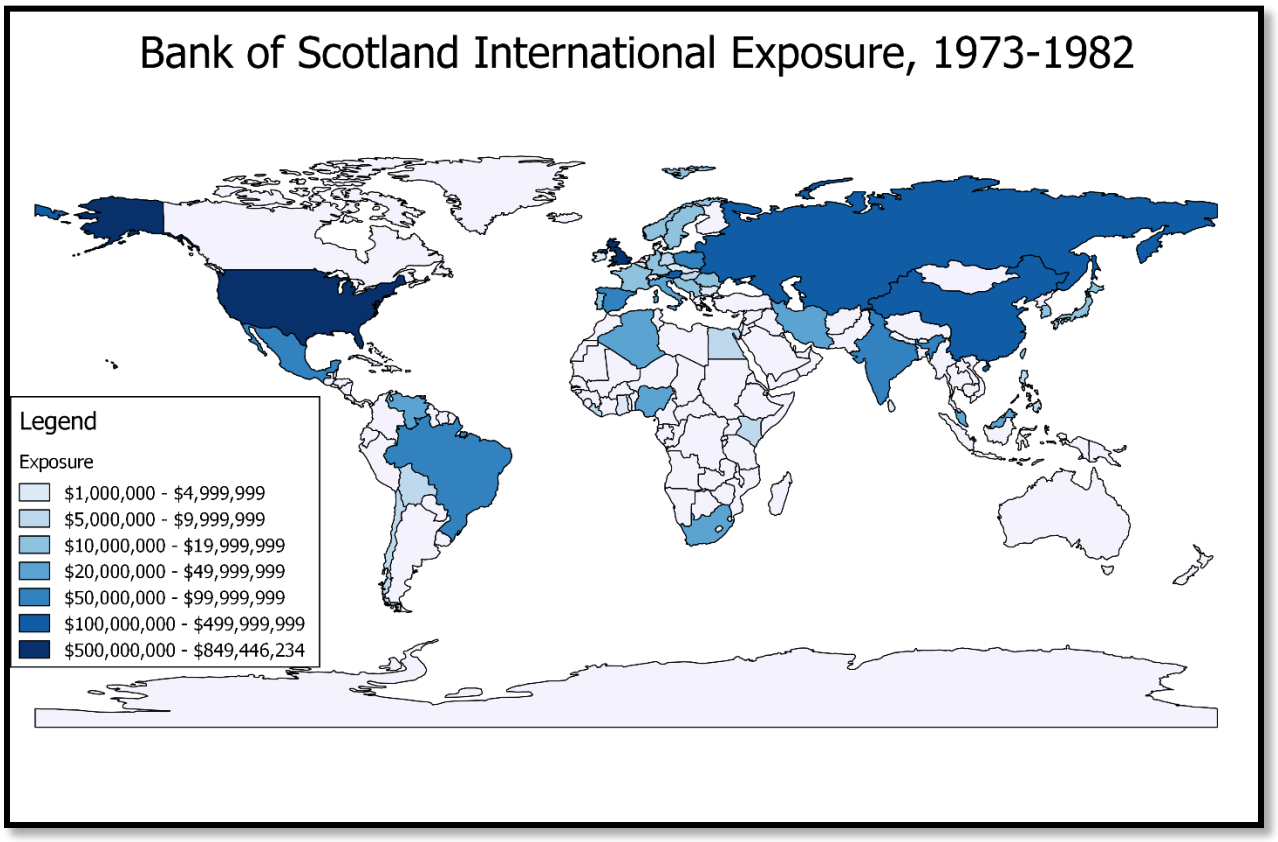

Figure 4.2: Bank of Scotland International Exposure, 1973-1982

Note: Data for Figure 4.2 was collected from the Bank of Scotland Governing Board Minutes for 1973 to 1982 from the Bank of Scotland collection at the Lloyds Banking Group plc Archives (Edinburgh). Loans were then organized by country of enterprise receiving the loan, converted to US Dollar value with the resulting data mapped in QGIS.

The Bank's syndicated lending did not just show a shift in patterns of investment from a targeted, industry and region-specific strategy to a more generalized, globally focused one as shown in

Figure 4.3. Over the course of this period, the Bank of Scotland's lending strategy became increasingly global in focus with lines of credit extended to borrowers on every inhabited continent except Australia. Approximately 50% of all lending was directed to clients based in the United Kingdom and the United States, with each receiving approximately 31% and 19% of all loans extended by the Bank. The Soviet Union, the People's Republic of China, the Netherlands, and Austrian banks were the next largest recipients with each receiving between $100,000,000 and $200,000,000 in credits of which only China could be considered a developing, postcolonial economy. Their next largest positions were guided, in part, by the Bank of Scotland's earlier experiences with oil and shipping capitalization as shown in their sustained operations in Algeria, Brazil, Mexico, Poland, South Africa, Spain, Iran, India, and Venezuela where loans were extended for oil exploration, utilities construction, infrastructure projects, and shipping finance. Smaller loans were also extended to other Global South economies though these tended to be singular moments rather than components of a consistent financial relationship as was the case with the Bank's larger borrowers.

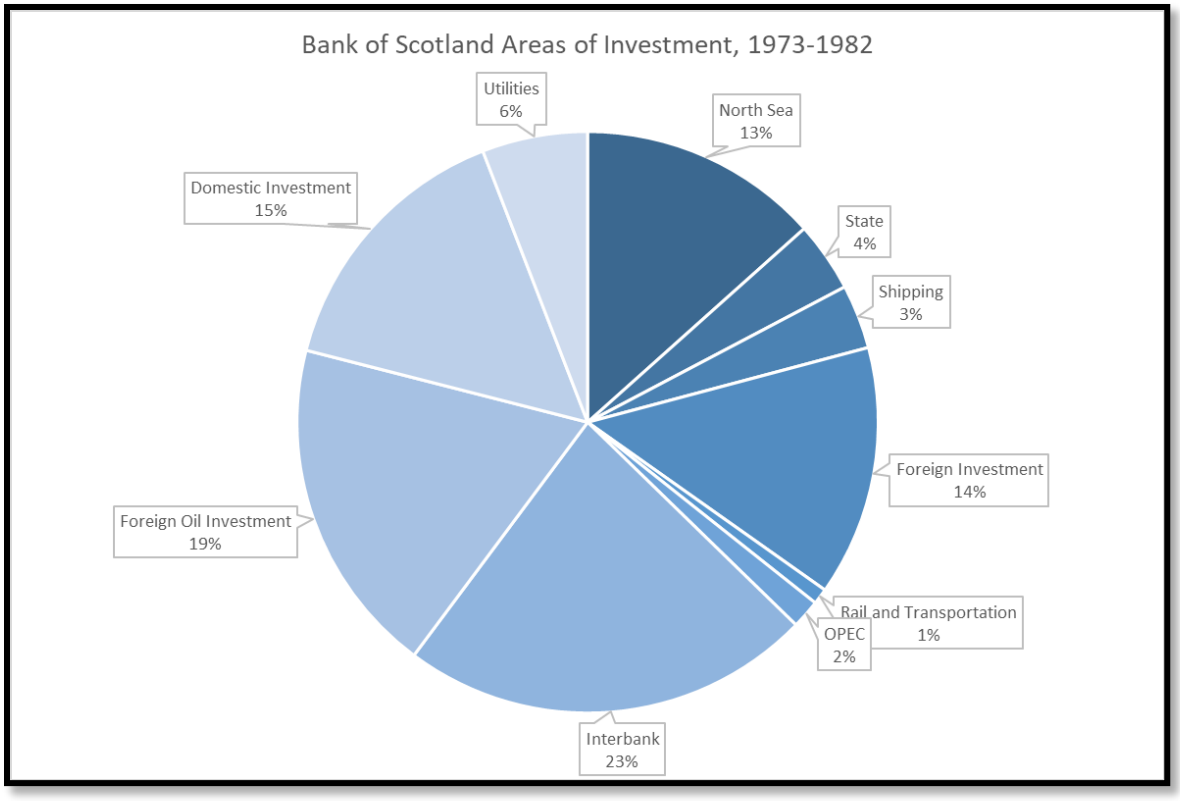

Figure 4.3: Bank of Scotland Syndicated Lending by Area of Investment

Note: Data for Figure 4.3 was collected from the Bank of Scotland Governing Board Minutes for 1973 to 1982 from the Bank of Scotland collection at the Lloyds Banking Group plc Archives (Edinburgh)

One especially significant aspect of Bank of Scotland business during this period is the extent to which they engaged in lending with a wide variety of subnational governments, business enterprises, and utilities in the Global South as shown in Figure 4.4. Much of the emphasis in discussion of international syndications during this period, as seen with Kopper and Wood, is on direct lending to sovereign national governments in the Global South and the role this played in creating the 1982 Debt Crisis. For the Bank of Scotland, however, such lending only constituted approximately 4% of all business, a figure which includes lending to the British government and other sovereign debtors in the Global North. Their focus was, instead, on businesses, municipalities, utilities, and oil exploration in Algeria, Mexico, and Brazil. Examples like the £50,000,000 1982 loan extended to an Indian utility company, the multiple loans provided to Petroleo and Sonatrach, the Brazilian and Algerian national oil companies, and the Philippine Sugar Commission are just some of the numerous examples of

syndications offered to Global South subnational concerns. This is reinforced by the lack of syndications to sovereign governments, as vividly illustrated by how the only two examples of such lending in this period are a 1973 loan to the Republic of Chile and a 1975 loan to the Emir of Dubai.[27]

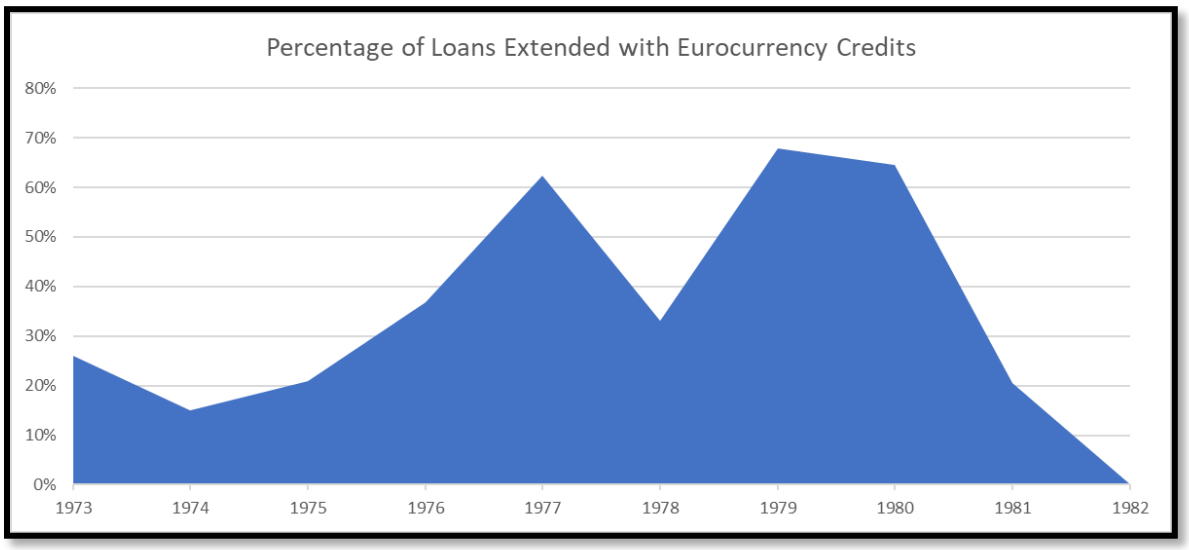

Figure 4.4: Percentage of Syndicated Loans Finance with Eurocurrency Credits

Note: Data for Figure 4.4 was collected from the Bank of Scotland Governing Board Minutes for 1973 to 1982 from the Bank of Scotland collection at the Lloyds Banking Group plc Archives (Edinburgh)

Not only were petrodollars directly invested by OPEC's members and used to help pay the debts of sovereign states, they were also an indirect source of capital for business enterprises throughout the globe, as shown in Figure 4.2. For the Bank of Scotland, these Eurocurrency credits became both an increasingly common source of capital and a mechanism for moving funds between financial institutions. From 1973 until 1975 the Bank's participation in Eurocurrency syndications could be described as fluctuating wildly, in part because their presence in such markets was very limited. From 1976 until 1978 participation in both syndication and Euromarket credit syndications rose significantly, with the total number of loans extended based on or for the purpose of borrowing such credits

[27] Bank of Scotland, Record of The Minutes, August 3rd, 1976, entry, p. 2900, Bank of Scotland collection at the Lloyds Banking Group plc Archives (Edinburgh), United Kingdom

representing 24% of all loans extended in terms of number of contracts. In 1977 the percentage jumped to 38% of all contracts extended. Euromarket syndications would reach a peak of 44% of all contracts extended in 1980, showing a growing dependence both by the Bank and their clients on using this increasingly lucrative, vibrant money market as a source of funding especially in the wake of the Volker Shock. Even though the Bank completely ceased using Euromarket syndications by 1982, this shows both that syndicated lending was used as a vehicle for mobilizing the Euromarket and how significant it was in providing a ready source of funding for contemporaneous economic actors. Demands imposed by this form of financing were so considerable that the Bank of Scotland began looking into additional ways to fund their Eurocurrency lending operations as discussed in the June 20th, 1978, meeting of the Board International Committee:

> "There was some discussion on the need to develop customer currency deposits and the use of such deposits in funding a proportion of the Eurocurrency book on an unmatched basis. [Joint General Manager] Mr. Young felt that to achieve a material penetration of this market would require a competitive approach to quotations for non-bank funds and consequently a degree of change in the philosophy of the London Dealing operation."[28]

This suggests that while the Eurocurrency market was a useful source of liquidity that it also, by 1978, had stretched the limits of what the Bank of Scotland could support, requiring the accumulation of currency deposits to sustain this line of business. What changes this implied for how they approached the London Dealing market are not discussed in the minutes, though the emphasis on a competitive approach suggests the Bank's pursuit of further currency deposits was happening in a tight market.

During this period there was also a substantive shift in how the business of international syndications was perceived by the board of the Bank of Scotland. Their board minutes change from

[28] Bank of Scotland, GB1830 BOS/1/2/6/5, Various Committee Minutes 1977-1980, Minutes of various Committees, including: Computer Committee, International Committee, Investments Committee, Oil Committee, Personal Finance Services Committee, Property Committee and Staff Committee. 11 Oct 1977-23 Dec 1980, Minutes of the Meeting of the Board International Committee, June 20th, 1978 entry, Bank of Scotland collection at the Lloyds Banking Group plc Archives (Edinburgh), United Kingdom

treating these new offerings as unique items in need of discussion on their individual merits. One example of this can be seen in the August 3rd, 1976, board minutes entry which discusses three international loans as follows:

> "INTERNATIONAL DIVISION:
>
> Light Servicos de Electricidado, Brazil
>
> The board approved of the Bank having accepted an invitation to co-manage a loan of US $100 million to Light Servicos de Electricidado, Brazil, and to underwrite the loan to the extend of U.S. $12 million.
>
> Kingdom of Spain
>
> The Board approved of the participation by the Bank to the extent of US $3 million in a loan of U.S. $1,000 million to the Kingdom of Spain.
>
> National Water Council
>
> The Board approved of the participation by the Bank to the extent of U.S. $5 million in Eurocurrency Loan of U.S. $300 million for capital expenditures on behalf of the Regional Water Authorities."[29]

This stands in stark contrast to later entries where, beginning on April 25th, 1978, the Bank stopped giving the same attention to new syndications and instead listed them as advances to the International Division as shown here:

> "INTERNATIONAL DIVISION:

8. The Shell Petroleum Co. Ltd. or any wholly owned subsidiary	U.S. $50,000,000	Standby facility on a revolving basis for 5 years and a term for further 5 years
9. Casa da Moeda do Brasil (The Brazilian Mint Co.)	U.S. $5,000,000	5 year Eurocurrency loan
10. The Life Association of Scotland	U.S. $5,000,000	1 year revolving credit facility

[29] Bank of Scotland, GB1830 BOS/1/2/1/78, Record of The Minutes 1971-1974, Minutes of the Weekly Board, 28 Dec 1971-25 Jun 1974, October 2nd, 1973, p. 2556, Bank of Scotland collection at the Lloyds Banking Group plc Archives (Edinburgh), United Kingdom; Bank of Scotland, GB1830 BOS/1/2/1/79, Record of The Minutes 1974-1977, Minutes of the Weekly Board, 9 Jul 1974-21 Jun 1977, March 2nd, 1976, p. 2826, Bank of Scotland collection at the Lloyds Banking Group plc Archives (Edinburgh), United Kingdom; GB1830 BOS/1/2/1/80, Record of the Minutes 1977-1982, Minutes of the Weekly Board, 5 Jul 1977-14 Dec 1982, August 1st, 1978, February 27th, 1979, and August 17th, 1982 entries, pp. 3117, 3172, 3448, Bank of Scotland collection at the Lloyds Banking Group plc Archives (Edinburgh), United Kingdom

Mr. Walker declared an interest

11. Sonatrach	a) U.S. $15,000,000 b) U.S. $7,000,000	Underwriting commitment Eurocurrency loan both for 7 years
12. Imperial Continental Gas Association	£5,000,000	Forward Exchange Contract for 1 year
13. National Bank of Hungary	U.S. $15,000,000	Underwriting commitment for 7 years
14. Svenska Varv AB - Sweden	U.S. $15,000,000	Underwriting commitment for 7 years"[30]

These two entries show a change in how the Board was handling and perceived such business. What most immediately stands out in this itemization is the elimination of any mention of specific Board-level discussion of each loan. While specific information on larger loans, such as the Shell Petroleum standby facility, was still included as supplemental materials to the minutes there is no indication the Board was specifically discussing these loans in 1978 in the same fashion as they had since 1973. Their inclusion in the list of cash advanced for specific uses, which earlier consisted of funds allocated to the Bank's various branches, is a clear sign of the regularization of this kind of lending that is not present in the earlier, more detailed case by case discussions at the Board level. This is somewhat understandable seeing as loan syndication business had steadily increased for the Bank since 1974, making this change less a significant shift in policy and more a belated recognition of the existing facts on the ground. Even so it still shows how international syndication had changed from being a novel instrument used only for capital intensive projects like oil exploration, as was the case with the International Energy Bank in 1973, to its new status as simply another form of doing business.

This change in how the Bank board addressed syndicated lending during this period mirrors the broader evolution of international syndications during this period. According to Wood the contracts and structure for internationally syndicated loans gradually developed towards the financial world's 1979

[30] Bank of Scotland, GB1830 BOS/1/2/1/80, Record of the Minutes 1977-1982, Minutes of the Weekly Board, 5 Jul 1977-14 Dec 1982, April 25th, 1978 entry, pp. 3090, 3091, Bank of Scotland collection at the Lloyds Banking Group plc Archives (Edinburgh), United Kingdom

adoption of standardized forms by significant market players. The Bank of Scotland's shift from discussing individual syndications as unique business items is evidence of this shift. The format used in the 1976 discussion of lending to the Kingdom of Spain demonstrates a greater level of specific detail compared to the short, bullet point items listed in the April 25th, 1978 minutes. The older format closely resembles other discussions of new business items presented before the Bank of Scotland such as this entry from 1972:

> "VIKING JERSEY EQUIPMENT LTD.
>
> Mr. Pattullo, General Manager, Bank of Scotland Finance Co. Ltd. submitted a report (see inserted) on the purchase of Viking Jersey Equipment Ltd. in which Company the Bank had bought up 5% of the equity. The Board noted the causes of escalation in the Bank's commitments as regards to its obligation to grant loans and guarantees. While the report brought out the fact that in respect to any cost over-run or alterations to design the Bank was theoretically saddled with an open-ended commitment, the Board accepted that the practical safeguards against major escalation were adequate and homologated the actions of one Executive in agreeing to such a commitment."[31]

Which directly contrasts with the new format's much closer resemblance to documentation for a more regular aspect of business from the same entry:

> "BANK'S INVESTMENTS:
> The following investments were reported:
> …
> Purchase of £4,000,000 9 1/2% Treasury Stock
> "A" 1980 @ 93.26%. Cost……£3,239,498
>
> Yield obtained 11.691%
>
> Sale of £5,000,000 6 1/3% Exchequer Stock
> 1976 @ 99.58%. Proceeds…….£4,579,696"[32]

[31] Bank of Scotland, GB1830 BOS/1/2/1/79, Record of The Minutes 1974-1977, Minutes of the Weekly Board, 9 Jul 1974-21 Jun 1977, January 20th, 1976 entry, p. 2837, Bank of Scotland collection at the Lloyds Banking Group plc Archives (Edinburgh), United Kingdom

[32] Bank of Scotland, GB1830 BOS/1/2/1/79, Record of The Minutes 1974-1977, Minutes of the Weekly Board, 9 Jul 1974-21 Jun 1977, January 20th, 1976 entry, p. 2841, Bank of Scotland collection at the Lloyds Banking Group plc Archives (Edinburgh), United Kingdom

Such standardization of documentation implies the business of international syndications was becoming a more routine, predictable element of finance for all actors including regional players like the Bank of Scotland.[33]

These loans also shifted in terms of recipients of credit. Even as early as the 1976 entry it is clear the Bank of Scotland was moving away from their traditional focuses on regional investments, shipbuilding, and North Sea oil exploration towards a much more diversified portfolio of loans. Of all the loans extended in that example only one, the loan to the National Water Council, fits within the usual pattern of regional concerns, shipping, and the North Sea. The same is true of the 1978 example where only the loans which fit in that pattern were those which were extended to Shell Petroleum and the Life Association of Scotland. All the rest were overseas loans to sectors unrelated to the Bank of Scotland's earlier investment priorities, as best reinforced by their significant lending to Sonatrach, the Algerian national oil company who had no interests in North Sea operations. This pivot away from the Bank's traditional concerns and towards increasingly diversified, internationally oriented lending continued throughout the period until 1982 when the syndication boom went bust, making the Bank of Scotland a potent example both of how international loan syndication brought regional finance into the global stage and how rapidly this market grew in the age of petrodollar recycling.

The rapid expansion in international syndicated loans coupled with their attractiveness to all parties made what was a relatively minor financial instrument on the global stage in 1973 a major market force by 1979. It also increasingly enmeshed banks who previously had little involvement in the business of international lending, effectively globalizing finance in a new and unprecedented way. Through this combination of growing demands of borrowers, the constant flow of liquid capital from the Middle East, and the steady returns from these growing lines of credit the 1973 Oil Shock played a

[33] Wood, "Sovereign Syndicated Bank Credits in the 1970s", 8

central role in creating the architecture of modern global finance. International loan syndication also, without question, was essential in dramatically expanding the scale of global private sector credit creation. Yet even as these new developments laid down foundational systems, they also created the exact networks necessary for rapidly internationalizing financial crises. These same patterns of new profits, security, and unplanned vulnerabilities were just as present in the rise of interest rate futures and swap contracts.

Interest Rate Futures

Futures trading was not a new practice when the Oil Embargo hit global markets. The first recorded futures trading emerged in the late 1800s for agricultural markets. These early futures rose due to the damage price fluctuations could inflict on farmers. For farmers getting their products to the market at the wrong time was the difference between survival and destitution. Futures contracts developed to protect the price of goods at the market for farmers. These instruments guaranteed that farmers would sell their goods to the holder of the contract at a pre-determined price. This protected the livelihood of farmers and guaranteed a reliable source of supply for buyers of agricultural goods. These informal arrangements became more organized and regulated with the rise of the first futures exchanges. One of the first modern futures exchanges was the Chicago Milk and Egg Board. Similar trade boards emerged for other agricultural commodities before they merged into two bodies known as the Chicago Mercantile Exchange (CME) and the Chicago Board of Trade (CBoT). Similar agricultural futures exchanges developed around the world, creating greater stability for all participants in agricultural markets. They also regulated the buying and selling of the contracts themselves, creating some degree of liquidity and transferability. This practice evolved into the first known example of futures trading.[34]

As markets developed, became more global, and expanded futures grew to other applications. The first major field to embrace futures was mining. Mining companies saw benefits in using futures contracts to lock in the price of their goods, ensuring a steady flow of capital to keep their operations running. Following agriculture and mining other commodities developed their own futures as market actors were drawn to the stability offered by commodity futures. As futures became more common and

[34] Robert T. Daigler, *Financial Futures Markets: Concepts, Evidence and Application*, HarperCollins College Publishers (New York: 1993), 6; Robert W. Kolb and James A. Overdahl, *Futures, Options and Swaps*, Blackwell Publishing (Oxford: 2007), 13-14

sophisticated the exchanges expanded. The mineral and agricultural futures amalgamated into commodity exchanges, handling all forms of commodity futures. By the 1960s commodity futures were a common, reliable form of market activity. The main innovations up to this point were mostly in the form of adding more commodities to the futures market and opening new exchanges. Even with these developments the most dominant futures exchanges in global finance, by the end of the 1960s, were the American-based CBoT, the CME, and the New York Mercantile Exchange (NYME).[35]

The first substantive change to futures trading was the creation of the first financial futures. This process began in 1972 when the CME, through the new International Monetary Market (IMM), began offering currency contract futures. This new instrument was put on offer thanks to the demise of the Bretton Woods system of fixed currency exchange rates. The shift from fixed rates to the floating system created new instability in the market which traders at the CME sought to alleviate. Like commodity futures currency futures contracts guaranteed the purchase of a set amount of a specific currency at a pre-determined rate. These instruments became very popular in the post-Bretton Woods world, especially after inflation rates skyrocketed following the Oil Embargo, quickly establishing a niche for itself as a hedge for international traders. The increasing volatility of the value of currency pushed the growth of currency futures and trading in those instruments. The shift from currencies pegged to the value of gold, which was in turn anchored to the US Dollar, to a floating system created an environment where the value of currencies rose and fell according to the existing supply of currency in the marketplace.[36]

If any one person could be credited with the invention of the first currency futures that would be economist Milton Friedman. His advocacy and prior advocacy for currency deregulation places the

[35] Edna Carew, *Derivatives Decoded*, Allen and Unwin Ltd (St. Leonards, Australia: 1995), 72-73; Kolb & Overdahl *Futures, Options and Swaps* 13
[36] Robert W. Kolb and James A. Overdahl, *Understanding Futures Markets, Sixth Edition*, Blackwell Publishing (Oxford: 2006), 433

development of currency futures as a product of deliberate, proactive planning in stark contrast to the far more reactive, somewhat improvisational rise of their interest rate future progeny. In some ways, it could be described as a solution in search of a problem.

Friedman's proposal entered the global marketplace on December 20th, 1971 when he published a paper for the CME titled, "The Need for Futures Markets in Currencies." This paper is considered by the CME and economic historians to be the intellectual foundation for currency futures. According to Brine & Poovey, his paper was decisive in convincing US Treasury Secretary George Schulz to sign off on the CME's new instrument, making Milton Friedman one of the theoretical fathers of the broader field of financial futures. Friedman's significance as the architect of this new instrument lies more in the role his biases played in shaping currency futures and in his close ties to the Chicago financial world, ensuring the Windy City's place as the home for these new markets. As critical as this paper was there are some blind spots in the reasoning. His arguments on futures are in line with his 1962 reasoning, expressed in his famous work *Capitalism and Freedom*, for moving the dollar from gold to a floating exchange rate system. In it he argues that floating rates would more accurately match market conditions, increase liquidity, and improve the health of the market. This thinking, in conjunction with commodity futures' history of relatively stable returns, explains his reasoning for claiming why currency futures would create greater market stability in a newly volatile environment. Friedman's entire line of reasoning in the 1971 paper is in line with the positions he articulated nearly a decade before, showing a consistency in argument and advocacy. By the time Friedman was proposing the concept of currency futures he clearly had time to think on his position, conduct research to support his conclusions and build his reputation as an economic theorist. Friedman's argument can be broken down into four main components: the conditions of Bretton Woods created volatility in the value of currencies, this volatility is best checked through currency futures, why the United States for historical, institutional, and geopolitical reasons

should be the centre of such a market and any speculative behaviours would be beneficial and self-correcting.[37]

The US Treasury agreed with Friedman's arguments, paving the way for currency futures to enter the market in early 1972. The profits and promises of stability offered by currency futures would soon be repeated for interest rates, an understandable development given their considerable volatility during this period. According to Peter W. Bacon and Richard E. Williams, writing in 1976, the currency future model was the ideal solution for tackling the problem of increasingly volatile interest rates. In October of 1975, the CBoT gave the first offer for interest-rate futures followed shortly after by the CME in January of 1976. These instruments guaranteed the future delivery of an interest-rate bearing product which, in most cases, were US Treasury bonds, bills and Eurodollar Bonds. According to Bacon and Williams the perceived security provided by currency futures would also be enjoyed by all other financial market actors by stabilizing the interest rates that were the bedrock of their costs and profit potential. Interest rate futures became wildly popular, swiftly eclipsing their currency forebears in volume traded. Market liquidity was greatly assisted by the short terms for interest rate futures as shown by the three-month term for the first CME Treasury bond futures. Mortgage brokers also got involved through a specialized exchange, the CBoT-owned Government National Mortgage Association, which offered twelve-year term interest rate futures made up of mortgage-backed certificates. By the end of the 1970s they became the single most valuable type of future traded on global exchanges with

[37] Brine and Poovey, *Finance in America,* 316; "CME Group." Stories of Financial Ingenuity and Innovation – CME Group. Accessed October 13, 2018. https://www.cmegroup.com/stories/index.html#!1-leo-melamed-birth-financial-futures.; Milton Friedman, "The Need for Futures Markets in Currencies", 1972, Collected Works of Milton Friedman Project records, Hoover Institution Archives, (Stanford University, CA), https://miltonfriedman.hoover.org/objects/56859, 6-12; Milton Friedman, *Capitalism and Freedom*, University of Chicago Press (Chicago & London: 1962), 57-64

the Chicago exchanges dominating the interest rate futures market. By 1982 their use as a hedge for investment portfolios was the common-sense financial strategy.[38]

This was all assisted by what Hendrik S. Houthakker described in 1982 as a highly favourable regulatory environment. According to Houthakker commodity futures trading in the United States was lightly regulated by the Commodity Exchange Authority (CEA). Most of the agency's work consisted of monitoring the commodity exchanges to ensure the regulations of the market prevailed. Even so their remit was vast, with four broad terms granting the CEA oversight on all forms of commodity futures. By 1975 currency and interest rate futures managed to completely circumvent existing regulations, forcing the establishment of the new Commodity Futures Trading Commission (CFTC) who had the authority to regulate financial futures. The CFTC was much more active in enforcing regulations against cornering futures markets with a focus on orderly liquidation of expired futures. Even so, according to Jerry W. Markham and David J. Gilberg their main emphasis was preventing any one or group of traders from monopolizing the market as opposed to preventing the creation of new instruments. They claim market growth was further assisted by the November 2nd, 1976 US Comptroller of Currency's Banking Circular No. 79 which authorized national banks to invest, on a limited basis, in financial futures which created an even larger pool of capital to draw on. Houthakker, Markham, and Gilberg all assert this was further aided by jurisdictional frictions between the Securities and Exchange Commission (SEC) and the CFTC. Both claimed jurisdiction and this competition ultimately proved beneficial to financiers by reducing the available, concentrated resources potentially dedicated to one outside watchdog and inherently limiting

[38] Bacon, Peter W., and Richard E. Williams. 1976. "Interest Rate Futures: New Tool for the Financial Manager." *Financial Management (1972)* 5 (1): 32; Carew, *Derivatives Decoded,* 77-78; Kolb and Overdahl, *Futures, Options, and Swaps* 152; Kolb and Overdahl, *Understanding Futures Markets* 271-274; Kolb, Robert W., and Raymond Chiang. "Improving Hedging Performance Using Interest Rate Futures." Financial Management 10, no. 4 (1981): 72-79. http://www.jstor.org.ezproxy.lib.gla.ac.uk/stable/3665221.; Kolb, Robert W., and Gerald D. Gay. "Immunizing Bond Portfolios with Interest Rate Futures." Financial Management 11, no. 2 (1982): 86-89. http://www.jstor.org.ezproxy.lib.gla.ac.uk/stable/3665028.; Sharda, Ramesh, and Kathryn D. Musser. "Financial Futures Hedging Via Goal Programming." Management Science 32, no. 8 (1986): 936-40. http://www.jstor.org.ezproxy.lib.gla.ac.uk/stable/2631658.

how much either agency could pursue on their own in ordinary conditions. Such frictions directly parallel the conflicts which manifested between national government tackling the petrodollar recycling problem as discussed in Chapter Three. Regulatory competition, conflicting objectives, and the perverse incentives that came with entrusting regulatory power to multiple different agencies provided financial actors in the United States the same free hand enjoyed by the international banks responsible for processing OPEC's petrodollars. From 1974 to 1982 the regulatory environment in the United States, combined with the existing expertise in Chicago, was a highly favourable environment for the rapid development of financial futures.[39]

These new instruments were a major change for futures. For much of their history futures were commodity-based. This meant the contracts were based on the delivery of concrete product that could be sold to producers of finished goods. This created a natural constraint on the growth and decline of commodity futures exchanges. Interest rate futures, which rose amidst the tumult of the Oil Shocks, represented a significant shift in more than just what was being traded. Now futures exchanges made it possible to speculate on the price of financial instruments whose value was based on whether the underlying instrument was still good. Everything from currency prices to stocks, bonds and loans could be futurized, their contracts traded with the promise of security in an insecure financial environment. What makes this very different, as has been seen in the broader expansion of financial markets discussed in Chapter One and the meteoric growth of the Eurodollar market during this period, is capital does not obey the same constraints as physical commodities. All other commodities, goods, and services are limited by the necessary land, resources, and labour required to produce them and have measurable peaks of production and efficiency. Financial markets, by contrast, consistently found ways

[39] Houthakker, Hendrik S. "The Regulation of Financial and Other Futures Markets." The Journal of Finance 37, no. 2 (1982): 482-483. Doi:10.2307/2327353.; Markham, Jerry W., and David J. Gilberg. "Federal Regulation of Bank Activities in the Commodities Markets." The Business Lawyer 39, no. 4 (1984): 1727-729. http://www.jstor.org.ezproxy.lib.gla.ac.uk/stable/40686593; Kane, *The Eurodollar Market and the Years of Crisis,* 368-371

during this period to expand and increase even as all other forms of human activity were thrown into turmoil and scarcity. Such capacity for expansion simply does not exist for other commodities protected by futures and even currencies were still at least nominally a limited good in 1972 that could be treated as if it were the same as a herd of cattle or a ton of coal. Futurization, by contrast, helped create more capital for financial institutions that previously did not exist through the processes of remediation, interest accumulation, and market speculation.[40]

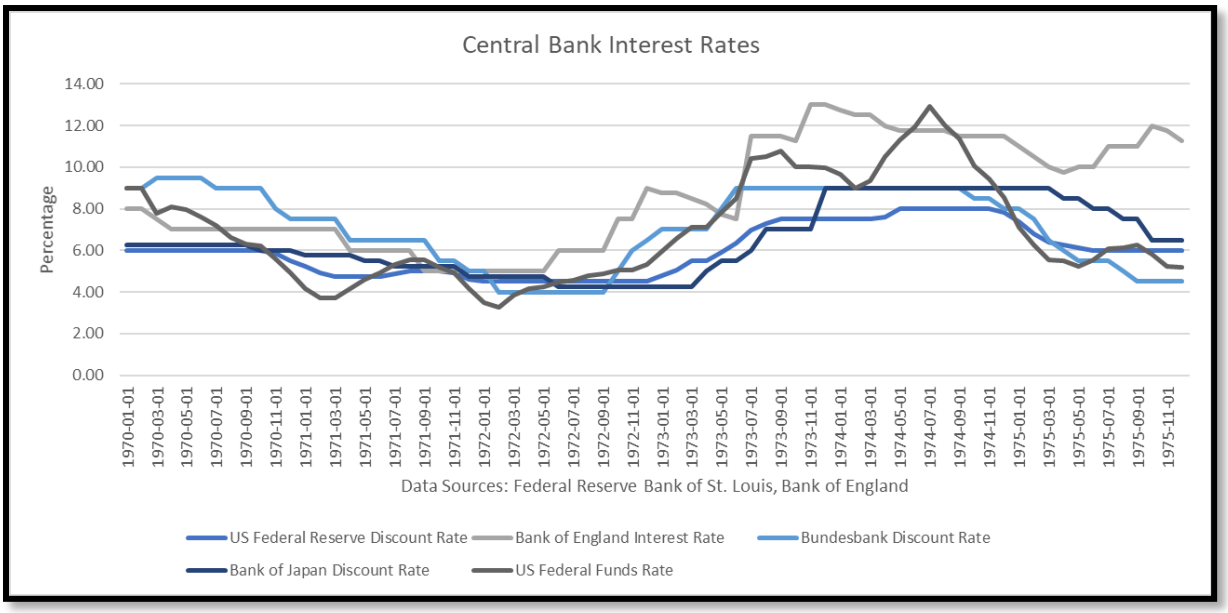

Figure 4.5: Central Bank Rates, 1970-1974

Note: Data for Figure 4.5 was collected from the Federal Reserve Bank of St. Louis online database and the Bank of England's historical interest rates online database

[40] Xu Gong, Toon De Pessemier, Wout Joseph, Luc Martens, "An energy-cost-aware scheduling methodology for sustainable manufacturing", *22nd CIRP Conference on Life Cycle Engineering*, 187-188; Felix Papier, "Managing Electricity Peak Loads in Make-To-Stock Manufacturing Lines", *Production and Operations Management*, Vol. 25, No. 10, October 2016, 1709-1711; Friedrich-W. Wellmer, Roland W. Sholz, "Peak minerals: what can we learn from the history of mineral economics and the cases of gold and phosphorus?", *Miner Econ*, 2017, 74-78; Michael Bradley and Gregg Jarrell, "Expected Inflation and the Constant-Growth Valuation Model", *Journal of Applied Corporate Finance*, Vol. 20, No. 2, Spring 2008, 66-72

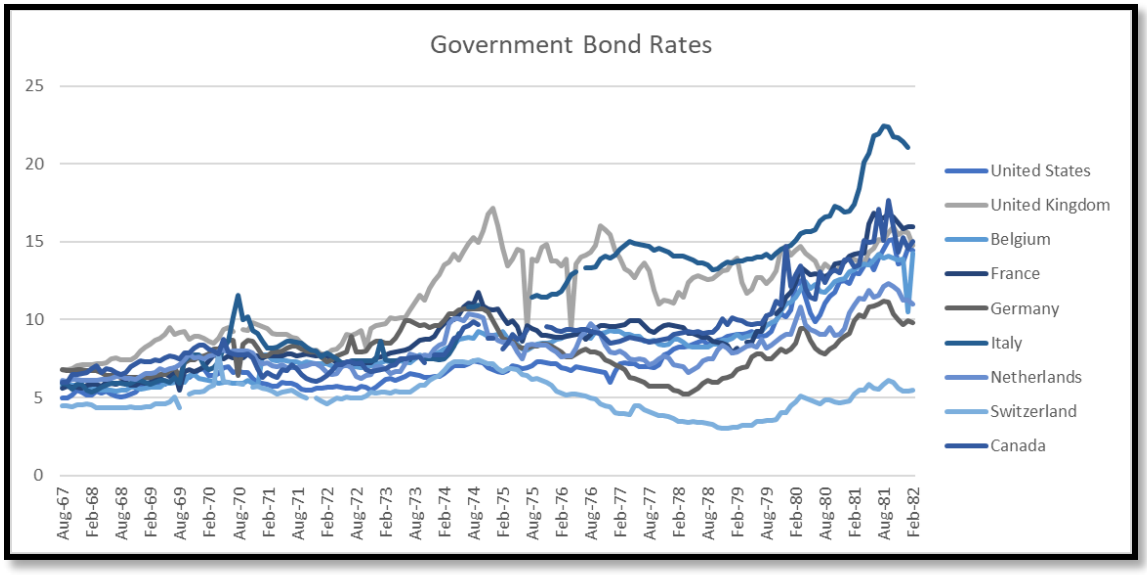

Figure 4.6: Government Bond Rates, 1967-1982

Note: Data for Figure 4.6 was collected from the IMF International Financial Statistics Reports from 1968 to 1981

This narrative of steady evolution, adoption, and expansion of the use of a proven instrument obscures exactly how unstable market conditions fuelled these innovations. It also leaves aside the causes of these market conditions. The best place to start is investigating the conditions facing global markets. In the months leading up to the October 1975 introduction of interest rate futures were characterized by increasingly volatile financial conditions. The early 1970s were a period of intense volatility in central bank interest rates as shown in Figures 4.5 and 4.6. The standard deviation in the period covered for the US Federal Reserve Discount Rate was 1.285%, for US Federal Funds was 2.636%, for the Bank of England Interest Rate was 2.638%, for the Bundesbank Discount Rate was 1.853% and for the Bank of Japan Discount Rate was 1.667%. One could argue, as has been posited generally on the question of financial innovations, these changes were thanks to the increasingly volatile conditions of the post-Bretton Woods world. However further investigation shows the problems with this reasoning.

Central Bank Interest Rate Volatility					
Data Source: US Federal Reserve Bank of St. Louis, Bank of England					
	Nixon Shock, September 1971-December 1972				
Rate	Mean	Minimum	Maximum	Standard Deviation	
US Federal Reserve Discount Rate	4.595625	4.5	5	0.18807689	
Bank of England Interest Rate	5.8125	5	9	1.209338662	
Bundesbank Discount Rate	4.8125	4	6.5	0.946484724	
Bank of Japan Discount Rate	4.625	4.25	5.25	0.387298335	
US Federal Funds Rate	4.560625	3.29	5.55	0.65479227	
	OPEC Price War, January 1973-October 1973				
Rate	Mean	Minimum	Maximum	Standard Deviation	Difference vs Nixon Shock
US Federal Reserve Discount Rate	6.232	4.77	7.5	1.033900919	81.81%
Bank of England Interest Rate	9.525	7.5	11.5	1.693328412	28.58%
Bundesbank Discount Rate	8.1	7	9	0.994428926	4.82%
Bank of Japan Discount Rate	5.575	4.25	7	1.148972971	66.29%
US Federal Funds Rate	8.475	5.94	10.78	1.815074226	63.92%
	Oil Shock, November 1973-April 1974				
Rate	Mean	Minimum	Maximum	Standard Deviation	Difference vs Nixon Shock
US Federal Reserve Discount Rate	7.52	7.50	7.60	0.040824829	-360.69%
Bank of England Interest Rate	12.63	12.00	13.00	0.379143772	-218.97%
Bundesbank Discount Rate	9.00	9.00	9.00	0	N/A
Bank of Japan Discount Rate	8.67	7.00	9.00	0.816496581	52.57%
US Federal Funds Rate	9.74	8.97	10.51	0.542979435	-20.59%
	Petrodollar Recycling, May 1974-December 1974				
Rate	Mean	Minimum	Maximum	Standard Deviation	Difference vs Nixon Shock
US Federal Reserve Discount Rate	7.93	7.60	8.00	0.140277503	-34.07%
Bank of England Interest Rate	11.67	11.50	12.00	0.176776695	-584.11%
Bundesbank Discount Rate	8.78	8.00	9.00	0.363241579	-160.57%
Bank of Japan Discount Rate	9.00	9.00	9.00	0	N/A
US Federal Funds Rate	10.90	8.53	12.92	1.383474892	52.67%

Table 4.2: Central Bank Interest Rate Volatility

Note: Data for Table 4.2 was collected from the Federal Reserve Bank of St. Louis online database and the Bank of England's historical interest rates online database. Data was organized into the periods noted in the table and statistical information was calculated using Microsoft Excel.

The data shown in Table 4.3 demonstrates the high levels of volatility in central bank interest rates, the same rates that were the foundation of instruments like US Treasury bonds, Treasury bills and Eurobonds that were being futurized. This data shows the impact of Bretton Woods on interest rate volatility is not as great as that of the uncertainty brought on by the oil shocks. In the immediate period following the end of Bretton Woods there is some degree of interest rate volatility, but this instability is soundly exceeded by the impact of the 1973 price war. During this period, all five bank rates measured show consistently greater volatility with the Bundesbank rate being the most stable, with its standard

deviation measuring only 4.28% higher than the immediate Nixon Shock period, followed by the Bank of England rate which measured 28.58% greater standard deviation. All the other three rates, as shown in Table 4.3, had at least 60% greater standard deviations than was seen during the Nixon Shock period. When you consider the unprecedented jumps in the price of oil during this period along with the proven inflationary impact it makes sense that rates would be showing greater change in this time than under the Nixon Shock. As far as volatility is concerned there is no question it was on the rise, providing a pretext and the ideal conditions for justifying the introduction of interest rate futures.

Central Bank Rate Correlations, September 1971-December 1974 Data Source: St. Louis Federal Reserve, Bank of England					
Rate	US Federal Reserve Discount Rate	Bank of England Interest Rate	Bundesbank Discount Rate	Bank of Japan Discount Rate	US Federal Funds Rate
US Federal Reserve Discount Rate		0.914261939	0.911342392	0.945768918	0.957181212
Bank of England Interest Rate	0.914261939		0.907928152	0.83948372	0.910106441
Bundesbank Discount Rate	0.911342392	0.907928152		0.797615681	0.932675007
Bank of Japan Discount Rate	0.945768918	0.83948372	0.797615681		0.855531769
US Federal Funds Rate	0.957181212	0.910106441	0.932675007	0.855531769	

Table 4.3: Central Bank Rate Correlations

Note: Data for Table 4.2 was collected from the Federal Reserve Bank of St. Louis online database and the Bank of England's historical interest rates online database. Correlation coefficients were calculated using Microsoft Excel.

Where things get more complicated is during the Oil Shock and with the onset of petrodollar recycling. During this period there is less actual volatility, in terms of standard deviations, in all interest rates measured than was the case during the price war period or during the fallout of the Nixon Shock. However, it is important to note that in both periods you see consistently higher mean interest rates, maximums and minimums than was the case in either of the two prior time periods. This kind of environment may have been more stable, but it was moving in a more expensive range for doing business. This led to the other side of the futures coin: getting a guaranteed price for your goods that is one which the market can bear and is profitable for all parties involved. Operating in a high-cost environment is not conducive to free-flowing investment so for traders working in these instruments there was additional incentive to guarantee the delivery of instruments they could sell for a reasonable return on investment.

Correlations of Central Bank Bond Issues, 1968-1981 Data Source: IMF International Financial Statistics									
Issuing Central Bank	United States	United Kingdom	Belgium	France	Germany	Italy	Netherlands	Switzerland	Canada
United States		0.637504006	0.911582528	0.914250966	0.405944262	0.896730473	0.828499595	-0.052624239	0.968100799
United Kingdom	0.637504006		0.776310838	0.773041933	0.445612072	0.809350062	0.778887473	0.212437465	0.723289843
Belgium	0.911582528	0.776310838		0.960898532	0.487044521	0.919546301	0.850988815	0.05198343	0.922539357
France	0.914250966	0.773041933	0.960898532		0.593098305	0.905366782	0.907387643	0.214999454	0.926805437
Germany	0.405944262	0.445612072	0.487044521	0.593098305		0.272527556	0.710484972	0.760324034	0.45159819
Italy	0.896730473	0.809350062	0.919546301	0.905366782	0.272527556		0.789878367	-0.14194035	0.89650405
Netherlands	0.828499595	0.778887473	0.850988815	0.907387643	0.710484972	0.789878367		0.369990131	0.871772224
Switzerland	-0.052624239	0.212437465	0.05198343	0.214999454	0.760324034	-0.14194035	0.369990131		0.028585467
Canada	0.968100799	0.723289843	0.922539357	0.926805437	0.45159819	0.89650405	0.871772224	0.028585467	

Table 4.4: Correlations of Central Bank Bond Rates

Note: Data for Table 4.4 was collected from the IMF International Financial Statistics Reports from 1968 to 1981. Correlation coefficients were calculated using Microsoft Excel.

What gives further incentive for pursuing such instruments is how closely these markets move. As is shown in Tables 4.3 and 4.4 all five of the rates measured and all nine bond rates discussed show strong levels of correlation. This, alone, does not prove that movement of one interest rate will cause other interest rates to fluctuate but it does demonstrate how tightly connected these rates are. The fact that these rates were correlating this consistently, in an environment where central interest rate movements were being shaped by the challenges of highly inflationary conditions, shows how increasingly interconnected these markets were. It also shows, in an environment of multiple volatile rates whose movements are closely shared, there were more than enough additional risk factors in the market for interest rate futures to be highly desirable in the wake of such instability.

All this data, however, suggests the connection between derivatives and petrodollars is one of circumstance rather than cause and effect. The data and literature discussed so far does not actually show a direct, causal link between the petrodollar recycling process and the rise of interest rate futures during the 1970s. Proof of a consistent, direct connection between interest rate movements in the Eurodollar market, central bank rates, and petrodollar investment priorities are scarce though there is some evidence to suspect some degree of influence. In the immediate aftermath of the Oil Embargo, interest rates began declining for central banks and in the Eurodollar market. The National Westminster Bank (NatWest) Interest Rate Committee claimed the flow of oil money was easing the impact of

inflationary pressures and playing a direct role in depressing interest rates in financial markets. Following this dip Eurodollar figures halted in their decline and rebounded reaching a peak of 13.13% by July of 1974, a higher level than was seen during the peak of the Oil Embargo itself as shown in Figure 4.8. According to the NatWest Interest Rate Committee, this rebound was due to a major shift in OPEC's investment priorities to favour placing funds in New York at the expense of the London Eurodollar market.[41]

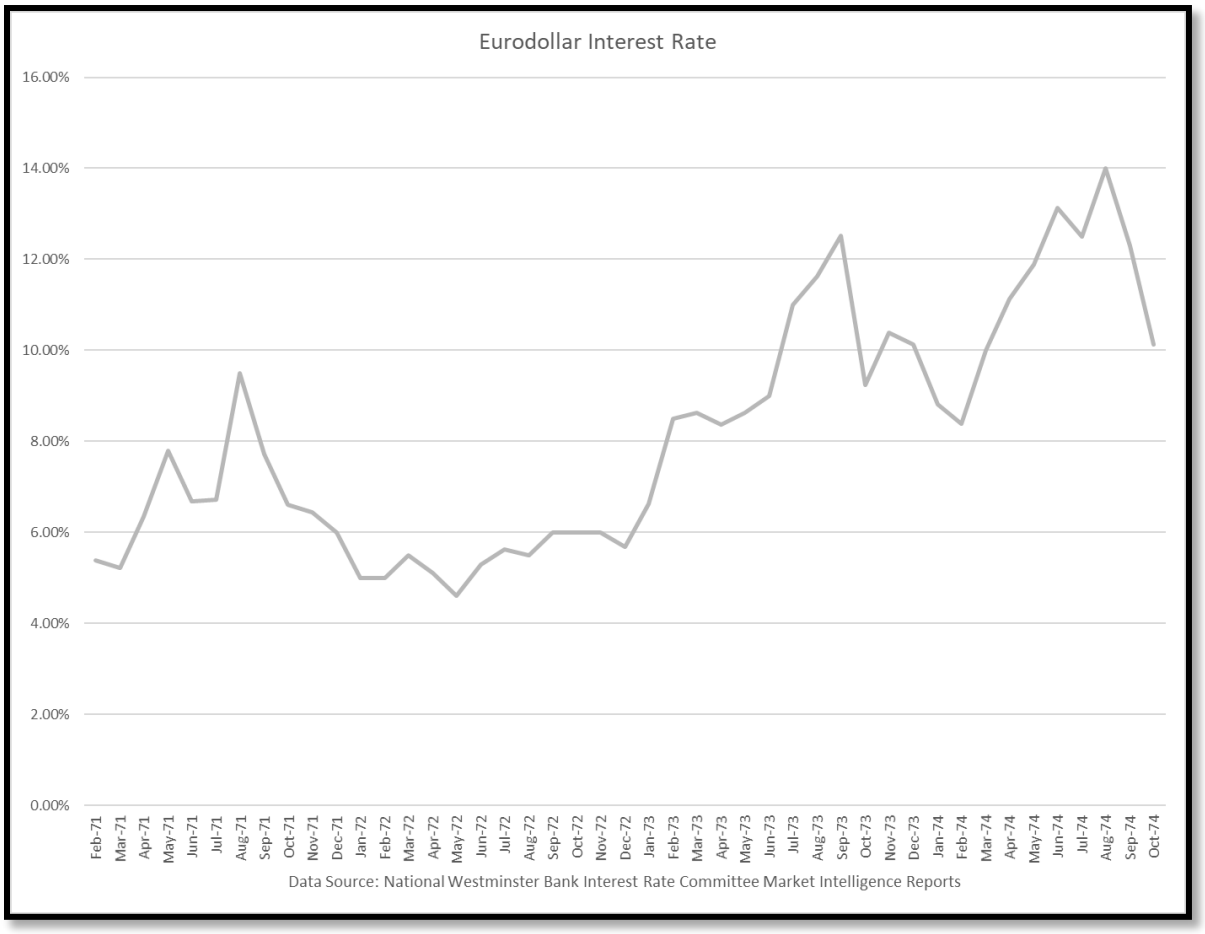

Figure 4.7: Eurodollar Interest Rate

Note: Data for Figure 4.7 was collected from the National Westminster Bank Interest Rate Committee Market Intelligence Reports from February 1971 to October 1974 from the NatWest Group archives in Edinburgh, Scotland

[41] "The Outlook for Interest and Exchange Rates", Page 3, 21 June 1974, NWB/1810/11, NatWest Group Archive, Edinburgh, United Kingdom; "The Outlook for Interest and Exchange Rates", Page 10, 18 July 1974, NWB/1810/11, NatWest Group Archive, Edinburgh, United Kingdom

The Bank of England observed similar developments unfolding across London-based financial markets. As was observed by regulators on June 18th, 1974:

> "1. Market attitudes to recycling
>
> Gloom at present in the London markets includes some political uncertainties, but it is also part of a more general concern about world growth prospects. Recent adverse forecasts by several leading US, British and, notably, German personalities, who have spoken of relieving pressure on the Euro-markets by channelling funds back to the central monetary institutions, have not helped. Nevertheless, by and large, New York appears to have regained its nerve. Moreover, the prospect of falling short-term rates will contribute to the educative process whereby the producers may gradually become more willing to invest in longer-0term, use a wider range of banks, and explore other forms of investment."[42]

As the Standing Group on Oil Problems stated on July 4th, 1974, "the banks have continued to express fears of being swamped by short-term inflows" and the Bank of England expected further rate adjustments both in their interest rates and private market rates so they could better cope with the new circumstances. They also noted the same shift observed by NatWest, claiming a recent drop in Eurodollar interest rates in London was to a recent shift by OPEC investors to favour New York offerings over those available in the United Kingdom. By November 29th, 1974, Bank of England regulators were observing selected deflation of the interest rates on specific Eurodollar offerings among banks which were not being favoured with large deposits from the Middle East, a situation regulators claimed would soon be changing thanks to a shift in priorities from shorter to longer term deposits coming from the Saudi Arabia Monetary authority. These observations carry additional weight thanks to evidence that London Euromarket actors were handling a solid majority of all petrodollar investment in Eurodollar instruments.[43]

[42] "Standing Group on Oil Problems Meeting Notes 18th June 1974", World Energy Crisis: B/E Standing Group on Oil Problems, 3A112/1, Bank of England Archive, London, United Kingdom

[43] "Standing Group on Oil Problems Meeting Notes 4th July 1974", World Energy Crisis: B/E Standing Group on Oil Problems, 3A112/1, Bank of England Archive, London, United Kingdom; "Standing Group on Oil Problems Meeting Notes 29th November 1974", World Energy Crisis: B/E Standing Group on Oil Problems, 3A112/1, Bank of England Archive, London, United Kingdom;

It is also quite likely that speculation and market uncertainty, two things interest rate futures at least theoretically were meant to mitigate and resolve, were a significant factor in causing these fluctuations. As personnel at the Bank of England concluded on August 7th, 1974:

> "The problem of how to improve our knowledge of the disposition of oil funds was discussed. The Americans appear reluctant to reveal their holdings. They and the Germans should be pressed to pool information with ourselves; this might be done at the next Foreign Currency and Gold Meeting at Basle. Global distribution figures might helpfully be co-ordinated and published by the BIS."[44]

Such a lack of consistent, reliable information during this first wave of petrodollar capital ensured an additional element of uncertainty. In such an information vacuum a desire for more security for the instruments and markets now in the centre of this new financial storm was even more pressing than ever. These examples all show a climate where market uncertainty was exacerbated both by the direct consequences of the 1973 Embargo and the impact of petrocapital reinvestment on the underlying conditions of subsequent OPEC investments from 1974 to 1980. Petrodollars may not have directly made interest rates futures as we know them possible, but they clearly played a role in making such derivatives more desirable than they usual through the oil price shock that drove rate volatility, the market distortions caused by their investment in international finance, and the new instabilities introduced by a lack of information sharing during the critical first wave of petrodollar capital.

[44] "Standing Group on Oil Problems Meeting Notes 7th August 1974", World Energy Crisis: B/E Standing Group on Oil Problems, 3A112/1, Bank of England Archive, London, United Kingdom

Swap Contracts

The third major form of financial instruments to see widespread adoption during the 1974 to 1982 period were swap contracts. The first swaps, like the first financial futures, emerged to facilitate the movement of currency across international borders. These soon became the template for all other swaps that followed, laying the foundation for a market with an estimated value of approximately $7 trillion as of the end of 2018. These new instruments provided financial actors with new tools for transferring currency, capital, and instruments between different institutions. There is quite a bit of disagreement on when, exactly, in the 1970s the private market for currency swaps developed but there is no question they first emerged in this decade. Swaps also stand in contrast to interest futures and international syndicated lending in their origins in the ferment of London's financial markets instead of the trading floors of New York and Chicago.[45]

There is a considerable degree of consensus on the origin of swaps. According to John F. Marshall and Kenneth R. Kapner, the motivating causes for the invention of currency swaps can be found in the disparities between different banks' means to purchase large quantities of currency and barriers on finance imposted by capital control regulations. They claim existing regulations in most of the industrialized world made it difficult for firms to raise foreign capital. This gave rise to the first informal arrangements, best described as proto swaps, that preceded true swaps. For Rafael Hodgson, currency swaps were preceded by several simpler, less direct means of achieving the overall end goal of providing access to currency for Eurodollar market bankers. The first proto swaps were what were known as parallel loans and back-to-back loans. These were arrangements where the participating banks took out loans in their domestic currency before then swapping the borrowed currency with each other. Parallel and back-to-back loans both functioned based on this basic framework with back-to-back

[45] BIS Statistics Explorer, Derivatives statistics, Table D5.1

loans being entered by two parties while parallel loans were entered by four parties. According to the Bank of England Quarterly Bulletin the parties involved were required to pay interest to one another and reach agreements stipulating when payments were to be delivered.[46]

That said these agreements carried several risks. According to Hammond, Hodgson, Marshal and Kapner there were considerable transaction costs in searching for other financial institutions with the necessary matched needs. The very nature of the agreements entered by parties involved in these proto swaps meant there were a minimum of two loans in play, each carrying independent risk of default with no firm guarantees. This lack of clarity gave rise to legal disputes between parties seeking to nail down the specifics of parallel and back-to-back loan agreements. They claim complexity of parallel arrangements coupled with the risks were critical in creating the demand for a simpler, more secure means for moving currency swiftly and globally.[47]

These developments were further encouraged, in the case of the London markets, by British capital controls systems. Such policies, according to Tim Rooth and Peter Scott, played the twin roles of regulating Foreign Direct Investment (FDI) and stimulating direct investment from the dollar area into the United Kingdom itself, preserving access to investment in the sterling area as defined in the 1946 Anglo-US Financial Agreement. By 1961 this policy regime had begun to change, with exchange controls becoming more restrictive. Investors and multinationals, who increasingly required foreign currency for doing overseas business, received some concessions in 1962 when British regulators allowed businesses to purchase currency directly through the investment market. This option, according to the Bank of England, was previously only available for portfolio investment positions and represented a tipping point

[46] John F. Marshall and Kenneth R. Kapner, *Understanding Swaps*, John Wiley & Sons, Inc. (New York, Chichester, Brisbane, Toronto & Singapore: 1993), 4-5; Raphael Hodgson, "The Birth of the Swap", *Financial Analysts Journal*, Vol. 65 no. 3 (May-June 2009), 32-33; G.M.S. Hammond, "Recent Developments in the Swap Market", *The Bank of England Quarterly Bulletin*, (February 1, 1987), 66

[47] Hammond, "Recent Developments in the Swap Market", 66, Hodgson, "The Birth of the Swap", 33, Marshall & Kapner, *Understanding Swaps,* 5

in currency supply. Regulations were increasingly tightened over the course of the 1960s, with specific restrictions placed on transferring pounds sterling outside of the defined sterling area. The parallel currency exchange markets which developed, according to Paul K. Woolley, ensured both the need for foreign currency for conducting overseas business and the right conditions for London investors to adopt currency-related instruments such as back-to-back lending and parallel loans.[48]

This larger context establishes the circumstances informing how British regulators, as shown in Bank of England documents, understood back-to-back and parallel loans in the years preceding the Oil Embargo. In 1969 they claimed:

> "Long-term borrowing for portfolio investment in foreign currency securities by institutional investors is allowed on condition that there is no adverse effect on reserves; it has therefore been laid down that the shortfall between interest/income during the term of a loan has to be capitalized. With the present high interest rate structure in Euro-dollar and sterling markets, ways are being found to reduce the cost of this shortfall by matching U.S. Dollar loans with sterling deposits;"[49]

This makes it clear the first proto swaps were implemented to address the increasing costs of direct borrowing from money markets and conventional sources while also effectively addressing capital controls requirements. They elaborate further on the structure, execution, and regulation of back-to-back loans later in the same year stating:

> "1. Back-to-back loans consist of two parallel but linked transactions; normally they are two parallel loan transactions involving a United Kingdom resident controlled company which simultaneously lends sterling to a non-resident controlled United Kingdom controlled company while borrowing an equivalent amount of foreign currency from the parent or associated foreign company of that non-resident controlled United Kingdom company for direct or outward portfolio investment. Exchange control approval is required and will not be given unless each loan, separately, meets the current exchange control rules.

[48] Tim Rooth and Peter Scott, "British Public Policy and Multinationals during the "Dollar Gap" Era, 1945-1960", *Enterprise & Society*, Vol. 3, No. 1 (March 2002), p. 124-125; "Exchange Control: A Short History", Bank of England Quarterly Bulletin, Q3 1967, (September 1967), 257-260; Paul K. Woolley, "The U.K. Investment Currency Market", *Staff Papers (International Monetary Fund),* Vol. 24, No. 3 (Nov. 1977), 756-757

[49] Mr. Barker – for C.P. 2 and C.P. 4 Page 1 of 2, 9th May 1969, Exchange Control History Files: 'Back to Back Loans' and Currency Swaps, 3A152/19, Bank of England Archive, London, United Kingdom

> 2. The sterling lending to the non-resident controlled United Kingdom company is dealt with under normal E.C. [exchange control] rules and the borrowing of foreign currency by the United Kingdom controlled company under the normal outward direct or portfolio investment rules."[50]

These statements show that, in 1969, back-to-back loans were seen in the United Kingdom as another form of portfolio and direct investment rather than a unique financial transaction. They were also clearly intended to be a solution to the problem of increasing currency liquidity without impacting existing currency reserves. Such concerns were likely due to the increasing fluctuation of currency reserves during the late 1960s as shown in Figure 4.8 below. For borrowers doing business that required US dollars meant dwindling American currency reserves would have imposed constraints on how much lenders could provide. For dollar holders, particularly American-owned banks, and businesses, this would have provided quantities of foreign currency that could be traded for additional dollars or used for direct foreign investment. In a time of rising federal interest rates, as shown in Figure 4.9, borrowing from other banks would have mitigated increasing costs.

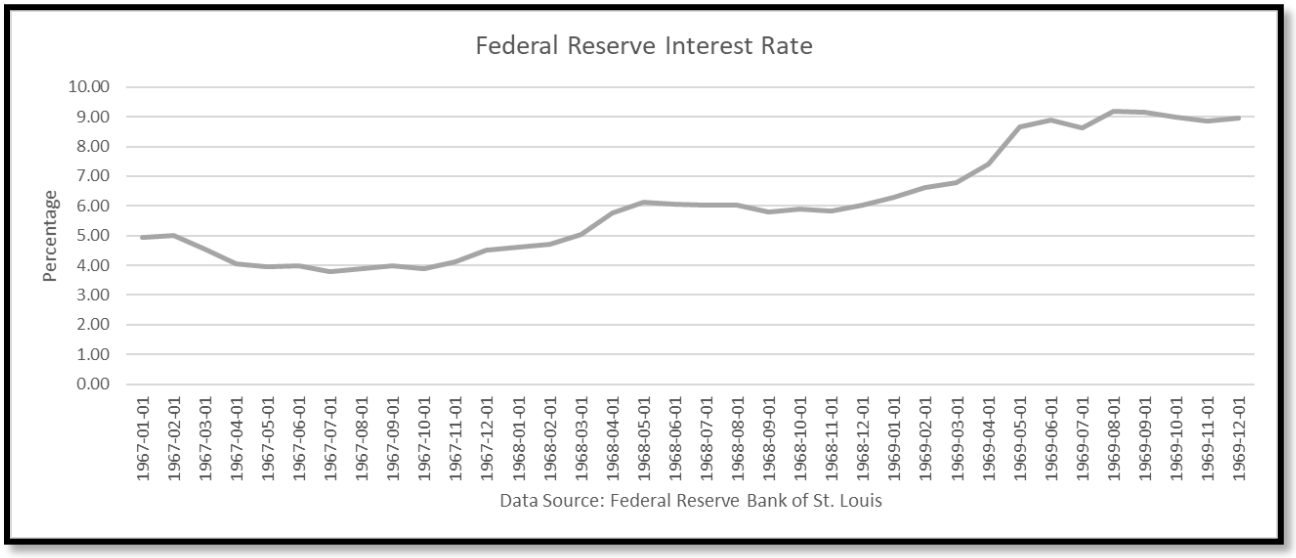

Figure 4.8: US Federal Reserve Interest Rates, 1967-1969

Note: Data for Figure 4.8 was collected from the Federal Reserve Bank of St. Louis online database

[50] Back to Back Loans, Capital and Securities Office Principals, 6th November 1969, Exchange Control History Files: 'Back to Back Loans' and Currency Swaps, 3A152/19, Bank of England Archive, London, United Kingdom

The stipulations regarding how they would be regulated this early on suggest, contrary to the claims in the later literature, there was some attempt to regulate what was happening with the proto swaps. The problem, therefore, was likely not one of back-to-back and parallel loans completely circumventing existing regulation. It rather seems to be one that, at the time, proto swaps were treated as a further refinement of existing financial practices rather than being understood as a new instrument. Such conclusions may have directly contributed to the growth and refinement of the new method of moving capital. If one assumes that proto-swaps are currency controls-compliant investing rather than a new instrument, which was the case in 1969 for British regulators, then it is easy for that new channel for moving capital to develop more freely.

An excellent example of how such lending was documented during this period can be found from the Bank of Scotland's board minutes in 1975 where they discuss putting forward $2 million for a syndicated Eurocurrency loan worth $15 million specifically for the purpose of securing US dollars. This loan is discussed in similar terms by the Bank of Scotland that are used for conventional business lending throughout their board minutes in this period. Though this loan was treated as a specific case warranting discussion at the board level, reinforcing how unusual such business was for the Bank of Scotland when the loan was first proposed, it is still very striking that it is treated no differently than other lending syndications in the same period. As can be seen both for the Bank of Scotland and the Bank of England these proto swaps were not treated as being any different than any other form of lending.[51]

As market conditions evolved the nature of swaps, their function, and form changed as is seen in an example from November 14th, 1974. The first significant difference is in the anatomy of the proto swap which had become more complex. This example had six elements: the sterling lender, the dollar

[51] Bank of Scotland Board Minutes Page 2752 Insert, 19th April 1975, Bank of Scotland Archive, Edinburgh, Scotland, United Kingdom

lender, the amount, the term of the loan, the interest rate and exchange rate fluctuations. In this specific case the sterling lender is Pension Fund Securities Limited while the provider of the dollars in question, for a total loan amount of 10 million pounds for a ten-year term, is Bank Xerox Limited. Half of the loan was paid up front with the other half was delivered after five years. The interest rate on the sterling amount was stated to be fluctuating based on the Minimum Lending Rate reflecting downward movements of interest only while the dollar amount was set at 1½% below the rate of the sterling loan. For handling exchange rate changes the agreement stated the amount of pounds sterling would remain fixed, keeping pace with the dollar amount for the duration of the loan. The initial proposal includes a clause stating, "The agreement will contain a provision that upon the default of a borrower, the lender may treat the entire loan as repaid in full."[52]

Additional examples, as seen in a similar proposed agreement between Pension Funds Securities Limited and the Ford Motor Credit Company from the 19th of November 1974, show these changes had become somewhat normalized in the market. This arrangement follows a similar pattern to the Bank Xerox agreement though it does not explicitly spell out the structure in the same detail. The same sort of conditions regarding amount, interest and term as seen in the previous agreement are in place suggesting the structure was well-understood. This proposed arrangement includes a variation on the earlier off-set clause which states, "The agreement will contain a provision that upon the default of a borrower, the parallel loan borrower may offset against the parallel loan an amount equivalent to the outstanding balance of the defaulted loan ("set-off" clause)." Such provisions are nothing new to back-to-back or parallel loans as the earlier November 1969 report specifically discusses, in section 5, that such stipulations are part of the existing practice to protect both parties from default. What is new is

[52] Letter to Direct Investment Office, Page 2 of the Principal and Exhibit A, November 14th, 1974, Exchange Control History Files: 'Back to Back Loans' and Currency Swaps, 3A152/19, Bank of England Archive, London, United Kingdom

the addition of a ratcheting interest rate allowing the rate for the swaps to be adjusted down based on market rates rather than central bank interest rates.[53]

Even with this change the main concern shown by regulators was not for this question of what to do in the event of default, as one would assume based on the literature regarding the risks of back-to-back and parallel lending, or the significance of a private sector-based fluctuating rate structure. An assessment of the Ford agreement by a Mr. Watkinson, dated the 29th of November 1974, focuses almost exclusively on the question of the handling of interest rates. In this document Watkinson rules in favour of using this approach, rather than requiring an alternative of a fixed rate which he raises as a possibility in his assessment, is to mitigate the increased current cost of borrowing US dollars. Stability is guaranteed by the stipulation against raising the interest rates in time with any changes in global financial markets. Watkinson ultimately finds this persuasive saying following his consideration of fixed rates, "Why force them to incur the additional costs entailed in terminating one agreement and taking out another? This is a nice point, which I promised would be borne in mind when those primarily responsible were considering the application."[54]

This question of changing practices regarding back-to-back loan interest rates is a substantial change in how these instruments operated. There is no mention of floating interest rates with the option to adjust due to market forces but instead were pegged in relation to the Bank Minimum Lending Rate during any of the 1969 discussions on this topic. A January 22nd, 1975, analysis discussing the original 1969 terms offers further context:

> "The background to our current rules on interest for back-to-back borrowing was formulated in 1969 viz.

[53] Letter to Direct Investment Office, Page 1 of the Principal, November 19th, 1974, Exchange Control History Files: 'Back to Back Loans' and Currency Swaps, 3A152/19, Bank of England Archive, London, United Kingdom
[54] I.C.I. Back to Back Loans by Mr. Watkinson, November 29th 1974, Exchange Control History Files: 'Back to Back Loans' and Currency Swaps, 3A152/19, Bank of England Archive, London, United Kingdom

> (i) Where the foreign currency borrowing by the U.K. resident is for portfolio investment, the sterling loan to the non-U.K. subsidiary has to be at not less than Bank Minimum Lending Rate (fixed or varying) to ensure that the U.K. balance of payments does not have to bear the cost of the windfall profits which the U.K. subsidiary could make by cheaper borrowing. This is because outward portfolio investment on a loan basis is allowed only on the understanding that there is no direct or indirect cost to the reserves.
>
> (ii) Where the foreign currency borrowing is taken by the U.K. company for outward direct investments, there were different considerations because of our willingness to provide official exchange for the interest. Arguably, there was a case for allowing interest below Bank Minimum Lending Rate or even nil interest to sterling borrowers. In 1969 we felt this was objectionable because it placed the non-resident U.K. company in a better position than a U.K. controlled U.K. company. We decided at that time the same interest Bank Minimum Lending Rate (fixed or varying) should apply as in (i)."[55]

This is reinforced by how Watkinson's 1974 assessment raises the question of a fixed-rate as an alternative suggesting this, along using Bank Minimum Lending Rates as the bedrock, were the common practice rather than market-set rates. His justification for agreement is avoiding the increased costs of finding a new agreement rather than anything on principle. Watkinson's approval is validated in a January 3rd, 1975 ruling where the Bank of England clarifies the floating rate proposals in both the Xerox and Ford loans now fit as one of four acceptable forms of interest agreements on back-to-back lending.[56]

While this change in practices is explained as an adjustment due to increasingly expensive lending there is further context explaining why this is now the case. The financial upheaval wrought by the Oil Embargo of 1973 drove banking interest rates to new heights. This fuelled growing volatility in these markets as shown from data collected from the National Westminster Interest Rate Committee as shown in Table 4.5. This data shows the ranges covered by changes in interest rates for the following instruments, demonstrating the volatility of each during the post-Nixon Shock period from September

[55] Interest on Back to Back Borrowing, January 22nd 1975, Exchange Control History Files: 'Back to Back Loans' and Currency Swaps, 3A152/19, Bank of England Archive, London, United Kingdom
[56] Back to Back Loans, Capital and Securities Office Principals, 6th November 1969, Interest on Back to Back Borrowing, 3rd January 1975, Exchange Control History Files: 'Back to Back Loans' and Currency Swaps, 3A152/19, Bank of England Archive, London, United Kingdom

1971 to December 1972, the OPEC price war period of January 1973 to October 1973 and the Oil Shock period reaching to the time of this ruling from November 1973 to November 1974.

Interest Rate Volatility on Financial Instruments					
Data Source: NatWest Interest Rate Committee, Barclay's Statistics					
	Nixon Shock, September 1971-December 1972				
Rate	Minimum	Maximum	Mean	Standard Deviation	
UK Treasury Bills	4.28%	6.93%	5.82%	0.92%	
US Treasury Bill 3 Month	3.37%	5.27%	4.16%	0.57%	
Interbank 3 Month	4.53%	9.03%	6.31%	1.70%	
Eurodollar 3 Month	4.60%	7.71%	5.75%	0.75%	
Bank of England M.L.R.	4.50%	9.00%	5.72%	1.38%	
National Westminster Rate	4.50%	7.50%	5.69%	1.18%	
Barclay's Rate	4.50%	7.50%	5.53%	1.26%	
	OPEC Price War, January 1973-October 1973				
Rate	Minimum	Maximum	Mean	Standard Deviation	Difference vs Nixon Shock
UK Treasury Bills	6.96%	10.97%	8.70%	1.55%	40.60%
US Treasury Bill 3 Month	5.69%	8.78%	6.96%	1.01%	43.85%
Interbank 3 Month	8.09%	14.53%	11.00%	2.15%	21.09%
Eurodollar 3 Month	6.63%	12.52%	9.41%	1.77%	57.46%
Bank of England M.L.R.	7.50%	11.50%	9.53%	1.69%	18.62%
National Westminster Rate	8.00%	11.00%	9.40%	1.22%	3.18%
Barclay's Rate	8.00%	11.00%	9.40%	1.22%	-3.09%
	Oil Shock, November 1973-April 1974				
Rate	Minimum	Maximum	Mean	Standard Deviation	Difference vs Nixon Shock
UK Treasury Bills	11.55%	12.40%	11.96%	0.28%	-232.82%
US Treasury Bill 3 Month	7.19%	8.93%	7.90%	0.67%	15.60%
Interbank 3 Month	13.63%	16.31%	15.27%	1.01%	-68.01%
Eurodollar 3 Month	8.38%	11.13%	9.81%	1.02%	26.51%
Bank of England M.L.R.	12.50%	13.00%	12.71%	0.25%	-460.63%
National Westminster Rate	12.50%	13.00%	12.92%	0.20%	-478.79%
Barclay's Rate	12.50%	13.00%	12.92%	0.20%	-516.24%
	Petrodollar Recycling, May 1974-December 1974				
Rate	Minimum	Maximum	Mean	Standard Deviation	Difference vs Nixon Shock
UK Treasury Bills	10.89%	11.88%	11.19%	0.32%	-189.23%
US Treasury Bill 3 Month	6.39%	9.91%	7.95%	1.13%	49.70%
Interbank 3 Month	11.75%	13.44%	12.65%	0.62%	-171.67%
Eurodollar 3 Month	10.13%	14.00%	11.87%	1.39%	45.74%
Bank of England M.L.R.	11.50%	11.75%	11.63%	0.13%	-931.22%
National Westminster Rate	12.00%	12.50%	12.13%	0.23%	-410.45%
Barclay's Rate	12.00%	12.00%	12.00%	0.00%	-126.00%

Table 4.5: Interest Rate Volatility on Financial Instruments

Note: Data for Table 4.5 was collected from the National Westminster Bank Interest Rate Committee Market Intelligence Reports from February 1971 to October 1974 from the NatWest Group archives in Edinburgh, United Kingdom and from the Barclay's Bank Annual Statistics Reviews for the same period from the Barclay's Bank archives in Manchester, United Kingdom

This data strongly suggests there was greater instability for these major interbank, international financial instruments during the 1973 OPEC price war and following the 1973 Oil Shock than during the post-Bretton Woods period preceding the price war. The only exception to this were UK Treasury Bills during the Oil Embargo period. What makes the Oil Embargo period especially unique, compared to these other periods post-dating the first proto swaps, is how high interest rates soared as shown in Table 4.6. The combination of growing volatility and staggering peaks created a market where adaptability and flexibility became just as crucial as stability.

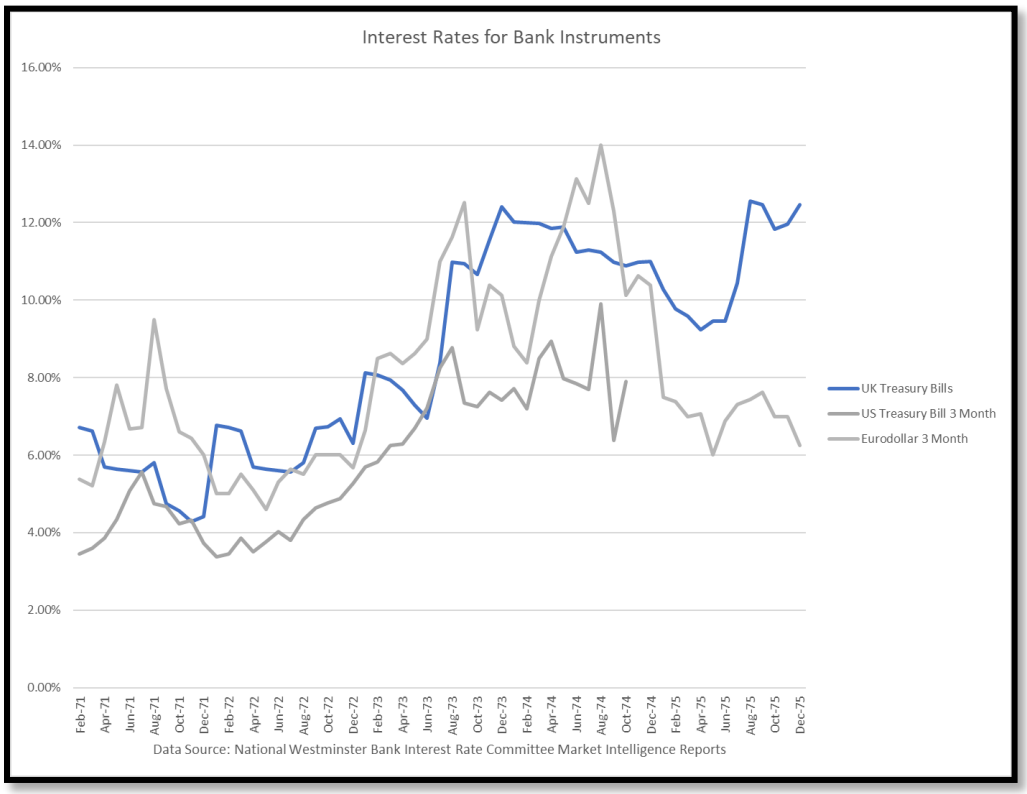

Figure 4.9: Interest Rates for Bank Instruments

Note: Data for Figure 4.9 was collected from the National Westminster Bank Interest Rate Committee Market Intelligence Reports from February 1971 to December 1975 from the NatWest Group archives in Edinburgh, United Kingdom

While there was greater range and variance for all these instruments during the tumultuous months of the price war period interest rates never reached the heights seen following the Oil Shock.

Figure 4.9 shows these peaks were not one-time occurrences, as was the case during either the Nixon Shock or the price war periods but were reached or closely approached multiple times. This was also, as shown in Table 4.6, an environment where many of these rates were closely correlated with the rates for bank instruments. There was also no point during the Oil Embargo period where interest rates dipped below the highest levels reached during the Nixon Shock period, showing a climate with unprecedented levels of cost for borrowers in all markets. These repeated spikes and this new, more expensive normal likely caused considerable concern for financial institutions leading up to the Watkinson ruling. There is also no evidence in the available source documents such changes were under consideration during the volatility of the post-Nixon Shock period. While nothing from the Bank of England explicitly states the Oil Shock was responsible for the new ratcheting rate, the data combined with the concerns expressed in the documents show a desire to save costs in a high interest rate environment. Such conditions simply did not exist prior to the price war or the Oil Shock of 1973 and therefore there was never any incentive to move to a ratcheting rate. This change opened a new range of options for proto-swaps while also ushering in a substantive shift on how these instruments operated by moving away from fixed or government-pegged rates to market-oriented ones. This flexibility was a key development in the evolution of proto swaps into modern swaps.

Correlations of Financial Instruments, September 1971-December 1974 Data Source: NatWest Interest Rate Committee, Barclay's Statistics							
Instrument	UK Treasury Rate	US Treasury Rate	3 Month Interest Rate	Eurodollar Rate	Bank of England M.L.R.	NatWest Rate	Barclay's Rate
UK Treasury Rate		0.859375283	0.949180325	0.801133933	0.948547936	0.957052316	0.95595533
US Treasury Rate	0.859375283		0.863631111	0.892415175	0.881682933	0.892964147	0.892964147
3 Month Interest Rate	0.949180325	0.863631111		0.762769842	0.976522625	0.967490838	0.961094611
Eurodollar Rate	0.801133933	0.892415175	0.762769842		0.823499746	0.811886441	0.812504844
Bank of England M.L.R.	0.948547936	0.90100558	0.976522625	0.823499746		0.971988765	0.962146567
NatWest Rate	0.957052316	0.881682933	0.967490838	0.811886441	0.971988765		0.987098016
Barclay's Rate	0.95595533	0.892964147	0.961094611	0.812504844	0.962146567	0.987098016	

Table 4.6: Financial Instrument Correlations

Note: Data for Table 4.5 was collected from the National Westminster Bank Interest Rate Committee Market Intelligence Reports from February 1971 to October 1974 from the NatWest Group archives in Edinburgh, United Kingdom and from the Barclay's Bank Annual Statistics Reviews for the same period from the Barclay's Bank archives in Manchester, United Kingdom

This leads to the question of when proto swaps became true swaps in their recognizably modern form. The best place to start in answering this is being clear on what a modern swap is. Marshall & Kapner offer a clear description in contrast to earlier proto swaps:

> "unlike the two loan agreements that characterize the back-to-back and parallel loans, the swap involves a single agreement. The agreement details all cash flows and provides for the release of the first counterparty from its obligations to the second if the second counterparty should default on its obligations to the first. Thus, swaps provide the solution to the rights of set-off problem. Importantly the release of a counterparty from its obligations following the default of the other counterparty does not prevent the nondefaulting counterparty from seeking damages from the defaulting counterparty."[57]

Researchers differ on when the first modern swaps came into existence. Marshall & Kapner claim such arrangements did not surface until 1979. Rafael Hodgson, in contrast, claims the first swap was developed in 1976 during negotiations involving Goldman Sachs and Monsanto. That said Hodgson concedes this new instrument was not put in use until 1977 in an agreement between Goldman Sachs and the Dutch-based Bos Kalis Westminster Group. The Bank of England strongly support Hodgson's claim. By May 6th, 1977, the Bank had clear definitions for the different types of back-to-back arrangements in use. The four types discussed are parallel loans, three party loans, bilateral loan agreements and currency exchanges which are also referred to as swaps. Currency exchanges are clearly described in the same terms as a modern swap. While the document leaves it unclear as to when, exactly, this sort of arrangement came into existence it leaves no doubt swaps were in use by market actors by 1977. This suggests that even if Hodgon's account is correct then modern swaps were already in use by market actors at some point between the Goldman Sachs-Monsanto and Goldman Sachs-Bos Kalis Westminster Group discussions. Otherwise, the swaps discussed by the Bank of England,

[57] Marshall & Kapner, *Understanding Swaps,* 5

whose form and function perfectly match the Marshall and Kapner definition, would not even be mentioned.[58]

Even though the Bank of England's findings support the timing of Hodgson's account they contradict key aspects on how swap instruments came into existence. Hodgson argues the first swap was invented by attorney John Carrol who pushed for reconfiguring parallel loans to operate based on the existing model of purchasing and selling forward contracts. The Bank of England, in stark contrast to Hodgson, claims a very direct lineage from the earlier proto swaps. They outline this lineage rather briefly saying, "This led to the concept of a back-to-back taking the form of a currency exchange". The Bank also claims, as is also argued by Hodgson, Marshall and Kapner, these new instruments had additional provisions that went above and beyond those used in proto swaps for securing transactions between market actors against default or liquidation of the underlying assets behind the swaps. Based on this evidence, it seems most likely modern swaps emerged at some point from 1976 to 1977 using pre-existing back-to-back loans as the framework.[59]

Even though there is contention between these different sources when the first currency swap happened there is general agreement the critical moment for this instrument on the global stage came in 1981 when the World Bank and IBM signed on to a currency swap as counterparties guaranteeing the arrangement. Regardless of when this new financial instrument was first invented it is clear it was conceived during the late 1970s and was an accepted mechanism by 1981. It provided all parties to a currency swap an easy means for moving currency outside of existing foreign exchange controls. Swaps delivered the same benefits as parallel and back-to-back loans with none of the risks or uncertainty for

[58] Hodgson, "The Birth of the Swap", 32-34; Back-to-Back Arrangements 4-5, 6 May 1977, Exchange Control History Files: 'Back to Back Loans' and Currency Swaps, 3A152/19, Bank of England Archive, London, United Kingdom
[59] Hammond, "Recent Developments in the Swap Market", 66; Marshall & Kapner, *Understanding Swaps,* 5; Back-to-Back Arrangements 4-5, 6 May 1977, Exchange Control History Files: 'Back to Back Loans' and Currency Swaps, 3A152/19, Bank of England Archive, London, United Kingdom

any of the parties involved. Though few suspected it at the time this new development would go on to irreversibly transform international credit markets.[60]

There is total agreement in the literature, particularly between Hodgson, Marshall and Kapner, Gunter Dufy and Ian H. Giddy, that currency swaps were the model used for all other swaps that followed. They agree what was essential to this diversification process the increasing customization and risk hedging currency swaps offered to their users. The 1981 legitimation of the currency swap by the World Bank & IBM was followed shortly after in the same year by one of the first interest rate swaps agreed to in London. This was followed by the invention of the first commodity swaps, increasing the applicability of these instruments to all new markets. The attractiveness of these new instruments grew even despite regulatory attempts to constrain this growing market. 1981 saw credit swaps and arbi-loans as new additions to the currency swap family tree, opening new markets and revenue channels for financial actors. Swaps quickly diversified into interest rates and other financial instruments. The next major refinement, which made swaps more profitable and flexible, was the development of warehousing. This practice consisted of firms pre-fabricating their swap offerings in set contracts, freeing market actors from the requirement of existing matched needs, that could be sold on an as-needed basis. Such developments increased the liquidity and popularity of these instruments.[61]

Even though swaps, as an instrument, exploded in complexity and volume up in the years leading up to 1982 they are extremely difficult to track during this period. In 1977 the Bank of England stated swaps were "off-balance sheet" arrangements, meaning they were not recorded as liabilities or assets by any of the involved parties. This makes tracking their scale and quantity in this period extremely difficult. Proto swaps are no easier to measure. Technically speaking these were interbank

[60] Ibid
[61] Marshall & Kapner, *Understanding Swaps,* 5-6; Hammond, "Recent Developments in the Swap Market", 66; Gunter Dufy & Ian H. Giddy, "Innovation in the International Markets", *Journal of International Business Studies*, Vol. 12, No. 2, 40-41, Hodgson, "The Birth of the Swap", 34

loans which were not tracked as being any different from other interbank lending. One example of this is from the Midland Bank interbank lending data ranging from 1972 to 1977. Throughout this entire period all interbank lending is tracked as a single figure. The only specific amounts tracked are which banks received how much capital in each month. The first figures that exist on swaps of any kind surface in 1982 through the Bank of England report on the interest rate swap market. According to this data the interest rate swap market grew from an estimated $2-3 billion in 1982 to $80-100 billion in 1986 in nominal value. The size of the global market is first measured in 1986 by the BIS whose data estimates the notional value of all swaps was approximately $480 billion. Since 1986 figures on the size of the various swap markets have become more consistently tracked by the International Swap Dealers Association (ISDA) but in this formative period how large, volatile, and liquid this trading was remains unclear. This raises the potentially unanswerable question of whether the explosion in the size of the documented swap market during the early 1980s was due to a genuine boom in this instrument or records and regulations catching up with an already large, highly active market.[62]

What is intriguing regarding the literature on the origins of currency swaps is they generally focus on increased efficiency and the inconvenience of previous forms of currency movement. There is little discussion regarding where, exactly, this first occurred or was most active in the swap literature itself. Eurodollar market and banking literature is another matter entirely. The Eurodollar markets, post-1974, saw accelerating growth of activities known as currency transfers to meet growing demands. John Donald Wilson discusses how Chase Manhattan did business through special lending in the Eurodollar market saying, "but for the most part loans were funded in local currency raised in the money market or through special lending arrangements with other banks or the central bank."

[62] Back-to-Back Arrangements 4, 6 May 1977, Exchange Control History Files: 'Back to Back Loans' and Currency Swaps, 3A152/19; Interbank Lending Returns 1972-1973, UK-0200-0351, Interbank Lending Returns 1974-1976, UK-0200-0358, Interbank Lending Returns 1976-1977, UK-0200-0594, UK-0200-0595, UK-0200-0596, Midlands Bank, HSBC Archive, London, United Kingdom; Hammond, "Recent Developments in the Swap Market", 66, 68; Bank for International Settlements Fifty-Seventh Annual Report, June 15th 1987, 111

According to Khambata the Eurodollar market was the major source of liquid capital for international finance in part because such interbank lending and agreements made it very easy to move large volumes of money between banks. These references, along with direct evidence from the Bank of England, strongly suggest the Eurodollar market was a uniquely perfect environment for the development the first swaps.[63]

This is also indirectly implied in the swap literature. Hodgson, though not explicitly emphasizing the location of the first swap agreement's negotiation and conclusion, clearly references it taking place in London offices between businesses operating under the international lending framework that is the hallmark of the Eurodollar market. Duffy and Giddy explicitly describe the prevalence of parallel loans, as a precursor to currency swaps, as one of the distinguishing features of conditions prevailing in the Eurodollar market. Hammond, while not directly stating the Eurodollar market gave birth to the first swaps, does draw attention to how the swaps' precursor parallel and back-to-back loans were very popular in the United Kingdom in 1960s and 1970s just as the Eurodollar market was booming in London prior to the Oil Shock. This is further supported by 1969 statements from the Bank of England that specifically stated Eurodollars were the main source of finance used by participants in proto-swap agreements.[64]

As an analysis of the evidence and data shows the combination of the Euromarket origins of the first currency swaps and the pressures of rising interest rates, kicked off by oil market instability and petrodollar recycling, were essential for creating the modern swap. The new demands for liquidity created by petrodollar recycling and the pressures of higher oil-pushed interest rates were critical

[63] Khambata, *The Practice of Multinational Banking,* 70-71; Wilson, *The Chase*, 182
[64] Duffy and Giddy, "Innovation in the International Markets", 41-42; Hammond, "Recent Developments in the Swap Market", 66; Hodgson, "The Birth of the Swap", 32-33; Back to Back Loans, Capital and Securities Office Principals, 6th November 1969, Exchange Control History Files: 'Back to Back Loans' and Currency Swaps, 3A152/19, Bank of England Archive, London, United Kingdom

factors in the modern swap as we know it possible. The fluctuations of petrodollar funds directly shaped interest rates during the key formative years of the swap instrument while also providing capital for the market that was most used to create them. The rise of swaps in modern finance greatly accelerated the liquidity, flexibility, and adaptability of market actors. They have also played a pivotal role in major economic events including the 2008 Financial Crisis. Although there is limited evidence on the scale of these markets during this critical period there is no doubt the unique conditions created by petrodollars during the 1970s were decisive in making swap instruments possible.

This dynamic is consistent with what is seen in other areas of finance shaped by petrodollars as was seen with international syndicated lending and interest rate futures. Petrodollar recycling did not, in and of itself, create new financial instruments. The impact felt by petrodollar recycling was more complex and multifaceted. Petrodollars first came into being in large quantities thanks to the 1973 Oil Embargo. This process also rapidly destabilized the global economy through a combination of oil-pushed inflation and straining financial resources to the brink. Such world-shaking developments ensured oil importing developed nations were in no position to refuse these new deposits. Processing them created further demands on markets in terms of price distortions and requirements that had to be met. These changing conditions, falling on already tense economies and financial institutions, accelerated the pace of change in existing financial instruments by presenting problems in need of immediate, scalable solutions. Unfortunately for these financial actors and their borrowers these improvised solutions, which managed to keep the global system of finance operating in a time of extreme stresses, laid the groundwork for a more severe crisis whose roots, like these instruments, lay in how OPEC invested their profits. The cause, in this case, goes directly to the escalating windfall-fuelled arms race between OPEC's Persian Gulf members which was first discussed in Chapter Two. By 1978, this increasingly deadly dynamic laid the foundations for the cycle of war and revolutions which reshaped the Middle East for the next decade and upended the fragile petrocapital cycle.

Chapter Five : The Crash of 1982

As has been argued in Chapters 3 & 4, these funds significantly changed the volume, volatility, and trading practices of international finance. This, logically, begs the question of what the potential impact of losing this capital flow was for global markets who now treated these funds and mechanisms as essential for international finance. Usually, the endpoint for this market is placed the mid-1980s, with the 1986 oil price collapse cited as the conclusion of this steady process. As is described by El-Gamal and Jaffe:

> "In 1979, Paul Volker was appointed Chairman of the Federal Reserve Board, and he took drastic measures to combat inflation, even if it meant tolerating high unemployment rates. United Kingdom Prime Minister Margaret Thatcher's government soon began adopting similar "monetarist" policies, which aimed to reduce the growth in money supply and raise interest rates to combat inflation. In due time, inflation was tamed, but the high American interest rates also meant that the global economy was driven into a severe recession.
>
> Reduced demand for oil, because of the recession, and expanding availability of alternative fuels, such as nuclear power, initiated a series of price reductions. … OPEC itself reduced its target price, and many countries began offering secret discounts through nontransparent systems such as barter deals, extended credit terms and shipping subsidies."[65]

This articulation is representative of the general discussion around the end of the petrodollar recycling period. Most of the focus on the OPEC end of the dynamic, as seen with Garavini, Brown, and Yergin, is on the steady growth of non-OPEC oil production as shown in Figure 5.1 and the ultimate collapse of prices in 1986, shown in Figure 5.2, as symptoms of OPEC's increasingly fragile economic position. From the perspective of international markets, the culprit is the 1982 Latin American debt crisis which, according to Oatley, Frieden, Locke & Ahmadi-Esfahani, saw the insolvency of much of the region's economies lead to a cessation of major imports, including oil purchasing.[66]

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[65] El-Gamal and Jaffe, *Oil, Dollars, Debt, and Crises*, 33-34

[66] Garavini, *The Rise and Fall of OPEC*, 336, Oatley, Thomas. "Political Institutions and Foreign Debt in the Developing World." International Studies Quarterly 54, no. 1 (2010): 175-177. http://www.jstor.org.ezproxy.lib.gla.ac.uk/stable/40664242.; Frieden, *Global Capitalism,* 372-373, Yergin & Stanislaw, *The Commanding Heights*, 347-348; Locke, Christopher G., and Fredoun Z. Ahmadi-Esfahani. "The Origins of the International Debt Crisis." Comparative Studies in Society and History 40, no. 2 (1998): 232-236

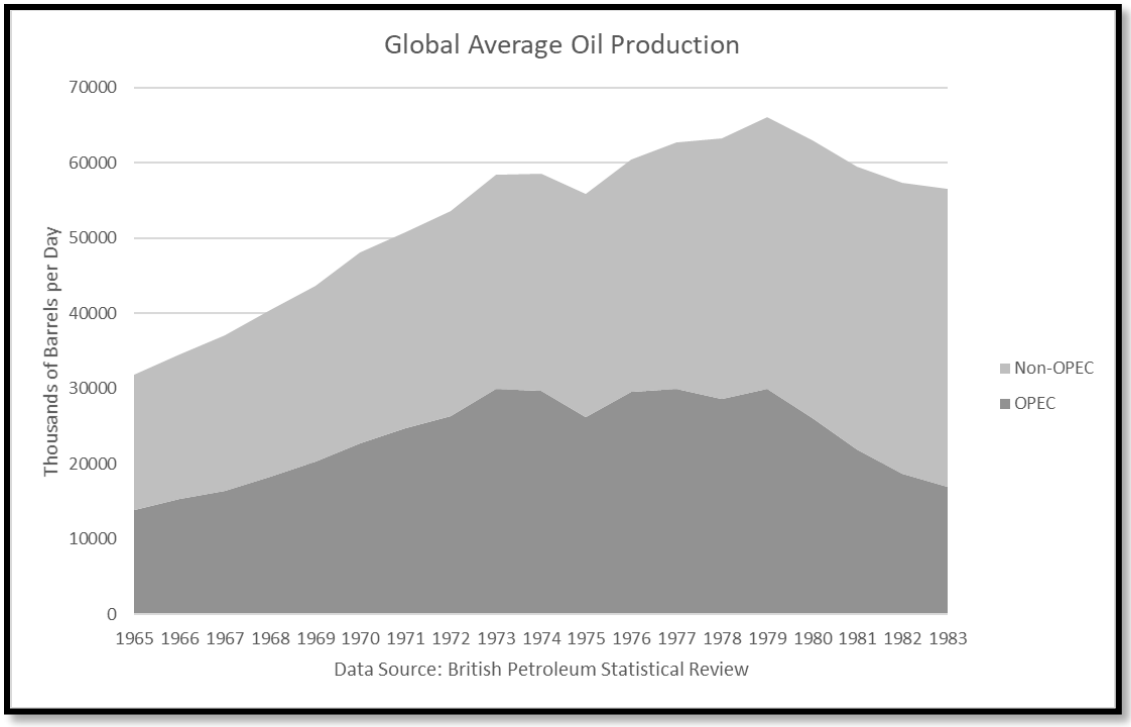

Figure 5.1: Estimated Global Oil Production, OPEC vs Non-OPEC

Note: The data for Figure 5.1 is taken from the British Petroleum Statistical Review's oil production database.

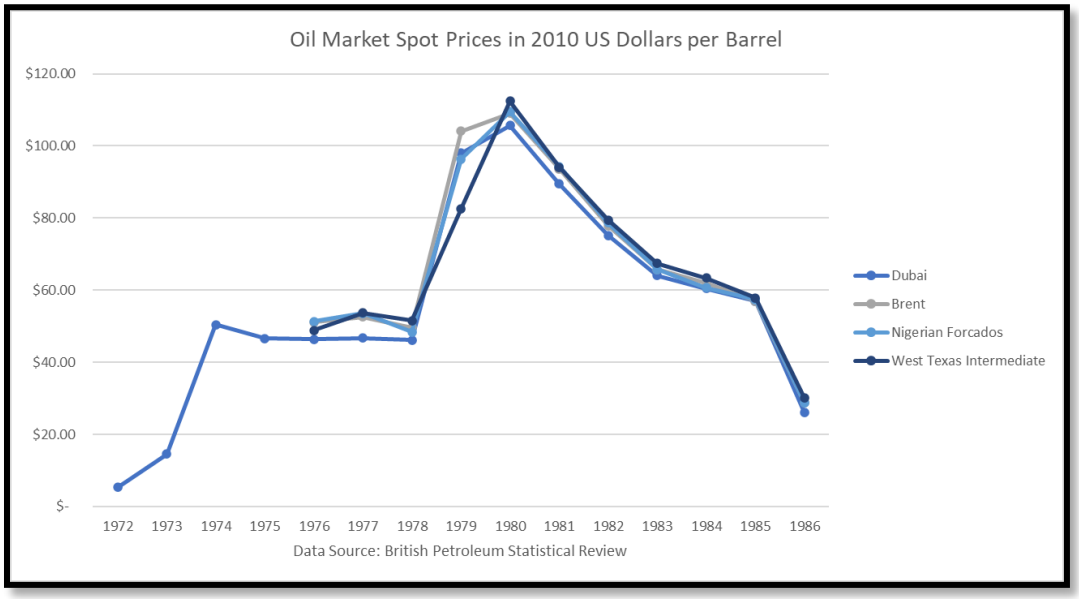

Figure 5.2: Oil Market Spot Prices, Inflation Adjusted US Dollars per Barrel

Note: The data for Figure 5.2 is taken from the British Petroleum Statistical Review's oil production database.

Both explanations, however, fail to sufficiently examine the impact these developments had on OPEC's ability to provide funds for use in global markets. Middle Eastern-oriented research focuses on

the origins and rise of the 1986 price crash because it represents a clear, identifiable moment when OPEC's position as a dominant force in oil markets ceased to be tenable. Research into the 1982 Debt Crisis focuses, understandably, on the relationship between the banks extending loans and the sovereign entities who were acquiring them. What neither of these bodies of theory do is grapple with the pressures being exerted on OPEC capital flows following the 1979 Oil Shock. Examining these stresses raises the larger question of whether they are more just symptoms of OPEC's growing weakness and potentially indicators of how much global finance had become dependent on OPEC capital. By re-examining the first leg of the petrodollar recycling process, as shown in Figure 5.3, one finds significant evidence that OPEC's shift from being a significant source for liquid capital, which was enjoyed as late as 1980, to a position of maintaining crumbling market share, as shown by the total cessation of large-scale petrodollar flows recorded by the BIS in 1982 illustrated in Table 5.1, played a direct role in causing the 1982 Debt Crisis. This consequence of the elimination of OPEC capital flows proves how significant these funds had become for finance.

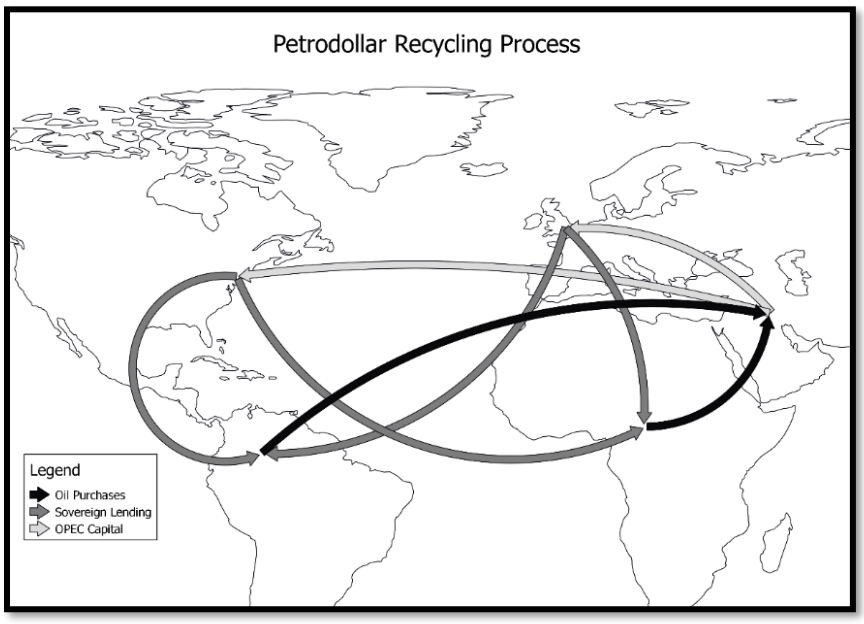

Figure 5.3: Petrodollar-Debt Cycle

Note: Figure 1.1 is an illustration by the author of the process described by Jeffrey Frieden in "Global Capitalism: Its Fall and Rise in the 20th Century" generated in QGIS

OPEC Investible Surplus in Billions of Nominal USD Data Source: Bank for International Settlements Forty-Eighth, Fiftieth and Fifty-Second Annual Reports										
Type	Year									
Bank Deposits and Money Market Investments	1974	1975	1976	1977	1978	1979	1980	1981	1982	Totals
Dollar deposits in the US	$ 4.0	$ 0.6	$ 1.6	$ 0.4	$ 0.8	$ 4.9	$ 0.3	$ (2.5)	$ 4.8	$ 14.9
Sterling deposits in the UK	$ 1.7	$ 0.2	$ (1.4)	$ 0.3	$ 0.2	$ 1.4	$ 1.3	$ 0.4	$ (1.2)	$ 2.9
Deposits and loans in foreign currency markets	$ 22.8	$ 9.1	$ 12.5	$ 11.9	$ 3.0	$ 31.2	$ 14.8	$ 7.8	$ (9.4)	$ 103.7
Treasury Bills in the US & UK	$ 8.0	$ (0.4)	$ (2.2)	$ (1.0)	$ (0.8)	$ 3.4				$ 7.0
Other Industrial Countries	$ 8.0	$ (0.4)	$ (2.2)	$ (1.0)	$ (0.8)	$ 3.4	$ 26.2	$ (5.1)	$ (12.8)	$ 15.3
Total	$ 44.5	$ 9.1	$ 8.3	$ 10.6	$ 2.4	$ 44.3	$ 42.6	$ 0.6	$ (18.6)	$ 143.8
Long Term Investments	1974	1975	1976	1977	1978	1979	1980	1981	1982	
Special Bilateral Arrangements	$ 11.9	$ 12.4	$ 10.3	$ 11.7	$ 8.7	$ 11.8				$ 66.8
United States							$ 13.8	$ 18.8	$ 7.6	$ 40.2
United Kingdom							$ 2.5	$ 1.1	$ (0.8)	$ 2.8
Loans to International Agencies	$ 3.5	$ 4.0	$ 2.0	$ 0.3	$ 0.1	$ (0.4)	$ 4.9	$ 2.4	$ 2.0	$ 18.8
Other Industrial Countries							$ 17.0	$ 19.4	$ 6.6	$ 43.0
Developing Countries							$ 6.7	$ 7.2	$ 3.9	$ 17.8
Government Securities in the US & UK	$ 1.1	$ 2.4	$ 4.4	$ 4.3	$ (1.8)	$ (0.9)				$ 9.5
Other	$ 4.0	$ 7.4	$ 8.0	$ 5.9	$ 3.3	$ 2.4				$ 31.0
Total	$ 20.5	$ 26.2	$ 24.7	$ 22.2	$ 10.3	$ 12.9	$ 44.9	$ 48.9	$ 19.3	$ 229.9
Total Funds Invested	$ 65.0	$ 35.3	$ 33.0	$ 32.8	$ 12.7	$ 57.2	$ 87.5	$ 49.5	$ 0.7	$ 373.7

Table 5.1: OPEC Investible Surplus in Billions of Nominal USD

Note: Data for Table 5.1 was collected from Chapter IV: International Trade and Payments of the BIS Forty-Eight, Fiftieth, and Fifty-Second Annual Reports

This argument's foundation rests on El-Gamal and Jaffe's research into the relationships between oil wealth, the growth of global debt, and financial crisis. They argue:

> "In this book, we study the interaction of the global business cycle with these closely related energy-price, financial, and geopolitical cycles. We show that this super cycle is endogenous and self-perpetuating. Like the human ego, this cycle is most dangerous when we assume that we have tamed or killed it. Prolonged periods of stability and prosperity become grounds for hubris, which in turn breeds unrealistic levels of confidence and greed and compels policy makers to relax counter-cyclical regulations and policies. We argue in this book that financial and energy-sector investment cycles, as well as income distribution within and across countries, play pivotal roles in perpetuating the cycle, which can be attenuated only with proper understanding and vigilance."[67]

Yet even with this reasoning animating their work, their approach to OPEC capital during this period is mostly framed from the perspective of the 1986 oil crash. Their analysis of the 1979-1982 period is mostly framed in terms of localized economic dislocations, such as their discussion of the Souk al-Manakh and Egyptian crashes of 1982, that were symptomatic of broader systemic problems in the

[67] El-Gamal and Jaffe, *Oil, Dollars, Debt, and Crises*, 1

region. According to El-Gamal and Jaffe, this represented the culmination of four years of increasing economic contraction, with every example of increasing degradation as fitting within this broader narrative. Even so, this understandable focus on the 1986 oil price crash means some key details such as the 1982 OPEC retreat from global financial markets get lost in the larger context. Demonstrating a relationship between OPEC petrodollars and the 1982 Debt Crisis reinforces the broader argument put forward by El-Gamal and Jaffe by pushing back the date when petrodollar capital became a significant force in global finance.[68]

This stands in contrast with the far more oil industry focused tendencies present both in Middle East studies and economic history. In the case of economic history scholars like Yergin and Clayton provide excellent examples of largely oil and macro-economically focused explanations, both of which focus on the inevitable 1986 crash. Clayton's description of the developments in 1982 are an especially effective example of this argument:

> "The market was rapidly moving from scarcity to glut. As inventories rose worldwide, OPEC, backed into a corner, took a drastic step of making its first major price cut. The Saudis, having had to accept a 34 percent drop in output by between 1981 and 1982 in an attempt to firm up the spot market, cut their posted price for Arabian Light crude by a full $5 to $29 per barrel. OPEC slashed its official prices by 14 percent between January 1982 and March 1983."[69]

Garavini takes a similar approach in describing the same developments, focusing heavily on OPEC's efforts to stabilize their now tenuous economic circumstances:

> "From 1982 to 1985, OPEC tried for the first time in its history to transform itself into a cartel and stop the free fall in prices. It sought to exert control over both crude oil production (the pro-rationing invoked by the Venezuelans all the way back from 1959) and global prices. Saudi Arabia eventually woke up to the nightmarish scenario described by Friedman, constantly having to reduce its own output to prop up the price of oil. After three years of heated debates, so severe that they also prevented the organization from selecting a new Secretary-General, OPEC was forced to throw in the towel."[70]

[68] El-Gamal and Jaffe, *Oil, Dollars, Debt, and Crises*, 33-38
[69] Clayton, *Market Madness*, 128
[70] Garavini, *The Rise and Fall of OPEC*, 302

Even though both scholars are taking different approaches to analyse the same developments, they are ultimately reaching similar conclusions by focusing on oil production and direct revenues. The financial impacts are left unexplored.

A similar disconnect exists in the scholarship that focuses on the 1982 Latin American Debt Crisis. Research by Gabriel Palma provides a good example of this more financially focused analysis. According to Palma's research, "we can always trace the start of a financial 'mania' to a sudden and significant increase in international liquidity. International financial markets seem to function reasonable effectively only when they are sellers' markets (especially when they can afford only to lend to those who do not need to borrow)." This, he argues, leads to overborrowing and over lending in the markets thanks to the widespread, freely available supplies of capital that exist within a highly liquid market. Palma makes it clear much of this capital, in the case of the 1982 crisis, was thanks to the processes of petrodollar recycling which accumulated throughout the 1970s. Yet even as Palma clearly illustrates the causative relationship between OPEC capital, the Oil Shocks, and the origins of the 1982 Debt crisis, he spends no time interrogating the impact of OPEC's 1981-1982 capital flight in a context of increasingly constrained global markets. Palma is not alone in this, with Locke and Ahmani-Esfahani taking a similar tack even as they emphasize the causative link between the 1979 Oil Shock and the 1982 Debt Crisis. The question of any potential consequences linked to the deposits of petrodollar capital in lending banks mostly remains unaddressed, with much of the discussion focused firmly on banks, debtors, and the IMF.[71]

A key point of discussion in analysing these developments is grappling more thoroughly with one of the most frequently cited culprits for the 1982 Debt Crisis: the Volker Shock of 1979. According

[71] Gabriel Palma, "Three and a half cycles of 'mania, panic, and [asymmetric] crash': East Asia and Latin America compared", *Cambridge Journal of Economics,* No. 22, (1998), 789-793; Locke & Ahmani-Esfahani, "The Origins of the International Debt Crisis.", 232-236

to Yergin, Stanislaw, and Frieden the Volker Shock was directly responsible for breaking this increasingly precarious cycle. They argue, as was also asserted shortly after the shock by A.O. Krueger and Stanley Fischer, the Volker Shock was instrumental in raising the cost of lending for all actors, making any new lending prohibitively expensive. Fischer further asserts one of the many consensus positions on the 1982 Debt Crisis in claiming the key cause was, "imprudent macroeconomic management and borrowing by the debtor countries; [and] imprudent lending by the commercial banks". It was this combination of imprudent economic actors and anti-inflationary policies which set the crisis in motion. What they also agree on is this shock was mostly intended as a counter-inflationary strategy with little mention given to the contemporaneous 1978-1979 Oil Shock.[72]

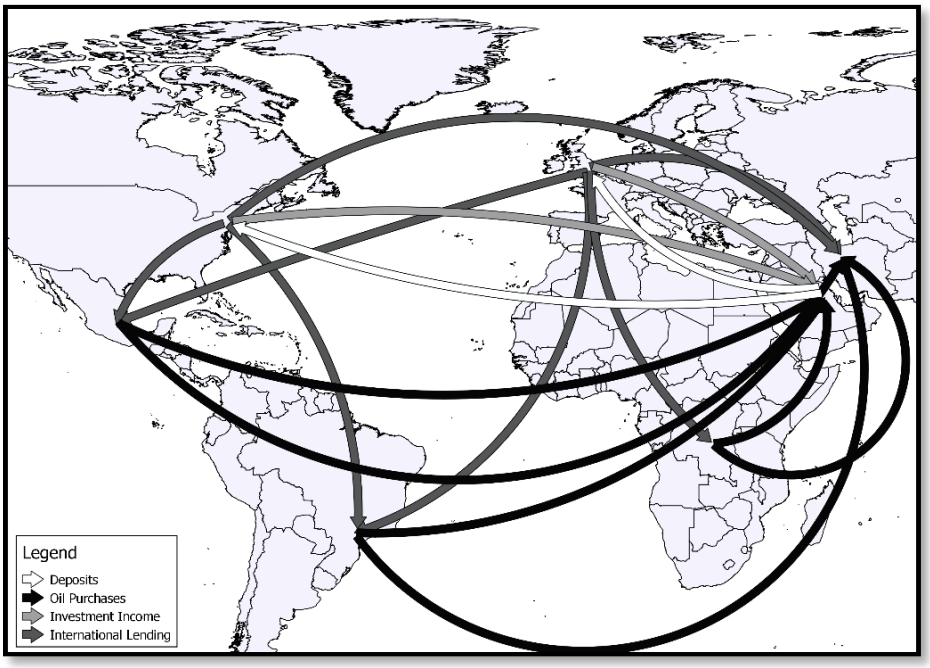

Figure 5.4: Petrodollar-Debtor Capital Flows

[72] Frieden, *Global Capitalism,* 372-373, Yergin & Stanislaw, *The Commanding Heights*, 347-348; Locke and Ahmadi-Esfahani, "The Origins of the International Debt Crisis", 232-236; Buckley, Ross P. "The rich borrow and the poor repay: the fatal flaw in international finance." World Policy Journal 19, no. 4 (2002): 59-60. Gale Academic OneFile Select (accessed August 8, 2019). https://link-galegroup-com.ezproxy.lib.gla.ac.uk/apps/doc/A98280627/EAIM?u=glasuni&sid=EAIM&xid=9a4441e7.; Anne O. Krueger, "Origins of the Developing Countries' Debt Crisis: 1970 to 1982", *Journal of Development Economics* 27, (1987), 168-169; Stanley Fischer, "Sharing the Burden of the International Debt Crisis", *The American Economic Review*, Vol. 77, No. 2; (May, 1987), 165-166

Note: Data for Figure 5.4 was collected from primary source archives, including the Bank of Scotland, the Bank of England, the Bank for International Settlements, and the OPEC Research Library in conjunction with secondary literature such as Mahmoud el-Gamal and Amy Myers Jaffe's, "Oil, Debt, Dollars, and Crisis"

The increasing complexity of petrodollar flows, as shown in Figure 5.4, is central to why this new Shock holds an equally, if not more, significant role in causing the 1982 Debt Crisis to the 1979 Volker Shock. According to Locke and Ahmadi-Esfahani, "While the 1973 shock made available cheap capital and bolstered commodity prices, as indicated previously, the 1979 oil price rise had the reverse effect. The cost of oil imports to developing countries had made their imports more expensive. Tight monetary policy from developed nations, aimed at restricting inflation, resulted in sharp increases in interest rates and lower growth, which translated into decreased demand for primary commodities from the developing nations." It was this new inflationary price push that was unfolding just before the onset of the new interest rate hikes as shown in Figure 5.5. Krueger makes a similar argument in stating, "With the second oil price increase, the OECD countries by and large adopted anti-inflationary macroeconomic policy stances. The result was severe worldwide recession, sharply falling commodity prices, and the highest real rates of interest in the post-war era." This is not to say the Volker Shock was not a significant factor, but its implementation was partially in response to the fallout of the 1979 Oil Shock and exacerbated existing structural problems in global financial markets. The combination of declining revenues and an increasingly costly financial environment pushed OPEC's petrodollars from serving as a source of investment capital to a drain on international markets, triggering capital flight just global finance was most vulnerable to such a loss of assets.[73]

[73] Locke and Ahmadi-Esfahani, "The Origins of the International Debt Crisis", 234-236; Krueger, "Origins of the Developing Countries' Debt Crisis", 169

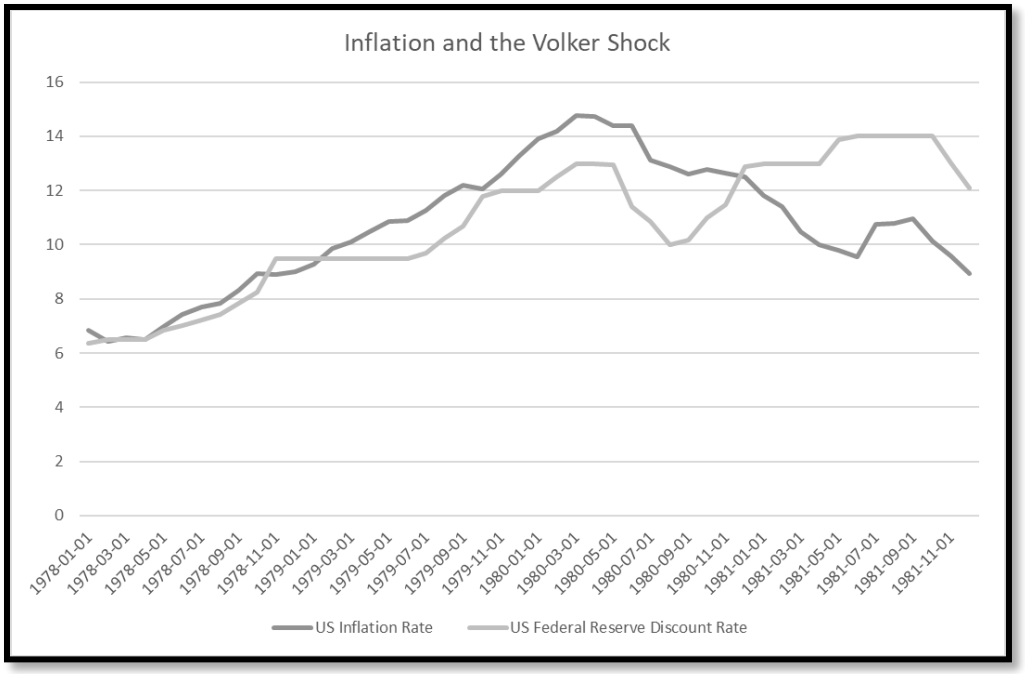

Figure 5.5: Inflation and the Volker Shock

Note: Data for Figure 5.5 was collected from the Federal Reserve Bank of St. Louis online database and the OECD online database on monthly inflation and interest rates

This oversight in the literature reinforces the necessity of investigating what was happening with OPEC capital during this period. Further analysis of the economic developments in the Middle East from 1979 to 1982 strongly suggests not only was the Oil Shock as a key trigger but furthermore that the loss of OPEC capital after 1979 undermined the stability of international finance just as global banking had become far more dependent on Middle Eastern capital than ever before. If the presence of petrodollars in global markets were critical for financial developments during the 1970s, then it would follow that any significant loss of this capital would have serious repercussions for any connected markets. Given the larger context of economic recession, declining trade, and shrinking Saudi oil exports, as shown in Figure 5.6, and dramatic slowdown in the growth of global energy consumption, as shown in Table 5.2, it would be fair to say OPEC's members were feeling the impact of the global contraction.

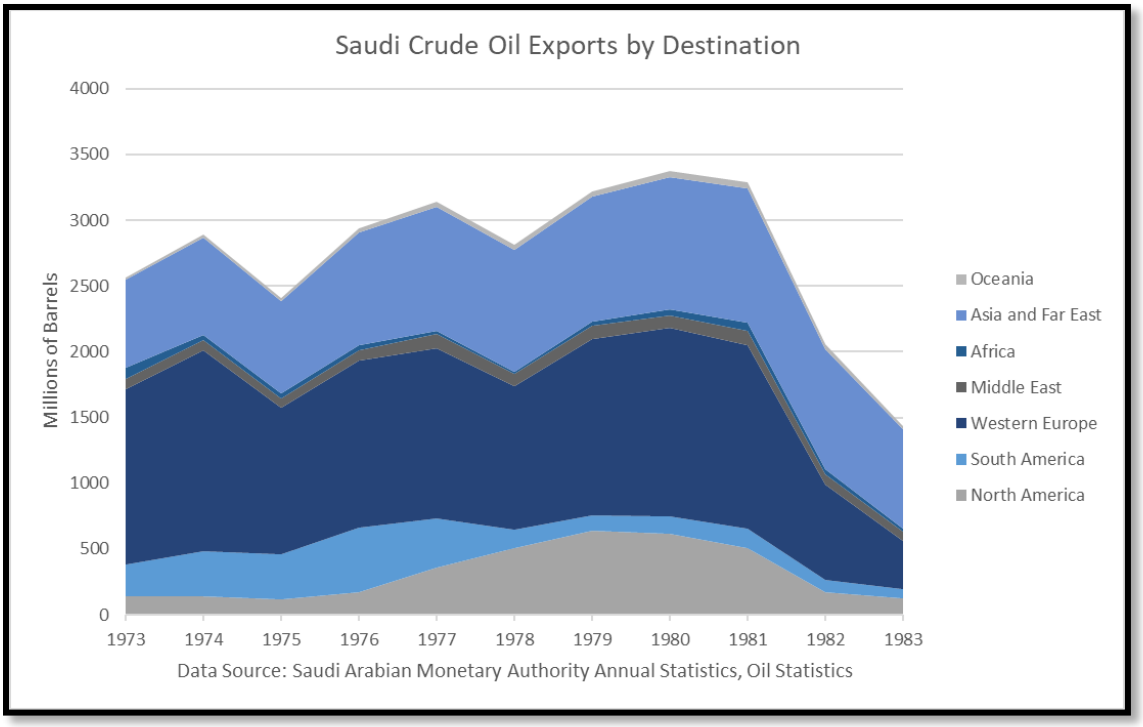

Figure 5.6: Saudi Oil Exports by Region

Note: Data for Figure 5.6 was collected from the Saudi Arabian Monetary Authority's Annual Statistics reports from 1970 to 1983.

Global Energy Consumption in Millions of Barrels of Oil-Equivalent Fuel Data Source: British Petroleum Annual Statistics											
Year	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
North America	2034.7	1998.8	1953	2058.6	2116	2125.8	2160.9	2106.1	2055.8	1986	1972.1
Year to Year Change	N/A	-1.80%	-2.35%	5.13%	2.71%	0.46%	1.62%	-2.60%	-2.45%	-3.51%	-0.70%
Latin America	185.2	193.5	196.1	209.1	221.1	234.1	249.9	263.6	263	264.8	266.9
Year to Year Change	N/A	4.29%	1.33%	6.22%	5.43%	5.55%	6.32%	5.20%	-0.23%	0.68%	0.79%
Europe & Eurasia	2417	2443.1	2471.7	2596.2	2665.5	2759.2	2853.8	2834.5	2814.5	2813.2	2854.3
Year to Year Change	N/A	1.07%	1.16%	4.80%	2.60%	3.40%	3.31%	-0.68%	-0.71%	-0.05%	1.44%
Middle East	77.9	82.9	82.9	93.6	106.3	115.1	135.3	129.6	140.9	155.7	168.8
Year to Year Change	N/A	6.03%	0.00%	11.43%	11.95%	7.65%	14.93%	-4.40%	8.02%	9.51%	7.76%
Africa	92.3	97	102.8	112.3	117.8	122.2	133.3	144.6	161.1	172.4	177.4
Year to Year Change	N/A	4.85%	5.64%	8.46%	4.67%	3.60%	8.33%	7.81%	10.24%	6.55%	2.82%
Asia/Pacific	884.9	901.8	935	981.9	1036.1	1101.6	1152.3	1163.9	1170.5	1181.5	1235
Year to Year Change	N/A	1.87%	3.55%	4.78%	5.23%	5.95%	4.40%	1.00%	0.56%	0.93%	4.33%
Worldwide Total	5692	5717.2	5741.6	6052.1	6263.1	6458.2	6685.8	6642.4	6605.9	6573.7	6674.6
Year to Year Change	N/A	0.44%	0.42%	5.13%	3.37%	3.02%	3.40%	-0.65%	-0.55%	-0.49%	1.51%

Table 5.2: Global Energy Consumption, 1973-1983

Note: The data for Table 5.2 is taken from the British Petroleum Statistical Review's oil production database.

These broader macroeconomic shifts presented a clear problem for OPEC's highly oil-export dependent capital. This initial evidence is more than enough to urge investigation into what was happening to the petrodollar cycle at its points of origin. As research into the region, its developments, and their impact show the same instabilities which caused the 1979 Oil Shock had far-reaching consequences for the Middle Eastern members of OPEC. The 1979 Oil Shock was the last hurrah of OPEC's economic boom years as the failure of 1979's windfall to provide the same levels of wealth as the 1973 Oil Shock coupled with an increasingly unstable political situation in the Middle East undermined the region's now-vulnerable economy. Political, military, and economic disintegration in the region was inextricably linked through increasingly globalized financial markets with the crises unfolding in Latin America, Africa, and the banking centres of London and New York City, particularly thanks to OPEC petrodollar recycling's previously unquestioned role as a guarantor of liquidity. To understand how the Middle East's fortunes declined so swiftly and in ways which directly impacted the stability of global finance it is necessary to go back to the root causes of the 1979 Oil Shock.

Revolution and Asset Freeze

The 1978-1979 Oil Shock traces its origins to the 1978 Iranian Revolution, an uprising with its own complicated relationship to petrodollars and oil shocks. In the wake of the 1973 Oil Shock, while the rest of OPEC was investing their wealth into their domestic development, the Iranian government chose instead to pour their money into expanding their armed forces, paying for high-quality consumer goods and other economic policies which dramatically widened the wealth gap between rich and poor. Economic investments in critical sectors like agriculture languished, impoverishing rural workers, and creating a new sector of dependency best exemplified by Iran shifting from a net exporter of foodstuffs to a net importer by the mid-1970s. Further complicating matters was the rather worrying policy of distributing a substantial portion of oil revenues unofficially in the form of untracked expenditures and revenues, much of which were allocated based on connections to the Shah. The combination of cronyism, inequality and increasing poverty created a growing population of increasingly discontented Iranians who saw great wealth passing them by.[74]

One area of expenditure which saw consistent growth and support from the Shah was arms imports, an aspect of government activity which is also one of the least economically sustainable. From 1973 to 1979, according to SIPRI data, Iran imported an estimated $24 billion worth of arms in nominal value, 70.8% of which were provided by the United States as shown in Figure 5.6. Overall Iranian arms imports represented 36.9% of all arms import purchases by OPEC members, approximately 50% more than the $16.5 billion spent by Libya and almost three times that of the $9.7 billion spent by their Iraqi neighbours, as shown in Figure 5.8. What emphasizes the unsustainable nature of such spending is the percentage of GDP absorbed by the region's military budgets as shown in Table 5.3. Iran's military

[74] Abrahamian, *A History of Modern Iran*, 142; Hadi Salehi, and Farzad Taheripour. "Hidden Public Expenditures and the Economy in Iran." International Journal of Middle East Studies 34, no. 4 (2002): 700 http://www.jstor.org.ezproxy.lib.gla.ac.uk/stable/3879694.; James Buchan (2013) THE IRANIAN REVOLUTION OF 1979, Asian Affairs,44:3, 421-423

spending represented 8.75% of GDP in 1974. It would not dip below this level until 1979 when the Iranian Revolution overthrew the Shah's government. Of the Middle Eastern OPEC members Iran's military spending consistently represented the second largest proportion of GDP spent after Saudi Arabia's consistently higher expenditures. The only other nations in the Middle East with comparable or greater spending were Israel and their Arab neighbours, who were remained in a state of hostility since the 1973 October War, Oman, who feared Iran's ambitions, and Iraq, their immediate neighbour and rival. In contrast were the G7 powers whose spending was more stable and represents a significantly smaller segment of GDP. Even the United States, a global superpower with military commitments on multiple continents, consistently spent a significantly lower percentage of GDP on their armed forces than the Iranian government.

Percentage of GDP Spent on Arms											
Data Source: Stockholm International Peace Research Institute (Qatar & United Arab Emirates excluded due to lack of consistent data)											
Region	Country	Standard Dev	1974	1975	1976	1977	1978	1979	1980	1981	1982
OPEC MENA Members	Algeria	0.00254341	1.96%	2.13%	2.70%	2.24%	2.38%	2.14%	2.10%	1.82%	2.06%
	Iran	0.023947984	8.75%	12.07%	11.25%	10.19%	11.11%	5.80%	5.34%	8.19%	7.91%
	Iraq	0.026014005	12.49%	11.67%	11.16%	9.81%	8.12%	6.15%	5.51%	10.83%	. .
	Kuwait	0.011031707	2.96%	. .	. .	5.29%	4.76%	3.55%	3.31%	4.13%	5.95%
	Libya	0.006851658	3.29%	2.25%	1.97%	2.46%	3.80%	3.22%	2.92%	1.76%	2.24%
	Saudi Arabia	0.019809452	. .	. .	. .	15.65%	16.74%	15.77%	12.61%	13.27%	17.72%
	Average	0.015033036	5.89%	7.03%	6.77%	7.61%	7.82%	6.10%	5.30%	6.66%	7.18%
Other MENA States	Bahrain	0.026097659	. .	1.53%	1.75%	2.08%	4.96%	5.89%	5.70%	6.90%	8.54%
	Egypt	0.042244046	17.27%	15.43%	13.73%	13.11%	9.94%	6.47%	6.16%	7.42%	7.19%
	Israel	0.046594632	27.66%	30.46%	29.25%	23.09%	22.89%	19.38%	18.92%	20.26%	18.39%
	Jordan	0.029519345	17.51%	15.25%	17.24%	12.53%	11.72%	12.21%	10.65%	10.01%	9.94%
	Lebanon	0.025554468	. .	. .	12.12%	4.73%	8.49%	10.07%	12.36%	9.58%	9.29%
	Oman	0.036936875	15.53%	24.96%	23.01%	18.78%	20.95%	15.64%	14.91%	15.71%	16.67%
	Syria	0.012820747	12.66%	15.95%	14.73%	14.50%	14.71%	15.93%	17.25%	14.55%	15.56%
	Turkey	0.006725318	3.19%	5.12%	4.94%	4.71%	4.19%	3.36%	3.90%	3.82%	4.30%
	Average	0.028311636	15.64%	15.53%	14.60%	11.69%	12.23%	11.12%	11.23%	11.03%	11.23%
G7	Canada	0.000782265	1.78%	1.86%	1.77%	1.81%	1.85%	1.71%	1.76%	1.71%	1.95%
	France	0.000617597	3.67%	3.81%	3.76%	3.85%	3.75%	3.74%	3.76%	3.86%	3.84%
	Germany	0.001249304	3.46%	3.49%	3.33%	3.23%	3.24%	3.15%	3.15%	3.23%	3.22%
	Italy	0.000981203	2.07%	1.98%	1.83%	1.89%	1.88%	1.87%	1.76%	1.82%	2.01%
	Japan	0.000187066	0.86%	0.91%	0.89%	0.89%	0.89%	0.91%	0.91%	0.92%	0.93%
	United Kingdom	0.00215929	4.53%	4.78%	4.63%	4.40%	4.23%	4.19%	4.49%	4.46%	4.81%
	United States	0.005814392	5.73%	5.40%	4.99%	4.97%	4.76%	4.77%	4.96%	5.43%	6.57%
	Average	0.001684445	3.16%	3.17%	3.03%	3.01%	2.94%	2.91%	2.97%	3.06%	3.33%

Table 5.3: Percentage of GDP Spent on Arms

Note: Data for Table 5.3 was collected from the SIPRI annual arms sales database broken down by country

This boom in arms sales was, according to Roham Alvandi, Andrew Scott Cooper and others, thanks changing priorities in Washington DC. Following the election of Richard Nixon as President in 1968 American foreign policy globally and regionally was undergoing major shifts. Nixon, seeking to wind down direct American military involvement abroad as part of his push to end the Vietnam War, initiated for a new policy where American interests would be safeguarded by supporting regional actors to act as US proxies. In the Middle East this meant a shift from President Johnson's twin pillars policy, which treated Saudi Arabia and Iran as America's principal allies of equal importance, to putting all their focus on supporting the Shah. Jonathan Nitzan and Shimshon Bichler further argue this increasingly lax attitude towards arms sales was in part a bid to re-accumulate capital in the nations who had only recently seen a significant loss of wealth in the 1973 Oil Shock, leading to a de facto alliance between the arms and oil industries. This was all working in tandem with existing Iranian policy. For the Shah, this arms build-up was the centrepiece of his broader ambitions to become the leading power in the Persian Gulf. For Reza Pahlavi's government this meant becoming the dominant military power in the Middle East.[75]

One aspect of Iranian arms policy was their use as a tool for purchasing support from other powers in the region, a field of activity which likely fuelled growth in Iranian arms purchasing policies by providing another source of direct consumption above and beyond the demands of the Shah's military forces. Beginning in 1975, the Shah was increasingly relying on weapons transfers in place of their earlier use of fiscal instruments due to the Iranian government's decreasing capacity to extend grants or loans. From Iran's perspective these transfers were necessary for securing the balance of power in the region and keeping peace in the Middle East. The Iranian government also saw curtailing Soviet

[75] Roham Alvandi, "Nixon, Kissinger, and the Shah: The Origins of Iranian Primacy in the Persian Gulf", Diplomatic History, Volume 36, Issue 2, April 2012, Pages 347, 364-367, https://doi.org/10.1111/j.1467-7709.2011.01025.x; Jonathan Nitzan and Shimshon Bichler, "Bringing Capital Accumulation Back In: The Weapondollar-Petrodollar Coalition – Military Contractors, Oil Companies and Middle East 'Energy Conflicts'", *Review of International Political Economy*, Vol. 2, No. 3 (Summer, 1995), 457-459

influence as a key objective that would be achieved through securing their allies and keeping such a balance of power intact. Iranian representatives informed their American allies they would take no such action under this policy to undermine their own power or military capability, clearly intending to assure their superpower patrons they had nothing to fear from Iranian regional ambitions. This, for the Americans, was certainly never perceived as a problem, with no hint in the relevant cables from the Nixon and Ford years that Iran's arms transfer policy was in any way a negative. Having regional partners, like Iran, who could handle redistribution of US arms would have been a positive from the perspective of the new Nixon Doctrine's emphasis on empowering local champion powers.[76]

Opening the proverbial tap on US arms sales, which had been closely controlled since the 1950s to keep regional tensions in check and avoid overextending Iranian resources, was a part of the new arrangement and was actively sought by the Shah throughout the 1960s. The Shah's focus on military spending, both for Iranian usage and as part of their later diplomatic policies, was so overwhelming prior to the Nixon Doctrine that his budget never allocated any less than 23% of all available funds to arms at expenditures at any point during his reign prior to 1969. These expenditures were increasingly sustained by growing international borrowing and more unconventional measures. This spending also took priority over more critical domestic investments like infrastructure and public services. From the perspective of the United States these purchases were necessary for achieving both Iranian policy goals and broader American Cold War objectives even though this caused increasing economic stress for the population.[77]

[76] Wikileaks. IRANIAN REGIONAL MILITARY COOPERATION AND ASSISTANCE Confidential cable from Iran Tehran to Abu Dhabi Pouch, Amman Pouch, Ankara Pouch, Beirut Pouch, Cairo Pouch, Commander in Chief European Command Vaihingen Germany, Damascus Pouch, Doha Pouch, Department of State, Islamabad Pouch, Jidda Pouch, Joint Chiefs of Staff, Kabul Pouch, Khartoum Pouch, Kuwait Pouch, Manama Pouch, Muscat Pouch, New Delhi Pouch, Sanna Pouch, Secretary of Defense, Secretary of State, Tel Aviv Pouch, USINTO Baghdad Pouch; November 3, 1975, https://search.wikileaks.org/plusd/cables/1975TEHRAN10660_b.html (Accessed September 26, 2019)Wikileaks.
[77] Cooper, *The Oil Kings* 23-24

The expense in economic and political terms was considerable. Many of the arms the Shah was purchasing were high-end aircraft, warships, and other expensive weapons systems as shown in Figure 5.7. These were more costly to maintain, requiring highly trained technical staff and a ready supply of spare parts to keep functioning. Iran even purchased an estimated 9,127 American napalm weapons of unspecified type by September 18, 1978, barely three months before the Shah was forced to flee the country. This rapid increase in technologically sophisticated arms purchases inspired fear in the Saudis thanks to the Shah's increasingly sophisticated arsenal. The United States responded by providing Saudi Arabia with access to the same kinds of armaments, increasing the quantity of top-quality weaponry in the Middle East and further fuelling the growing arms race.[78]

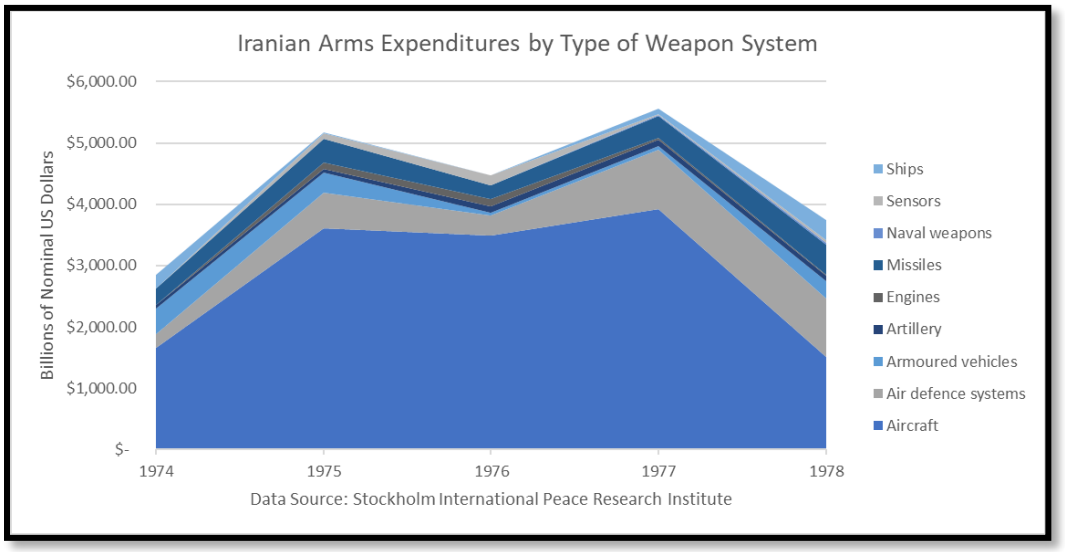

Figure 5.7: Iranian Arms Expenditures by Type of Weapon System

Note: Data for Figure 5.7 was collected from the SIPRI annual arms sales database for Iran broken down by weapons system type

[78] Wikileaks. IRAN'S CAPACITY TO ABSORB SOPHISTICATED MILITARY EQUIPMENT; Secret cable from Iran Tehran to Chief of Naval Operations, Chief of Staff of US Air Force, Chief of Staff of US Army, Commander in Chief European Command Vaihingen Germany, Department of State, Secretary of Defense, Secretary of State; July 6, 1976, https://search.wikileaks.org/plusd/cables/1976TEHRAN06825_b.html, (Accessed September 26, 2019); WikiLeaks. NAPALM WEAPONS IN IRAN; Secret cable from Iran Tehran to Secretary of State; September 18, 1978, https://search.wikileaks.org/plusd/cables/1978TEHRAN08933_d.html, (Accessed September 26, 2019); WikiLeaks. ARMS POLICY FOR SAUDI ARABIA; Secret cable from Saudi Arabia Jeddah to Bahrain Manama, Department of State, Iran Tehran, Kuwait Kuwait City, Secretary of State, United Arab Emirates Abu Dhabi; November 21, 1974, https://search.wikileaks.org/plusd/cables/1974JIDDA06840_b.html, (Accessed September 26, 2019)

Iran's fiscal situation on the arms front became so unstable, the Iranian government was forced to use to increasingly unconventional methods to keep up the pace demanded by the Shah. In one such case, from late 1976, the Iranian government approached American and British arms manufacturers offering to trade crude oil for hi-tech weaponry. In October one potential partner, the British Aircraft Corporation, was negotiating selling £300 million worth of Rapier surface to air missiles in exchange for an equivalent amount of crude oil in place of cash. £50 million in oil was offered to Yarrow in exchange for naval vessels and £70 million to Vickers for the purchase of armoured vehicles, all of which was to be paid for in Iranian heavy crude oil. The participating companies expected to recoup their costs by re-selling the oil to the Shell Corporation. The negotiations were suspended in October but were expected to resume the following year with no hint of any reluctance to go ahead from the British Aircraft Corporation, Yarrow, or Vickers.[79]

This arms build-did not go unnoticed or without response by other powers in the region who feared the Shah's growing ambitions and bellicosity. As shown in Figure 5.8, Iran's spending was the largest component of an escalating regional arms race as other powers sought to keep pace with the increasingly well-armed Iranian military. Such concerns led directly to a Saudi response which unleashed unexpected consequences for all involved parties. According to Andrew Scott Cooper, the Saudis pursued an aggressive charm offensive beginning in 1975 to win over American support and undermine backing for their militaristic Iranian rivals. Making matters easier for the House of Saud was the Shah's push for increased oil prices as necessary to keep his books balanced, a move which American President Gerald Ford opposed as a threat to the US economy. In December 1976, the Saudi

[79] Recent Developments in OPEC Countries, October 14th, 1976, Bank of England Standing Group on Oil Problems: World Energy Crisis, 3A112/1, 3, Bank of England Archive, London, United Kingdom; Recent Developments in OPEC Countries, October 14th, 1976, Bank of England Standing Group on Oil Problems: World Energy Crisis, 3A112/1, 4, Bank of England Archive, London, United Kingdom

government stunned OPEC at the cartel's annual meeting in Doha by opposing further price increases, announcing a production increase, and promising to undercut the posted price. Officially this was intended to curry favour with the United States and give time for Western financial capacity to recover but this decision had dramatic consequences for Iran.[80]

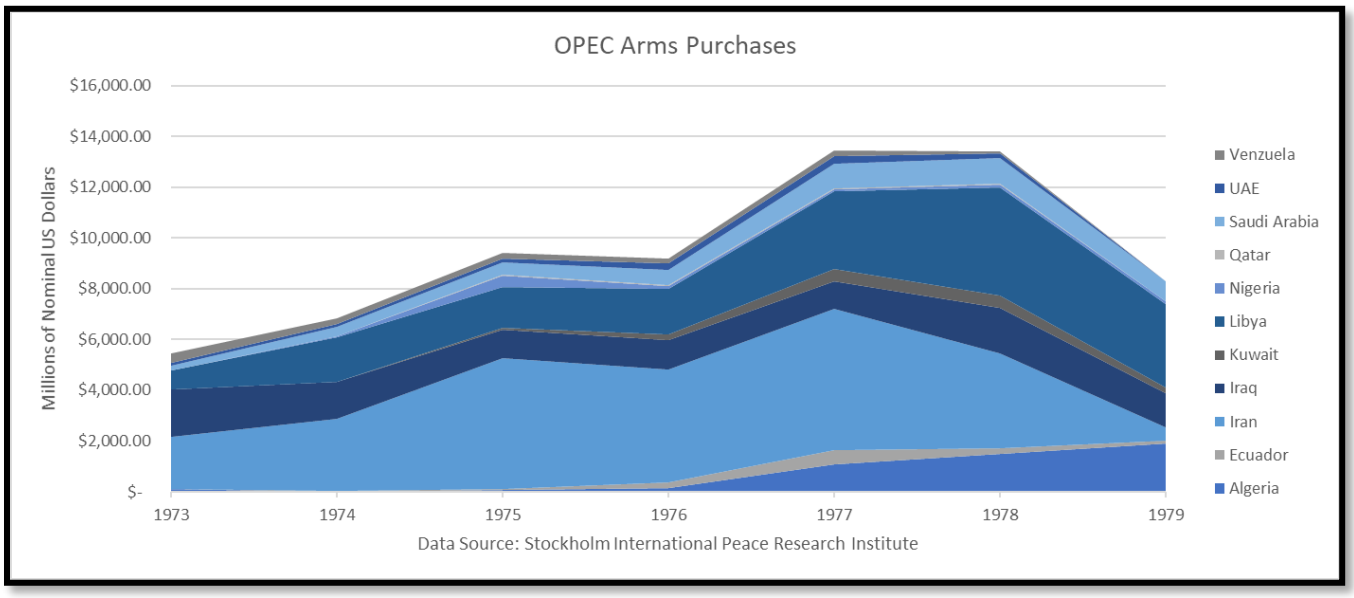

Figure 5.8: OPEC Arms Purchases, 1973-1979

Note: Data for Figure 5.8 was collected from the SIPRI annual arms sales database broken down by arms purchaser

As can be seen in Figure 5.8, the Doha announcement had a direct impact on Iran's spending power as military imports dropped beginning in 1977. Unfortunately, the results for Iran's already overstretched and increasingly indebted coffers were catastrophic. Prices skyrocketed as Iran's ability to meet their fiscal obligations deteriorated. When combined with the existing dissident movement, which enjoyed increasing popularity thanks to the Shah's highly coercive tactics and the brutality of his SAVAK

[80] Andrew Scott Cooper. "Showdown at Doha: The Secret Oil Deal That Helped Sink the Shah of Iran." Middle East Journal 62, no. 4 (2008): 578-590. http://www.jstor.org.ezproxy.lib.gla.ac.uk/stable/25482569.; Wikileaks. SAUDIA ARABIAN POSITION AT OPEC'S DOHA CONFERENCE, Confidential cable sent from Saudi Arabia Jeddah to Algeria Algiers, Austria Vienna, Bahrain Manama, Ecuador Quito, France Paris, Gabon Libreville, Germany Bonn, Indonesia Jakarta, Iran Tehran, Iraq Baghdad, Italy Rome, Japan Tokyo, Kuwait Kuwait City, Libya Tripoli, Nigeria Lagos, Oman Muscat, Qatar Doha, Secretary of State, United Arab Emirates Abu Dhabi, United Kingdom London, Venezuela Caracas; December 18, 1976; https://search.wikileaks.org/plusd/cables/1976JIDDA08102_b.html, (Accessed: September 26, 2019)

secret police, the outcome was comparable to dumping gasoline on a fire. The already existing protest movement swelled in size, seeing growing demonstrations which the police struggled to control, SAVAK failed to break, and martial law failed to contain. Iranian oil workers showed their support for the demonstrations in December of 1978 by walking off the job on strike, effectively shutting down the Iranian oil industry. By December 25th, 1978, all Iranian oil exports had ceased. Shortly after Shah Reza Pahlavi fled the country and his government collapsed the moment his plane touched down in the United States.[81]

The oil strike which pushed the revolution over the top did not just topple Shah Reza Pahlavi. Iran, as of 1978, was the second largest oil producer in OPEC representing a total of 18.44% of the bloc's total oil production. The total loss of Iranian oil production, with virtually no warning, saw the nominal price of oil double in five months as the 1979 Oil Shock kicked off as global oil production, including attempts by other OPEC members to offset the shortfall, dropped by 5%. Such a sudden, sharp shock hit already massively indebted countries who could ill afford a second round of the same sort of price shock which forced the first wave of sovereign borrowing in the wake of 1973.[82]

The Revolution's upheaval was also felt in financial markets. Following the seizure of hostages from the US embassy American authorities froze $12 billion in Iranian assets currently held by US banks and Eurodollar deposits in London, prompting Iranian officials to withdraw their assets from overseas banks. The reaction in the financial world was best summarized by the Financial Times whose November 15th, 1979 analysis of these developments was titled, "[the] West's long-held fears come to pass". They described the Iranian debt freeze and withdrawal as a deep fear coming true, stating, "Ever since the Arab oil embargo which followed the 1973 war in the Middle East concern has mounted that some oil exporters would one day use not just the oil, but also their huge petro-dollar surpluses as a

[81] Abrahamian, *A History of Modern Iran*, 157-161; Yergin, *The Prize*, 662-663
[82] Locke and Ahmadi-Esfahani, "The Origins of the International Debt Crisis", 234-236; Yergin, *The Prize*, 667

weapon against the U.S. and other Western nations." These concerns had basis in fact, as shown by the considerable exposure faced by many key players in global banking. Citibank, who was never a significant player in financing the Iranian government, moved rapidly to reduce their exposure cutting their $400 million in loans in half to a mere $200 million in exposure by the time default kicked in. Chase Manhattan was a far larger participant in Iranian business with up to $60 million passing daily through their hands from Iranian sources throughout the 1970s while Chase Manhattan's deposits from the Iranian central bank reaching a total of $1 billion in that period. Chase was also the lead agent on approximately $1.8 billion in loans, which were backed by 250 different banks worldwide, that were now up in the air. Bank of America, who was less tied to the Shah than Chase Manhattan, received much of the deposits previously held by Chase prior to the freeze granting them a total of $2.8 billion. Smaller banks who signed on to syndicated loans extended to Iran were caught up in the turmoil. The Bank of Scotland, as one example, had approximately £2.875 million in short to medium term loans and an additional £1 million deposited with the Iran Overseas Investment Bank (IOIB) by 1979 when the revolution began.[83]

Financial institutions caught in the freeze were now operating in a highly uncertain environment. The case of Barclay's, who had invested £4.6 million as part of a £30 million syndicated loan with Sumimoto Bank as the lead bank provides an effective example of these conditions. The freeze's stoppage of these funds prompted consternation and frustration on the part of Barclay's officials who said, "I do not quite understand what has happened with this loan which we made to IMBDI but if repayment has been made by the Iranians and the Manufacturers Hanover's Bank are

[83] "West's Long-held Fears Come to Pass." Financial Times, November 15, 1979, 4. Financial Times Historical Archive (accessed January 26, 2020). https://link-gale-com.ezproxy.lib.gla.ac.uk/apps/doc/HS2303301296/FTHA?u=glasuni&sid=FTHA&xid=03b1f100.; Christian Emery (2010) The transatlantic and Cold War dynamics of Iran Sanctions, 1979–80 , Cold War History, 10:3, 374; Wilson 296-305; Bank of Scotland Board Minutes Page 3254, Bank of Scotland Archive, Edinburgh, Scotland, United Kingdom

holding onto it because of Carter's recent edict, this is surely not what was intended". Throughout the year, beginning in March, the Iranian government exerted increasing pressure on foreign shareholders in Iranian businesses as part of a broader policy shift following the revolution:

> "Dr. Abtahi explained that he was calling upon all of the non-Iranian shareholders of I.O.I.B, except Man. Han. (Manufacturers Hanover's Bank) and Bank of America, at the specific request of Mr. Nobari, Governor of Bank Markazi. The object of his visit was to explain that the Bank Markazi found it politically unacceptable to participate fully in a joint venture with American partners, especially bearing in mind some steps would have to be taken to reactivate the bank. He stressed this because he said that a prime role of the I.O.I.B. had been syndicating Iranian foreign debts and since there was no intention on the part of Iranian Authorities to raise any further overseas loans at least for the next 12 months, evidently the present moribund situation would not improve."[84]

Barclay's position would not truly stabilize until July 5th following the receipt of fresh deposits from other account holders which mitigated the loss of Iranian funds. By a November 12th, 1980 board meeting, just prior to the resolution of the freeze, those present, "Agreed that this should be written down to 2.3 million, it being undesirable with our claim for compensation outstanding to draw the attention of Iranian authorities to the fact that we have little hope of recovery." Further discussion on November 28th was even more stark asserting, "Since the Revolution there has been a 'political audit' – but the results are not known to us. Press reports earlier this year (attributed to Mobari, Governor of Bank Markazi) suggested compensation might be made at 20% of nominal value. This would value our investment at (£)349,000." For Barclay's to be considering such substantial write-offs on the value of their investments is a clear sign of how bleak the situation appeared to be. This was further complicated by very public Iranian attempts to woo Barclay's into continuing business with them with offers of renewing a substantial dollar deposit with the bank by January 30th, 1980, barely a month after the freeze.[85]

[84] Mr. Cockburn, I.O.I.B., March 6th, 1980, 80/5692, Barclay's Bank Archive, Manchester, United Kingdom
[85] 80/5692 Note for Mr. Dyson, November 19th, 1979, 80/5692, Barclay's Bank Archive, Manchester, United Kingdom; Note for Mr. James July 8th, 1980, 80/5692, Barclay's Bank Archive, Manchester, United Kingdom; Extract from Board Minutes, November 11th, 1980, 80/5692, Barclay's Bank Archive, Manchester, United Kingdom; Extract

These uncertainties were reflected in global finance. Almost immediately following the freeze the economic press was evaluating its likely impact. Writers at the Economist, on December 1st, 1979, summarized a rather grim situation:

> "International bankers have had their first taste of a syndicated Eurocredit being called into default – on dubious grounds at that – at a time when some, but not all, of the partners are able to offset their credit contributions by seized liabilities (see page 94). They find it very nasty. And it comes on top of their fright at the spectre of debt repudiation not by one of the Perus of this world but an oil-rich country. First reaction: shorter maturities on future syndication, and a widening of spreads to third-world borrowers, adding to their costs. The Euromarket is also likely to turn over its funds more cautiously, shutting out some borrowers altogether."[86]

Bank of England analysts saw evidence of this pattern by February 11th, 1980 and left no doubt Iran's asset freeze was the cause of a new wave of market instabilities:

> "In the shorter term a further complicating factor is the effect on the international banking system of the freezing of Iranian assets by US authorities. In the very short term the effect has been to make the market contract sharply. The volume of new medium-term credits in December ($2.9 bn.) was less than half of the 1979 monthly average ($5.9 bn.) and the low volume continued during January ($3.3 bn.). The drop in volume was accomplished by a fall in the average size of new loans and in maturity, and spreads on some loans for non-oil l.d.c. borrowers were higher than on comparable borrowings earlier in 1979. However, many commentators feel that the contraction will be temporary and as the liquidity of international banks rises they will be attracted back into the credits market, especially if spreads increase."[87]

For many banks and businesses these funds, both from deposits and lost business, would take years to recoup with the first hearings on an estimated 500 to 800 claims valued at approximately $700 million by foreign businesses not beginning until 1981. This temporary loss of assets and the increased costs imposed ensured global finance would be more restrictive in lending just as the demand for credit was

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from Board Minutes, November 12th, 1980; Review of Trade Investments – Iran, November 28th 1980, 80/5692, Barclay's Bank Archive, Manchester, United Kingdom; Ghiles, Francis, et al. "Iran Softens Line on Banks." Financial Times, 30 Jan. 1980, p. [1]. Financial Times Historical Archive, https://link-gale-com.ezproxy.lib.gla.ac.uk/apps/doc/HS2305585158/FTHA?u=glasuni&sid=FTHA&xid=4c3b1420. Accessed 17 Jan. 2020.

[86] "After America's freeze on Iran." Economist, 1 Dec. 1979, p. 69. The Economist Historical Archive, 1843-2014, https://link-gale-com.ezproxy.lib.gla.ac.uk/apps/doc/GP4100126411/ECON?u=glasuni&sid=ECON&xid=111fc45f. Accessed 17 Jan. 2020.

[87] Deficit Financing, Section III: Comparisons with 1974-75, February 11th, 1980, Recycling, H4/809, 7, Bank of England Archive, London, United Kingdom

growing throughout the Global South. By December 31st, 1980, the financial freeze was over, and the banks impacted by American blocking actions began receiving repayment for their claimed assets. Even so the damage had been done through the combination of tightening credit, reduced lending, and decreased confidence in the international lending market.[88]

The 1979 Oil Shock and freezing of Iranian assets were not solely or even largely responsible for tipping the global debt picture over the edge. What they did was put additional strain on the global financial system which was facing a growing, potentially systemic crisis. The unexpected nature of the price shock upended fiscal policies around the world as governments scrambled to make sense of an even costlier lending and importing environment. The freeze introduced additional uncertainty in global finance just as continuous flows of capital were needed most. What made matters worse was the chill which came with Iran's revolution. Watching a previously reliable, lucrative partner succumb to revolution, putting billions in assets in danger, pushed many of the major lenders to re-evaluate their risk assessments. These initial developments were only the beginning as the growing loss of revenue for a region flush with oil wealth watched as previously reliable streams of liquid funds dried up.[89]

[88] "$700m Claims against Iran." Financial Times, 21 Oct. 1981, p. 5. Financial Times Historical Archive, https://link-gale-com.ezproxy.lib.gla.ac.uk/apps/doc/HS2303930208/FTHA?u=glasuni&sid=FTHA&xid=76d182f6. Accessed 17 Jan. 2020.
[89] Phillip L. Zweig, *Wriston: Walter Wriston, Citibank, and the Rise and Fall of American Financial Supremacy*, Crown Publishers Inc (New York: 1995), 643

Persian Gulf Crisis

The Iranian Revolution and 1979 Oil Shock was the beginning of a wave of upheaval across the Middle East. As the archival documents discussed below demonstrate, OPEC and OAPEC's members received a brief surge in revenue before watching as oil profits shrank in the face of growing global economic deterioration. Iran's Revolution inspired imitators within the same year in Saudi Arabia with the November seizure siege of the Grand Mosque of Mecca which was followed in December by a series of Shi'a uprisings in the oil-rich Eastern Provinces, resulting in a violent crackdown by the Saudi National Guard. Meanwhile, more militant figures in the Iranian Revolution like Ayatollah Montazeri openly agitated for exporting the revolution. Set against this turmoil was the Soviet invasion of Afghanistan of the same year, a development which was initially peripheral to the ongoing political and economic crisis in the Persian Gulf yet nonetheless escalated tensions throughout a region already wracked with political upheaval and economic downturn. This environment of growing crisis was directly responsible for causing the eventual redirection and 1982 collapse of OPEC petrodollar flows, culminating in the Kuwaiti Souk al-Manakh Crash of October 1982.[90]

This changing, increasingly unstable socio-economic climate went hand in hand with the cessation of the capital flows which were central to the petrocapital process since 1974. The earlier dynamic of oil exporters funnelling excess profits into New York and London banks for re-investment would painfully reverse itself as the sudden spike in oil prices lost much of their earning power thanks to the increased inflation that came with them. Even though oil prices rose 240% OAPEC found, "deducing the inflation for that period reduces the amount to 75%, which is less than a third of the denominated

[90] R. Hrair Dekmejian, "The Rise of Political Islamism in Saudi Arabia", *Middle East Journal,* Vol. 48, No.4, (Autumn, 1994), 628-629; Toby Craig Jones, "Rebellion on the Saudi Periphery: Modernity, Marginalization, and the Shi'a Uprising of 1979", *International Journal of Middle East Studies,* Vol. 38, No. 2, (May, 2006), 215-217; Mohammad Ataie, "Revolutionary Iran's 1979 Endeavor in Lebanon", *Middle East Policy,* Vol. XX, No. 2, (Summer, 2013), 138-140; Glenn E. Robinson, "The Four Waves of Global Jihad, 1979-2017", *Middle East Policy,* Vol. XXIV, No. 3, (Fall, 2017), 73-74

increase. Consequently, the average annual increase in real oil prices amount to 8.5%, although the annual nominal increase was as high as 19%."[91] Making the situation worse, for exporters, was the additional deflationary impact was the declining value of the dollar which further reduced the value of the incoming flow of capital. By 1981 OAPEC soberly concluded:

> "While the oil crisis of late 1973 concerned the importing countries, the present crisis concerns primarily the exporting countries, particularly the OPEC members. This phenomenon stems from the existence of a surplus in the oil market, which exerts a downward pressure on oil prices to the detriment of oil exporters, who are themselves confronted with two alternatives: to reduce prices or to reduce production (or sometimes both), either of which leads to a reduction of their oil revenues."[92]

OAPEC's very stark conclusion mirrors similar conditions which simultaneously were unfolding in Mexico and Venezuela. According to Robert F. Bruner and John M. Simms, Jr. the same dynamics of declining revenues and exports rapidly depleted both countries' foreign exchange reserves, hollowing out their fiscal resources and paving the way for defaults in 1982. For these oil exporters, the boom which followed the 1973 Oil Embargo would not be repeated.[93]

These developments were not solely a product of the worsening global economic climate with OPEC's Middle Eastern members suffering the slings and arrows of the world's troubles. The regional economy was already entering an intense contraction beginning in 1979. The Iranian Revolution ground Iran's economy to a halt as political uncertainty effectively removed one of the largest actors in the region. This was made worse when, on September 20, 1980, the Republic of Iraq under the leadership of President Saddam Hussein initiated a full-scale invasion on Iran. Saddam Hussein's war was officially justified on the grounds of reclaiming disputed, oil-rich provinces in Khuzestan on the Iraqi border and to defend the inhabitants from the excesses of the Iranian Revolution. For the rest of the Gulf powers,

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[91] *Secretary General's Eighth Annual Report AH 1401: AD 1981*, Organization for Arab Petroleum Exporting Countries, (Kuwait: June, 1982), 32; retrieved from the OPEC Library, Vienna, Austria
[92] Ibid
[93] Robert F. Bruner and John M. Simms, Jr, "The International Debt Crisis and Bank Security Returns in 1982", *Journal of Money, Credit and Banking* Vol. 19, No. 1 (February, 1987), 46-48

the conflict was as an opportunity to halt or even potentially roll back the new and dangerous ideology emanating from Tehran. According to Pierre Razoux, Christiane Baumestier, and Lutz Kilian this conflict drove oil prices rose to higher levels than were seen during the 1979 Oil Shock thanks first to the destruction of Iranian oil facilities and then thanks to direct disruption of exports by both belligerent powers. The situation had become sufficiently dangerous to the security of oil production that US President Carter declared in his January 1980 State of the Union address, "An attempt by any outside force to gain control of the Persian Gulf region will be regarded as an assault on the vital interests of the United States and as such an assault will be repelled by any means necessary, including military force," followed by leasing multiple military bases for American military forces throughout the Persian Gulf.[94]

Arab-Owned Foreign Assets in Billions of Dollars Data Source: OAPEC Secretary General's Annual Reports					
Year	1976	1977	1978	1979	1980
Kuwait	$ 25	$ 31	$ 34	$ 49	$ 63
Qatar	$ 4	$ 5	$ 5	$ 6	$ 10
UAE	$ 12	$ 16	$ 26	$ 20	$ 38
Saudi Arabia	$ 56	$ 64	$ 77	$ 64	$ 102
Algeria	$ 3	$ 4	$ 8	N/A	N/A
Iraq	$ 5	$ 7	$ 8	$ 22	$ 31
Libyan Jamahiriya	$ 6	$ 8	$ 8	$ 6	$ 17
Total Arab OPEC Countries	$ 105	$ 132	$ 166	$ 167	$ 261

Table 5.4: Arab-Owned Foreign Assets in Billions of Dollars

Note: Data for Table 5.4 was collected from the OAPEC Secretary General's 1980 Annual Report from the OPEC Research Library in Vienna, Austria

Revenue instability had multiple devastating first-order effects on the region. OPEC's members stepped up oil production as much as possible in a bid to counter the sudden slack in capacity. Much of the Middle East entered an economic recession despite these efforts by 1981 with the decline picking up momentum in 1982. The Persian Gulf powers saw contractions of trade, tourism, and commerce as

[94] *Secretary General's Sixth Annual Report AH 1399: AD 1979*, Organization for Arab Petroleum Exporting Countries, (Kuwait: June, 1980), 34; retrieved from the OPEC Library, Vienna, Austria; Pierre Razoux, *The Iran-Iraq War*, The Belknap Press of Harvard University Press, (Cambridge, Massachusetts: 2016); 21-23, 58-65; Christiane Baumeister and Lutz Kilian, "Forty Years of Oil Price Fluyctuations: Why the Price of Oil May Still Surprise Us", *Journal of Economic Perspectives*, Vol. 30, No. 1 (Winter 2016), 145; Joe Stork and Martha Wegner, "The US in the Persian Gulf: From Rapid Deployment to Massive Deployment", *Middle East Report*, No. 168, No Place to Hide (Jan.-Feb. 1991), 22-24

revenues collapsed thanks to declines in new spending. Kuwait saw whole sectors of their economy enter collapse completely as much of the previous growth seen in the previous decade was in a state of disintegration. In Kuwait, the loss of money to more profitable investments overseas, the lack of domestic banking creation of liquid capital, and decreasing oil revenues triggered a growing liquidity crisis as shown in Figure 5.9 by the decline of money and quasi-money in the Kuwaiti economy throughout the period. This development gained further urgency thanks to Kuwait's status as the second largest OAPEC holder of foreign and overseas assets as shown in Table 5.4. In response the Kuwaiti government initiated a series of policies intended to encourage investors to divest from their overseas holdings and bring their money home. Though precise amounts being clawed back were not made available in the sources Kuwait was the second largest holder of foreign assets of any member, exceeded in size only by Saudi Arabia as shown in Table 5.4. Removing even part of this pool of approximately $60 billion from global markets meant additional stresses for any bank holding Kuwaiti assets just as demand for credit was growing and supply was declining.[95]

[95] *Economic Report 1980*, Central Bank of Kuwait, 51-54; retrieved from the OPEC Library, Vienna, Austria; *Twenty-Sixth Annual Report, Financial Year 1982*, Central Bank of Libya, 25-26; retrieved from the OPEC Library, Vienna, Austria; *Secretary General's Eighth Annual Report AH 1402: AD 1982*, Organization for Arab Petroleum Exporting Countries, (Kuwait: June, 1982), 55-58; retrieved from the OPEC Library, Vienna, Austria; *Economic Report 1982*, Central Bank of Kuwait, 4; retrieved from the OPEC Library, Vienna, Austria; *Economic Report 1982*, Central Bank of Kuwait, 36-40; retrieved from the OPEC Library, Vienna, Austria; *Economic Report 1981*, Central Bank of Kuwait, 136-137; retrieved from the OPEC Library, Vienna, Austria

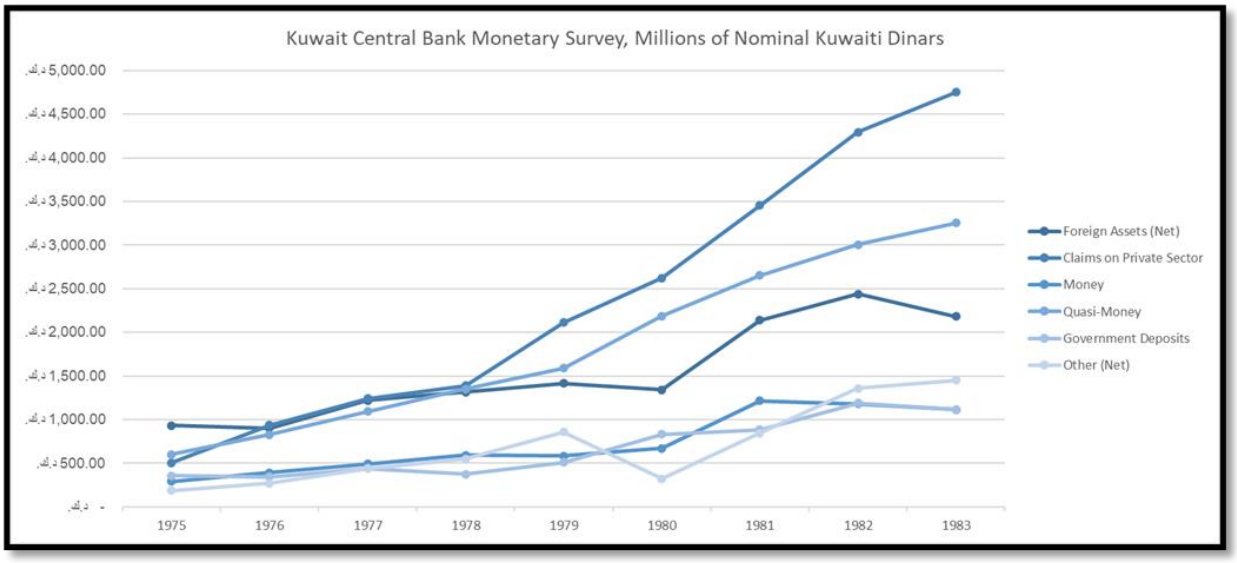

Figure 5.9: Kuwaiti Central Bank Monetary Survey, Millions of Nominal Kuwaiti Dinars

Note: Data in Figure 5.9 was collected from the Central Bank of Kuwait Annual Reports for 1977 to 1983 from the OPEC Research Library in Vienna, Austria

These policy decisions, happening in a context of declining oil revenues across the board, were further impacted by the ongoing Iran-Iraq War by creating an additional drain on the region's financial resources was thanks to how these powers responded to the conflict. The Gulf oil monarchies extended zero interest loans to Saddam Hussein to help fund his war against Ayatollah Khomeini whose revolutionary regime was seen as an existential threat. By the end of 1981, the Gulf monarchies of Kuwait and the United Arab Emirates had loaned an estimated $16 billion in nominal US dollars to the Iraqi government. This number continued to expand throughout the period, reaching an estimated $22 billion by April 20th, 1982, just prior to the onset of the 1982 Debt Crisis. For such a substantial pool of money to be kept within the region and spent on war materiel instead of foreign investment meant, on top of the liquidations of assets, a substantial pool of potential investment capital was being kept out of international financial markets which previously flowed freely.[96]

[96] Razoux, *The Iran-Iraq War,* 313; Devin Kennington, Joyce Battle and Malcolm Byrne, *Iran-Iraq War Timeline*, Wilson Center, 10, https://www.wilsoncenter.org/sites/default/files/Iran-IraqWar_Part1_0.pdf; "Gulf States to Consider More Aid for Iraq." *Financial Times*, 20 Apr. 1982, p. 4. *Financial Times Historical Archive*, https://link-

When one considers the macroeconomic impact of such decisions it is essential to understand why the powers of the region were reacting so strongly to the Iranian Revolution and provided so much in the way of funding for the Iraqi war effort at the cost of other priorities. For the Persian Gulf monarchies, the threat of the Iranian Revolution was made very immediate by a similar expression of Islamic militancy in the holiest city of all of Islam. On November 20th, 1979, a large group of between three and six hundred armed militants, initially identified as Iranian agents, seized control of the Grand Mosque in Mecca, the holiest site in all of Islam, and took hostages. Saudi troops swiftly surrounded the mosque, prompting a firefight to break out between Saudi military forces and the militant groups. These fears of Iranian involvement were inflamed by reports of Iranian agents agitating among the mostly Shi'a populations of the oil-rich Saudi Eastern Provinces. Subsequent reports on November 22nd found the militants were mostly Saudis, Gulf Arabs, Egyptians, and other parts of the Arab World and not Iranians but this did not dispel fears of further Iranian participation.[97] Such perceptions of outside involvement were so widespread that Saudi Interior Minister Prince Nayif bin abd al-Aziz released a statement that same day asserting:

> "Neither the United States, Iran, nor any other countries have had anything to do with the attack on the Holy Kabba. News reports alleging US involvement in the incident were absolutely untrue and baseless. There are no such indications of US involvement. News agency reports claiming that the assailants were Iranian were also absolutely false. The attackers were neither

gale-com.ezproxy.lib.gla.ac.uk/apps/doc/HS2305273763/FTHA?u=glasuni&sid=FTHA&xid=51bc2c26. Accessed 26 Jan. 2020.

[97] Wikileaks. (S) OCCUPATION OF GRAND MOSQUE, MECCA Secret cable sent from Saudi Arabia Jeddah to State Baghdad; November 20th, 1979, https://search.wikileaks.org/plusd/cables/1979JIDDA07971_e.html; Wikileaks. (S) OCCUPATION OF GRAND MOSQUE, MECCA, Secret cable sent from Department of State to Japan Tokyo; November 21st 1979, https://search.wikileaks.org/plusd/cables/1979STATE301868_e.html; Wikileaks. (S) OCCUPATION OF GRAND MOSQUE MECCA SITUATION AS OF 0800 GMT NOV 22, Secret cable sent from Saudi Arabia Jeddah to Defensive Intelligence Agency, Department of State; November 22nd, 1979, https://search.wikileaks.org/plusd/cables/1979JIDDA08073_e.html; Wikileaks. IRANIAN AGITATION OF SAUDI SHIAS AND MECCA MOSQUE OCCUPATION, Secret cable sent from Saudi Arabia Dhahran to Department of State, Saudi Arabia Jeddah; November 20th, 1979, https://search.wikileaks.org/plusd/cables/1979DHAHRA01850_e.html;

> pro-Iranian nor from any other nationality. Nor were they a politically motivated group. It is all a matter of a criminal deviation from the correct path of Islam far from any politics."[98]

Though the militants were, ultimately, not connected to the Iranian Revolution their very similar message of protesting the perceived decadence of Saudi society and their drift away from Islamic principles was a shock for rulers throughout the Persian Gulf, thanks in part to what William Ochsenwald describes as growing social tensions and instability inflamed by the widening petrodollar-fuelled wealth gap. The violence in Mecca were made worse with the eruption of widespread rioting among Shi'a populations living in the Saudi Eastern Provinces. According to Toby Craig Jones, the revolt was inspired to some extent by the examples of the Iranian Revolution and the seizure of the Grand Mosque. The perception and initial assumption that Iran was actively involved only inflamed tensions further. From the perspective of the Persian Gulf monarchies the Iranian Revolution was part of a much broader threat that had to be crushed by any means necessary, justifying the billions allocated for Saddam Hussein's war abroad and further support for increasingly conservative social policies at home.[99]

Amidst these growing political tensions and redirection of funds to supporting the Iraqi military significant indicators of growing economic weakness were accumulating despite the largely positive view held of the Middle East's economy. Kuwait was regarded as a mature, developed economy praised for its technocratic, efficient government. The United Arab Emirates were pursuing highly ambitious constructions projects across the country, much of which was being funded on substantial loans extended by American and British banks which were judged as reliable investments thanks to the UAE's increasing oil revenues. The most famous example of such investment was the approximately $800 million raised to fund the construction of Port Rashid, a massive oil terminal who had delivered on their

[98] Wikileaks. (U) SAG DISCLAIMS ANY US INVOLVEMENT WTH SEIZURE OF MECCA MOSQUE, Confidential cable sent from Saudi Arabia Jeddah to State Tunis; November 22nd, 1979, https://search.wikileaks.org/plusd/cables/1979JIDDA08077_e.html

[99] Ochsenwald, William. "Saudi Arabia and The Islamic Revival." *International Journal of Middle East Studies* 13, no. 3 (1981): 271. Accessed January 26, 2020. www.jstor.org/stable/162837.; Jones "Rebellion on the Saudi Periphery", 213-216

initial capital many times over. Saudi Arabia was, quite similarly, accumulating substantial quantities of foreign debt thanks to their seemingly unquestionable oil wealth. According to Alec Thomas of the Financial Times, "In the boom days in Saudi Arabia it took a considerable degree of self-confidence and courage for a bank manager to turn down a credit request from a customer. Intense competition meant that the great majority of banks and bankers, concerned with growth and with market share, had often very little choice but to agree to requests for credit." All this lending was happening despite the sharp decline of the previously thriving construction sector and shrinking oil revenues. On the surface everything appeared stable as private regional borrowing grew, and the economy steadily declined as shown in Table 5.3.[100]

Percentage Change in GDP from Previous Year MENA OPEC Members Data Source: World Bank					
In Nominal US Dollars	1979	1980	1981	1982	1983
Saudi Arabia	39.36%	47.10%	12.00%	-16.85%	-15.71%
Kuwait	59.64%	15.73%	-12.51%	-13.88%	-3.28%
United Arab Emirates	31.33%	39.63%	13.15%	-5.49%	-8.19%
Qatar	39.02%	38.99%	10.63%	-12.29%	-14.86%
Iran, Islamic Rep.	15.90%	4.39%	6.50%	25.32%	24.15%
Iraq	59.14%	41.22%	-28.05%	10.85%	-4.70%

Table 5.5: GDP Percentage Change for Middle East OPEC Members, 1979-1983

Note: Data for Table 5.5 was collected from the World Bank online databank

[100] "Kuwait." Kuwait: Financial Times Survey. *Financial Times*, 26 Feb. 1979, p. 15. *Financial Times Historical Archive*, https://link-gale-com.ezproxy.lib.gla.ac.uk/apps/doc/HS2303860936/FTHA?u=glasuni&sid=FTHA&xid=083c7d7b. Accessed 26 Jan. 2020.; "Emirates Spending in the Balance." *Financial Times*, May 8, 1979, 3. *Financial Times Historical Archive* (accessed January 26, 2020). https://link-gale-com.ezproxy.lib.gla.ac.uk/apps/doc/HS2304376380/FTHA?u=glasuni&sid=FTHA&xid=1944e74e.; "Struggling with Debt Problems." Saudi Arabia: Financial Times Survey. *Financial Times*, April 22, 1985, X. *Financial Times Historical Archive* (accessed January 26, 2020). https://link-gale-com.ezproxy.lib.gla.ac.uk/apps/doc/HS2305280933/FTHA?u=glasuni&sid=FTHA&xid=bf5b13e2.; "How the Project Was Financed." Dubai Dry Dock: Financial Times Survey. *Financial Times*, February 26, 1979, 33. *Financial Times Historical Archive* (accessed January 26, 2020). https://link-gale-com.ezproxy.lib.gla.ac.uk/apps/doc/HS2303861035/FTHA?u=glasuni&sid=FTHA&xid=3dd6b6d5.; "Middle East Setbacks." Overseas Construction: Financial Times Survey. Financial Times, June 26, 1979, II. Financial Times Historical Archive (accessed January 26, 2020). https://link-gale-com.ezproxy.lib.gla.ac.uk/apps/doc/HS2304874554/FTHA?u=glasuni&sid=FTHA&xid=ac099d8a.

The moment when the increasing contradictions and instabilities in the region's economy came to a head was in September of 1982. In this month, the Persian Gulf experienced its biggest post-Oil Shock stock market crash, known as the Souk al-Manakh Crash. The Souk al-Manakh was a growing, unofficial stock exchange based out of Kuwait that did business with investors throughout the Persian Gulf. The Souk grew steadily throughout the late 1970s and when the 1979 Oil Shock kicked in saw a rapid boom in speculation, growth, and investment as fresh capital flooded into Middle Eastern markets. Following this consistent growth, the Souk al-Manakh crashed spectacularly in August 1982 when one prominent investor defaulted on their obligations, triggering the loss of an estimated $94 billion in investments in what became the first major Middle Eastern stock crash.[101]

The literature on the Souk al-Manakh Crash mostly focuses on the specific features of the exchange itself and how this enabled the crash to happen. Elimam, Girgis and Kotob base much of their analysis of the tangled web of bankruptcies, the lack of institutional checks on the exchange itself, its illegality and other related features that enabled a massive speculative bubble to develop. This emphasis on institutional factors gives some nods to the role played by the 1979 Oil Shock's influx of capital into Kuwait that caused the inflation of the size of this exchange along with its growth in popularity. Other literature, as is the case with Eisenberg and Noe, discusses the Souk al-Manakh as a perfect example of how systemic risk through a lack of effective clearinghouses and support mechanisms can develop. In their case barely even a nod is given to the broader economic conditions bundled up in the Souk's growth, expansion, and eventual implosion. Sulaiman T. Al-Abduljader's study on the causes and consequences of the Souk al-Manakh Crash further illustrate how widespread and significant this crisis was for the Persian Gulf's economy, but Al-Abuldajer's focus is mostly on the region

[101] Elimam, Abdelghani A., Maurice Girgis, and Samir Kotob. "The Use of Linear Programming in Disentangling the Bankruptcies of Al-Manakh Stock Market Crash." Operations Research 44, no. 5 (1996): 665-66. http://www.jstor.org.ezproxy.lib.gla.ac.uk/stable/171557.

rather than the broader impact of this crash on global markets. He puts similar emphasis on the regulatory environment while also discussing the broader impact of declining oil receipts on Kuwait's once-prosperous economy.[102]

Yet even with these stresses the region's economy mostly managed to function, especially the booming Kuwaiti Souk al-Manakh exchange. In the initial wake of the 1978 Shock the Souk grew rapidly. as growing quantities of capital flowed into the Souk al-Manakh. By 1981 it was one of the best performing sectors of the Kuwaiti economy and a key driver of new domestic credit creation. The Souk also managed to attract investors from across the Arab World as its growing wealth, dynamic potential, and seemingly guaranteed profits drew in billions of dollars from throughout the region. This was further facilitated on August 5th, 1980 when the Kuwaiti government opened Kuwaiti exchanges to listing non-Kuwaiti Persian Gulf companies and financial concerns. Yet even as the Souk seemed to be a stable concern for regional investors there were already warning signs of uncertainty in the markets. By 1981, just as OPEC investments in global markets were beginning to decline, Middle Eastern central banks and investors were hedging their bets with large-scale gold purchases. By April 1st, 1982, this gold buying was reaching alarming levels as traders throughout the Persian Gulf were amid a now six-week-old boom. Kuwaiti gold traders estimated more than 2,000 kilograms of gold were being sold daily during this period. According to one trader, "Two months ago I sold 15 kg a day. Now I average 200 kg daily." For many buyers in Kuwait's expanding gold market was an opportunity to catch on to the latest thing since the Souk al-Manakh's boom. For traders such purchasing, which was regarded as dangerous speculation by the Kuwaiti government, was also a safer option than the Souk al-Manakh which bankers

[102] Elimam, Girgis and Kotob "The Use of Linear Programming in Disentangling the Bankruptcies of Al-Manakh Stock Market Crash." 666; Elimam, Girgis and Kotob "A Solution to Post Crash Debt Entanglements in Kuwait's Al-Manakh Stock Market."; 90-93; Larry Eisenberg, Thomas H. Noe, (2001) Systemic Risk in Financial Systems. Management Science 47(2):236-237. https://doi.org/10.1287/mnsc.47.2.236.9835; Sulaiman T. Al-Abduljader, "The GCC Financial Crisis: Story Revealed (1977-1986)", *The Journal of Developing Areas,* Vol. 54, No. 1, (Winter 2020), 169-172

had begun to describe as, "[a] casino rather than a stock market". Such hedging may have been perceived as the safe, prudent choice but it represented another flow of money out of markets and investments and into less liquid, more speculative assets. For investors the high prices, which were fluctuating between $450 and $500 per troy ounce by September 1982 just as the Souk al-Manakh was crashing, were an additional benefit assuming they remained in place.[103] The problem this posed was best summarized by the Bank of England:

> "Gold holding by OPEC gives no stimulus to any other economies except those with gold holders willing to sell. The recycling process then depends upon the deployment of funds by sellers of gold: if it is spent, expansion of world demand; if it is invested, increased deposits in financial markets – therefore recycling process continues. But limited supply and reluctance to sell limits the size of this channel."[104]

All this redirected wealth was lost by 1983. It began in September 1982 when a series of post-dated cheques used for forward share purchasing bounced, crashing the Souk al-Manakh exchange. An estimated $94 billion was lost in the crash as highly inflated shares rapidly fell in price. The widespread entanglement of the country's banking sector in the Souk al-Manakh, despite regulations prohibiting such activities, made matters worse. This was achieved through Kuwaiti banks providing personal loans to clients, which were then used as capital on the Souk al-Manakh, instead of offering direct credits for

[103] *Twelfth Annual Report for the Year Ended 30th June 1981*, Central Bank of Kuwait, 3-4; retrieved from the OPEC Library, Vienna, Austria; *Thirteenth Annual Report for the Year Ended 30th June 1982*, Central Bank of Kuwait, 10; retrieved from the OPEC Library, Vienna, Austria; *Fourteenth Annual Report for the Year Ended 30th June 1983*, Central Bank of Kuwait, 13-15; retrieved from the OPEC Library, Vienna, Austria; Our Financial Staff. "Kuwait Broadens Market." *Financial Times*, August 5, 1980, 20. *Financial Times Historical Archive* (accessed January 26, 2020). https://link-gale-com.ezproxy.lib.gla.ac.uk/apps/doc/HS2305588069/FTHA?u=glasuni&sid=FTHA&xid=086baed8.; Dorsey, James. "Gold-buying Rush Worries the Kuwaiti Government." *Financial Times*, 1 Apr. 1982, p. 4. *Financial Times Historical Archive*, https://link-gale-com.ezproxy.lib.gla.ac.uk/apps/doc/HS2304893425/FTHA?u=glasuni&sid=FTHA&xid=f3d764ef. Accessed 26 Jan. 2020.; Our Commodities Staff. "Gold Prices Setback Hits Metal Markets." *Financial Times*, September 11, 1982, 19. *Financial Times Historical Archive* (accessed January 26, 2020). https://link-gale-com.ezproxy.lib.gla.ac.uk/apps/doc/HS2303960596/FTHA?u=glasuni&sid=FTHA&xid=8f4f1c71.; Matthews, Roger. "Opec Ministers Still Divided." *Financial Times*, March 5, 1983, [1]. *Financial Times Historical Archive* (accessed January 26, 2020). https://link-gale-com.ezproxy.lib.gla.ac.uk/apps/doc/HS2303974378/FTHA?u=glasuni&sid=FTHA&xid=c26894c1.

[104] The Recycling of OPEC Surpluses, February 1st, 1980, Recycling, H4/809, 3, Bank of England Archive, London, United Kingdom

use on the market. As the scale of lending grew banks feared calling overdue collateral would cause share prices to collapse, effectively discouraging any restraint by lenders and limitations on borrowers. A lack of formal documentation made unravelling the debts, obligations, and assets of now bankrupt market actors only made matters worse for Kuwaiti courts, tying up surviving assets in extended legal battles.[105]

All these diverted flows of capital represented a substantial sum of money which was not entering global markets. Although there is no specific figure for how much was spent by Persian Gulf gold buyers during this tumultuous period the $22 billion provided to Iraq as war loans and the $94 billion lost in the Souk al-Manakh Crash provide a reasonable baseline for understanding the scale of these investments. The $116 billion spent on both endeavours was equivalent to 85.7% of the $137 billion invested by the OPEC region from 1980 to 1982 and 42.9% of the $277 billion lost in the 1982 Debt Crisis. By denying such a substantial sum of capital to international financial markets the economic actors of the Persian Gulf were not just responding to regional developments. Their pattern of internal reinvestment in non-productive priorities was part of a larger movement of Middle Eastern capital flowing away from global finance. The timing and nature of this capital flight came just as international finance had become more dependent on petrodollars than ever.

[105] Friedman, Alan. "Kuwaiti Bankers Fear Wave of Bankruptcies." *Financial Times*, January 24, 1983, 18. *Financial Times Historical Archive* (accessed January 26, 2020). https://link-gale-com.ezproxy.lib.gla.ac.uk/apps/doc/HS2304900294/FTHA?u=glasuni&sid=FTHA&xid=423856dd.; "Souk the lot." *Economist*, December 4, 1982, 98. *The Economist Historical Archive, 1843-2014* (accessed January 26, 2020). https://link-gale-com.ezproxy.lib.gla.ac.uk/apps/doc/GP4100151372/ECON?u=glasuni&sid=ECON&xid=b8a071f5.; "Currencies Ride an Opec Switchback." *Financial Times*, February 24, 1983, 44. *Financial Times Historical Archive* (accessed January 26, 2020). https://link-gale-com.ezproxy.lib.gla.ac.uk/apps/doc/HS2304464824/FTHA?u=glasuni&sid=FTHA&xid=d8f9c543.;

The Souk al-Manakh Crash and steady deterioration of the region's economy may have possessed even greater global impact. For the petrodollar system, as it existed, to continue transmuting oil revenues into debt multiple flows of capital needed to continue operating without interruption. This stands in contrast with much of the discussion of the 1982 Debt Crisis, which focuses on the sovereign nations accruing debt and the institutions lending to them. The consensus they represent is one of excessive borrowing leading to widespread defaults with some token mention of the general failure in finance to accurately evaluate sovereign risk. This downplays the significance of the third actor in a discussion mostly centred on the lenders and debtors. The first movements responsible for initiating these capital flows were the deposits of petrodollars by OPEC's members in Wall Street and London banks, making the economic health of this source a key component for keeping markets moving.

The growing economic crisis in the Middle East took an increasing toll on this source. OAPEC's members, in stark contrast to the 1973 Oil Shock, were reaping increasingly diminishing returns from their oil revenues as shown by their declining GDP. They also had additional commitments, such as keeping up with the regional arms race and monetary support for Iraq's war, which were not significant factors in 1973. There were also specific local problems, such as the Kuwaiti financial crisis, created by this new windfall which generated responses that further decreased the supply of capital available to invest overseas. This would manifest very swiftly for international finance in the form of the rapid decrease and eventual termination of petrodollar investment flows as shown in Table 5.6. OPEC's pre-1978 pattern of heavy, initial investment in short-term deposits followed by growing commitments to longer-term investments, was only briefly repeated in 1979 and 1980 before OPEC completely ceased investing in shorter term financial assets. This was followed by the liquidation of short-term assets, which totally offset the capital used for long-term investments in 1982, in the final year when the BIS

was tracking OPEC's investment flows. Their negligible quantity post-1982 saw them removed as a distinct item from the BIS Annual Report beginning in 1983.[106]

OPEC Investible Surplus in Billions of Nominal USD Data Source: Bank for International Settlements Forty-Eighth, Fiftieth and Fifty-Second Annual Reports						
Type Bank Deposits and Money Market Investmen	1978	1979	1980	1981	1982	Totals, 1974-1982
Dollar deposits in the US	$ 0.8	$ 4.9	$ 0.3	$ (2.5)	$ 4.8	$ 8.3
Sterling deposits in the UK	$ 0.2	$ 1.4	$ 1.3	$ 0.4	$ (1.2)	$ 2.1
Deposits and loans in foreign currency marke	$ 3.0	$ 31.2	$ 14.8	$ 7.8	$ (9.4)	$ 47.4
Treasury Bills in the US & UK	$ (0.8)	$ 3.4				$ 2.6
Other Industrial Countries	$ (0.8)	$ 3.4	$ 26.2	$ (5.1)	$ (12.8)	$ 10.9
Total	$ 2.4	$ 44.3	$ 42.6	$ 0.6	$ (18.6)	$ 71.3
Long Term Investments	1978	1979	1980	1981	1982	
Special Bilateral Arrangements	$ 8.7	$ 11.8				$ 20.5
United States			$ 13.8	$ 18.8	$ 7.6	$ 40.2
United Kingdom			$ 2.5	$ 1.1	$ (0.8)	$ 2.8
Loans to International Agencies	$ 0.1	$ (0.4)	$ 4.9	$ 2.4	$ 2.0	$ 9.0
Other Industrial Countries			$ 17.0	$ 19.4	$ 6.6	$ 43.0
Developing Countries			$ 6.7	$ 7.2	$ 3.9	$ 17.8
Government Securities in the US & UK	$ (1.8)	$ (0.9)				$ (2.7)
Other	$ 3.3	$ 2.4				$ 5.7
Total	$ 10.3	$ 12.9	$ 44.9	$ 48.9	$ 19.3	$ 136.3
Total Funds Invested	$ 12.7	$ 57.2	$ 87.5	$ 49.5	$ 0.7	$ 207.6

Table 5.6: OPEC Investible Surplus in Billions of Nominal USD

Note: Data for Table 5.6 was collected from Chapter IV: International Trade and Payments of the BIS Forty-Eight, Fiftieth, and Fifty-Second Annual Reports

Such a quick turnaround in investment priorities from the Middle East was part of a broader wave of capital flight. In 1981 the OPEC region, for the first time since the 1973 Oil Shock, had swung from being a net source of assets to a net consumer of them as shown in Table 5.7. From 1981 to 1982 this trend quickly reversed, swinging from OPEC depositing approximately $54 billion in global financial markets to making a net reduction of $12 billion. This trend accelerated in 1983 and would continue throughout the decade.

[106] Fifty-Third Annual Report: 1st April 1982-31st March 1983, Bank for International Settlements, (Basle: 13th June 1983), 95-96; Fifty-Fourth Annual Report: 1st April 1983-31st March 1984, Bank for International Settlements, (Basle: 18th June 1984), 97-98

Capital Flows Between BIS Area Banks and Selected Regions

Data Source: Bank for International Settlements

Region	Type of Activity	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
OPEC Countries	Gross deposits	$ 16.0	$ 26.5	$ 7.5	$ 12.5	$ 12.5	$ 3.5	$ 37.0	$ 41.5	$ 3.2	$ (18.2)	$ (13.6)
	Gross borrowings	$ 6.5	$ 2.5	$ 5.0	$ 9.5	$ 11.0	$ 17.5	$ 7.5	$ 6.0	$ 4.2	$ 8.2	$ 9.7
	Net deposits	$ 9.5	$ 24.0	$ 2.5	$ 3.0	$ 1.5	$ (14.0)	$ 29.5	$ 35.5	$ (1.0)	$ (26.4)	$ (23.3)
	Foreign exchange reserves	$ 12.6	$ 31.1	$ 7.3	$ 8.0	$ 10.6	$ (14.5)	$ 15.4	$ 19.8	$ (1.8)	$ (11.6)	$ (9.3)
	Current-account balances	-	$ 66.0	$ 31.0	$ 37.0	$ 27.0	$ (2.0)	$ 66.0	$ 110.0	$ 54.0	$ (12.5)	$ (16.5)
Other LDCs	Gross deposits	$ 27.5	$ 4.0	$ 4.0	$ 11.5	$ 12.0	$ 14.0	$ 12.0	$ 5.5	$ 9.4	$ 4.9	$ 10.5
	Gross borrowings	$ 32.0	$ 15.0	$ 15.0	$ 16.5	$ 10.5	$ 22.5	$ 35.5	$ 40.5	$ 39.9	$ 19.8	$ 12.4
	Net deposits	$ (4.5)	$ (11.0)	$ (11.0)	$ (5.0)	$ 1.5	$ (8.5)	$ (23.5)	$ (35.0)	$ (30.5)	$ (14.9)	$ (1.9)
	Foreign exchange reserves	$ 21.2	$ 0.6	$ (1.3)	$ 10.6	$ 10.0	$ 11.9	$ 7.8	$ (1.9)	$ 0.1	$ (2.0)	$ 8.4
	Current-account balances	-	$ (24.0)	$ (31.0)	$ (20.0)	$ (13.0)	$ (24.0)	$ (40.0)	$ (61.0)	$ (79.5)	$ (59.0)	$ (38.0)
Developed countries	Gross deposits	$ 27.0	$ 0.5	$ 5.5	$ 1.5	$ 4.5	$ 8.5	$ 7.5	$ 5.5	$ 3.8	$ (0.1)	$ 1.5
	Gross borrowings	$ 23.0	$ 7.5	$ 10.0	$ 12.5	$ 12.5	$ 5.5	$ 7.5	$ 15.0	$ 16.8	$ 15.9	$ 7.5
	Net deposits	$ 4.0	$ (7.0)	$ (4.5)	$ (11.0)	$ (8.0)	$ 3.0	-	$ (9.5)	$ (13.0)	$ (16.0)	$ (6.0)
	Foreign exchange reserves	$ 23.5	$ (2.1)	$ (1.4)	$ 0.4	$ 1.7	$ 6.4	$ 3.1	$ 1.5	$ (1.5)	$ 1.2	$ 2.4
	Current-account balances	-	$ (14.0)	$ (19.0)	$ (21.0)	$ (22.0)	$ (7.0)	$ (6.0)	$ (14.0)	$ (24.5)	$ (23.0)	$ (10.0)
Eastern Europe	Gross deposits	$ 4.5	$ 1.5	$ 0.5	$ 1.0	-	$ 2.0	$ 4.5	$ 1.0	$ 0.1	$ 2.0	$ 2.9
	Gross borrowings	$ 9.5	$ 3.5	$ 8.5	$ 6.5	$ 2.0	$ 5.5	$ 7.0	$ 6.5	$ 4.8	$ (4.6)	$ (1.2)
	Net deposits	$ (5.0)	$ (2.0)	$ (8.0)	$ (5.5)	$ (1.0)	$ (3.5)	$ (2.5)	$ (5.5)	$ (4.7)	$ 6.6	$ 4.1
	Trade balances	-	$ (2.0)	$ (9.0)	$ (7.0)	$ 5.5	$ (4.0)	$ 3.0	$ 5.0			
Unallocated	Gross deposits	$ 7.5	$ 2.5	$ 4.5	$ 3.0	$ 5.5	$ 5.0	$ 7.5	$ 5.0			
	Gross borrowings	$ 4.5	$ 1.5	$ 4.0	$ 1.5	$ 3.0	$ 7.0	$ 6.0	$ 5.0			
	Net deposits	$ 3.0	$ 1.0	$ 0.5	$ 1.5	$ 2.5	$ (2.0)	$ 1.5	-			
Total	Gross deposits	$ 82.5	$ 35.0	$ 22.0	$ 29.5	$ 34.5	$ 33.0	$ 68.5	$ 58.5	$ 16.5	$ (11.4)	$ 1.3
	Gross borrowings	$ 7.5	$ 30.0	$ 42.5	$ 46.5	$ 39.0	$ 58.0	$ 63.5	$ 73.0	$ 65.7	$ 73.0	$ 73.0
	Net deposits	$ 7.0	$ 5.0	$ (20.5)	$ (17.0)	$ (4.5)	$ (25.0)	$ 5.0	$ (14.5)	$ (49.2)	$ (50.7)	$ (27.1)

Table 5.7: Capital Flows Between BIS Area Banks and Selected Regions, 1973-1983

Note: Data for Table 5.7 was collected from Chapter IV: International Trade and Payments of the BIS Forty-Eighth, Fiftieth, and Fifty-Second Annual Reports

This posed a considerable challenge for financial actors. Bank of England analysts argued one area of concern was the state of many banks' capital bases:

> "There is increasing concern that banks' capital ratios, which may have been erode in part by difficulties in generating internal capital because of low lending margins, could become a binding constraint to further growth. Rimmer de Vries, of Morgan Guaranty, has claimed that the ratio of equity capital to total assets for US money-centre banks has fallen to 3.5% at end-September 1979, from 4.5% at the end of 1972 and that the foreign assets of large US banks as a proportion of total assets, on a consolidated basis, have risen from 11% at the beginning of the 19970s to about 33% at present and that for several money-centre banks the proportion now exceeds 40%."[107]

This strongly suggests the main banks involved in petrodollar recycling and sovereign lending to the Global South were operating with shrinking capital bases, thus limiting their ability to lend, and growing dependency on foreign assets to sustain their current positions. This left international finance uniquely vulnerable to any serious fluctuations in OPEC capital, as is suggested in further Bank of England analysis:

> "Despite the welcome improvement expected – the US BOP [balance of payments] and the deficits which Germany and Japan may have – the distribution of deficits among the minor OECD countries and non-oil ldcs [late developing countries] is less good. The accumulated volume of debt outstanding is now very much larger (having already reached, for the non-oil ldcs, a total of $211 bn. by end-1977). Debt servicing has risen sharply, because of both a bunching of capital repayments from the earlier deficit financing and the current high levels of interest rates. The major borrowers will require at least as much net new credits as in 1974, and thus gross financing requirements are likely to rise."[108]

Unfortunately for global finance these critical weaknesses would be tested in two specific, related ways as OPEC capital was removed from international markets thanks to the preference for investing funds in short and medium Eurodollar markets in conjunction with longer-term investments and deposits.

The retreat of OPEC capital from the Eurodollar market had significant consequences for short- and medium-term lending. By 1982, as shown in Table 5.5, approximately 38.1% of all OPEC

[107] Deficit Financing, Section III: Comparisons with 1974-75, February 11th, 1980, Recycling, H4/809, 5, Bank of England Archive, London, United Kingdom
[108] Recycling of oil surpluses by the international financial markets, December 5th, 1979, Recycling, H4/809, 2, Bank of England Archive, London, United Kingdom

investments made since 1974 were short-term deposits and money market instruments, representing $143.8 billion. Of this 72%, approximately $100 billion, were invested in the Eurodollar market. These funds helped sustain a major source of rapidly available credit while also providing a solid return on investment for OPEC investors. The reduction in OPEC investments in this market posed a serious problem for debtor nations due to the Eurodollar market's central role in facilitating petrodollar recycling as observed by the Bank of England in 1980:

> "The euro-markets are recognized even by their critics as an efficient channel for the rapid dissemination of funds from surplus to deficit countries. Providing bank loans does not necessarily contribute to the industrial or infrastructural development of the deficit economy, though, and the payment of interest may only be possible out of the proceeds of further loans. Partly for this reason the international banks will show some resistance to extending loans to the less developed deficit nations, especially as they are already far more heavily committed to these countries than at the time of the 1974 surpluses. With limited opportunities for arranging attractive loans to certain countries banks may be reluctant to increase too rapidly their deposit liabilities, especially if to do so would require an increase in their capital base. Hence the volume of money that can be recycled through the banking channel will be limited by the banks' ability and willingness to lend and less direct channels could be of major significance."[109]

What further exacerbated this problem for European financial markets was such flows were necessary for keeping their economies afloat in the face of America's strong dollar policies:

> "Alternatively the authorities could choose not to intervene in the foreign exchange market and allow the OPEC desire to buy pounds drove sterling up against the dollar. In this case not all the surplus money will be re-invested in dollars and some of the impact on the recycling process will occur through the British economy. The appreciation of sterling will lead to a deterioration in the trade balance. This would partly offset the benefits to the balance of payments of the OPEC inflow and could also stimulate longer-term problems if, for example, footholds in potentially important export markets were lost. Such a trade deterioration may, however, ease the global recycling problem. Some share of the increased UK imports is likely to be from deficit countries unlikely to attract OPEC investment inflows, and such countries may also gain from the UK's reduced competitiveness in overseas markets. The size and timing of these benefits is uncertain and the same countries could suffer from the fall in the dollar's value corresponding to the pound's appreciation, especially if they have substantial trade volumes moving under fixed-price contracts. Nevertheless recycling through the real economy has the advantage of assisting the international adjustment problem rather than merely providing assistance, which brings

[109] Recycling the OPEC Surpluses: the use and efficiency of alternative channels, February 14th, 1980, Recycling, H4/809, 4, Bank of England Archive, London, United Kingdom

> interest, requires repayment and does not necessarily promote any structural change in the deficit economies."[110]

Analysts working at the BIS reached similar conclusions regarding the Euromarket's importance for correcting trade imbalances by providing a ready source of liquid capital for all participants:

> "On the other hand, and quite apart from its allocative role, the financial possibilities offered by the Euro-market have often been welcome to the authorities in many countries; and at certain times, such as in 1974 when it helped to finance the international payments disequilibrium caused by the oil price increase and thus to contain the downward movement of world economic activity and to prevent the spreading of restrictive trade practices, its macro-economic consequences have been beneficial from the point of view of the world economy as a whole. Nor is the market's influence always expansionary. In 1968-1969, for instance, when the market drew in money to the United States from the rest of the world, its overall impact was even contractionary."[111]

Such conclusions, at the time, were reasonable. The Eurodollar market had become a useful tool for alleviating the impact of American and British tight money policies. In mid-1980, just as capital was flowing freely from OPEC as shown in Table 5.7 and prior to the outbreak of the Iran-Iraq War, this market provided valuable liquidity and was advancing steadily based in part on the perception that the Middle East would continue to remain a largely stable region despite the recent upheaval. This leaves little doubt of how important the Eurodollar market had become by 1980. Its smooth functioning in 1974 was critical for containing the economic damage of the 1973 Oil Shock. The decision by OPEC members to liquidate their Eurodollar assets beginning in 1981 came at a highly detrimental moment for the global financial system.[112]

This retreat from the short-term Eurodollar markets was only the beginning of a broader pattern of capital flight. By 1982 the liquidation of overseas assets had extended to long-term investments and

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[110] Recycling the OPEC Surpluses: the use and efficiency of alternative channels, February 14th, 1980, Recycling, H4/809, 6, Bank of England Archive, London, United Kingdom

[111] The BIS Concept of the Net Size of the Euro-Currency Market and Its Relations to the World Money Supply, Helmut W. Mayer, February 4th, 1976, LAM 20 7.18(15), 11, Bank for International Settlements Archive, Basel, Switzerland

[112] "Down the Interest Rate Slop." *Financial Times*, 3 May 1980, p. 6. *Financial Times Historical Archive*, https://link-gale-com.ezproxy.lib.gla.ac.uk/apps/doc/HS2303879141/FTHA?u=glasuni&sid=FTHA&xid=d624ff0b. Accessed 26 Jan. 2020.

deposits, a pattern which strongly correlates with the Persian Gulf's economic deterioration throughout the same period. Such capital flight, on its own, was an unwelcome development which occurred just as the region had become indispensable to international finance. As shown in Table 5.7, between 1973 and 1980, with the notable exception of 1978, OPEC was the only economic area tracked by the BIS who was consistently adding capital to international financial markets. Every single other region tracked were consistently net debtors or at best breaking even. OPEC's decline from 1980 to 1982 was also far more rapid than what was experienced in the wake of the 1973 Oil Shock. From 1974 to 1975 net deposits of OPEC capital entering markets dropped from an estimated $66 billion to an estimated $31 billion, a 53% decrease, which was followed by two years of similar levels of surpluses until the brief dip into the negative experienced in 1978. The post-1979 investment flow fell far more rapidly, first dropping by 50% from $110 billion to $51 billion from 1980 to 1981 before irreversibly entering the negative in 1982. This was made worse by the increasingly indiscriminate nature of the liquidation of assets. Unlike 1981, where most of the eliminated holdings were in shorter-term concerns, these new instances of capital flight consisted of withdrawals of long-term deposits and the elimination of overseas investments. Such a loss of equity coming just as debtor nations were coming under increasing pressure to make good on their debts meant the options for banks were increasingly limited.

This two-staged capital flight, consisting first of the liquidation of short-term Eurodollar assets followed by the sale of longer-term assets and deposits, hit international finance just when it was least desirable. Since the 1973 Oil Shock OPEC's members had become critical players in upholding the stability of global financial markets. OPEC deposits in the lucrative Eurodollar market helped stabilize the imbalances unleashed by the 1973 Oil Shock by providing a ready supply of liquid capital. Their status as the only consistently depositing region in a time when international lending and debt were reaching new heights made them essential for keeping the entire system functioning. The decision by

OPEC members to pull back their investing in the face of a growing economic crisis denied global markets a previously reliable source of capital just when they were least prepared for such a loss.

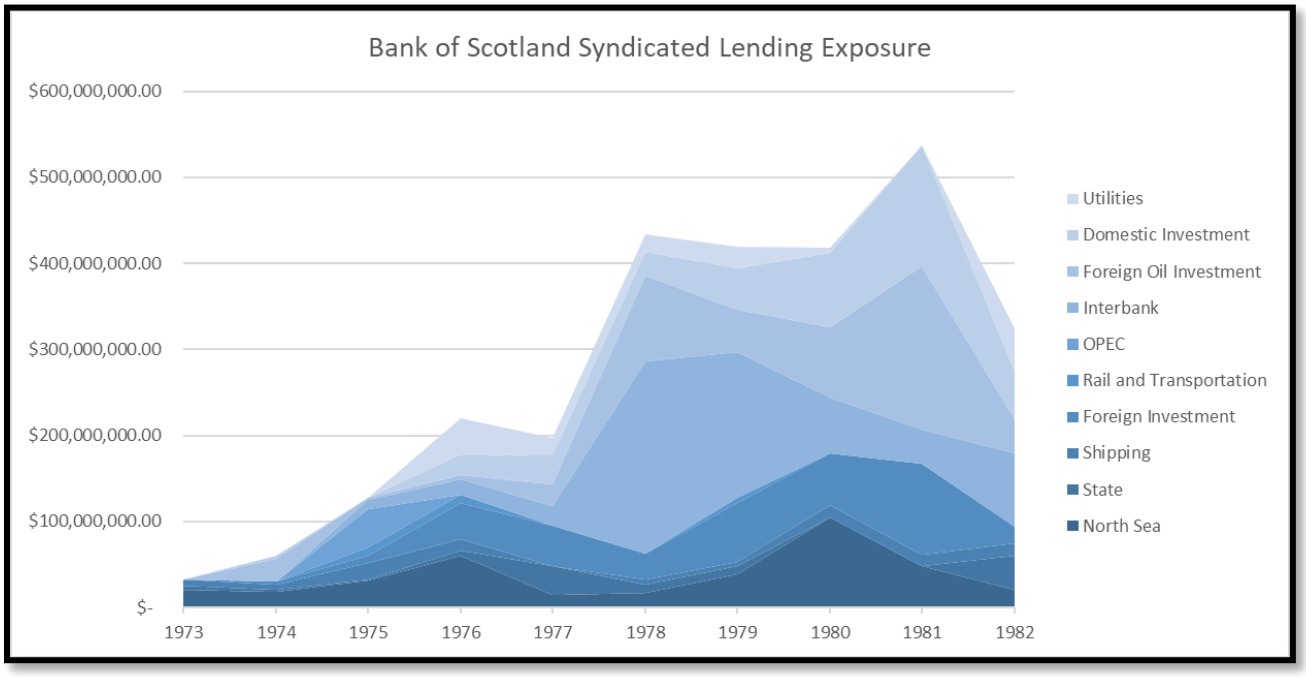

Figure 5.10: Bank of Scotland Syndicated Lending Exposure by Area of Activity

Note: Data for Figure 5.10 was collected from the Bank of Scotland Governing Board Minutes for 1973 to 1982 from the Bank of Scotland archives

The existence of this tendency is reinforced by a significant shift in the areas of lending by the Bank of Scotland during the earlier Oil War of 1978 which set the Shock of 1979-1980 in motion. In that year, the Bank of Scotland's international lending saw a significant, rapid increase in interbank loans, as shown in Figure 5.10, as the total quantity of capital extended exploded from £23.7 million in all of 1977 to £222.9 million for all of 1978. Even more noteworthy is how, as shown earlier in Chapter Four, the percentage of lending supported by Eurocurrency credits dropped from 62% of all new loans in 1977 to only 33% of all new international loans in 1978, despite the greater level of demand, before rising back to 68% of all loans extended in 1979 while seeing no significant decrease in the volume of credit extended. This sudden leap coincides with both the only point prior to 1981 when OPEC, as a region, ceased to be a net exporter of capital into global finance and when OPEC's investible surplus hit its

lowest level. Though this single example does not prove such a reaction was common across the world of finance, it does strongly argue these markets were heavily connected to and influenced by the shifting fortunes of OPEC's surplus investments who had limited capacity to respond independent of OPEC. Utilizing this option came potentially at the expense of all other forms of international lending as implied both by the decrease in all other forms of lending in 1978 by the Bank of Scotland, as shown in Figure 5.12, and how the second, and only, time in this period when the Bank of Scotland's interbank business grew again was in 1982 as the Debt Crisis began to unfold.

This clearly shows the role of OPEC capital in causing the 1982 Debt Crisis may have been more significant than is generally accepted to be the case. Where prior discussions of petrodollar recycling have mostly treated Middle Eastern capital as a passive source of investment following the path of least resistance, these findings make it clear these streams were very actively responding to regional priorities and crises. Many of these crises, such as the regional arms race and the growth of Persian Gulf financial bubbles, were the direct consequences of how the Middle Eastern members of OPEC utilized their windfall profits from the 1974-1978 boom period. These decisions had unintended global consequences thanks to the growing importance of OPEC capital for sustaining international lending cycles sustaining the Global South and financial centres in the Global North which began in the wake of the 1973 Oil Shock. Such reliance on petrodollars ensured the political, economic, and military deterioration of the Middle East following the 1978-1979 Oil Shock would reverberate throughout global markets. Though there is no direct link between the onset of the 1982 Debt Crisis and the steady collapse of the Persian Gulf's boom, signalled by the bursting of the Souk al-Manakh bubble, there is no question the decline accelerated the worldwide contraction caused by the 1979 Oil Shock and made the Debt Crisis possible.

Conclusion

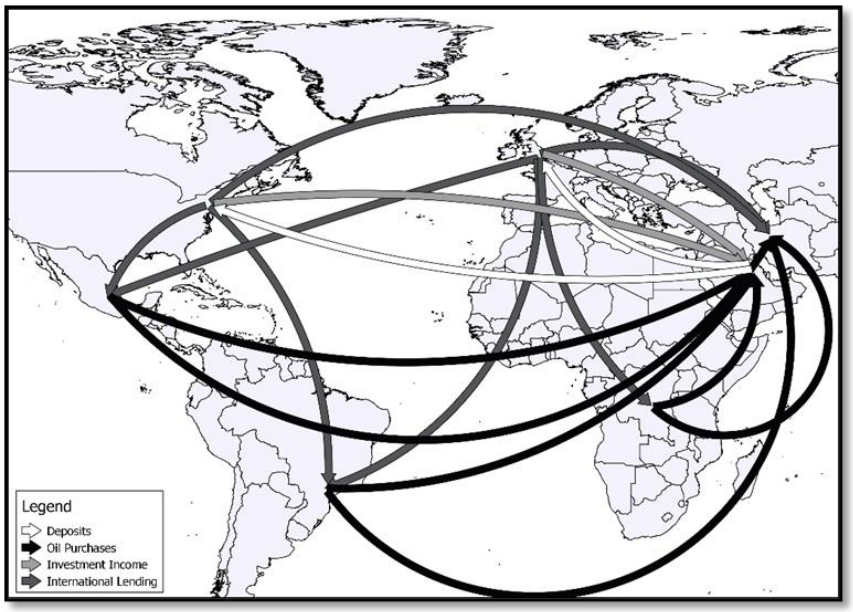

Figure 6.1: The Global Petrocapital Cycle, 1974-1982

Note: Data for Figure 1 was collected from primary source archives, including the Bank of Scotland, the Bank of England, the Bank for International Settlements, and the OPEC Research Library in conjunction with secondary literature such as Mahmoud el-Gamal and Amy Myers Jaffe's, "Oil, Debt, Dollars, and Crisis"

There has long been considerable debate over the causes of financialization and its role in making the Second Period of Globalization possible. This discussion has, with a few noteworthy exceptions, shown a distinct lack of engagement with the emergence of the endogenous petrocapital cycle. Including it as both key catalyst and necessary substance for making the systemic transformation of international financial system possible changes how we understand the rise of neo-liberal capitalism. It challenges the classic debate between innovation, deregulation, falling rate of profit, and market conditions with a materialist explanation for the rapid growth of globalized finance that drove the neo-liberal transformation. Petrocapital process's foundations in the rapid accumulation of liquid capital that followed the 1973 OPEC Oil Embargo, as shown in Figure 6.1, further shows this material shift was more than just a windfall for oil exporters, it was a global redistribution of wealth that reshaped the capitalist world. This redistribution was facilitated by the petrodollar recycling process which was

effectively privatized by the failure of Global North state actors and non-governmental organizations like the IMF, BIS, and OECD to organize a viable collective response. It was this combination of liquid petrocapital, private sector autonomy, and regulatory weakness that gave birth to the modern, globalized financial system which defines the Second Period of Globalization.

In the monetary realm, petrodollars transformed how money was valued and created. Petrodollars became the bedrock of 1974 US-Saudi agreements where the US offered economic development assistance and preferential treatment in exchange for the Saudi commitment to purchase significant quantities of US treasury bonds, an accord which created the petrodollar standard and provided an anchor point for the value of the American dollar post-Bretton Woods, as was first argued by Spiro. Other petrodollar flows poured into the Euromarket, expanding its size, and transforming this money market from a largely Euro-American affair to a truly global pool of largely unregulated capital. State actors, effectively shocked into helplessness by the sudden onslaught as Altamura argues and the post-1974 attempts to regain control of the situation show, implicitly and explicitly encouraged this new state of affairs as an immediate solution to a rapidly changing world.

This left private finance effectively in control of the new petrocapital cycle. Facing increasing demands from sovereign states, municipalities, and businesses the world over, banks adapted the loan syndication framework to the international stage. This substantively more liquid international monetary environment was further facilitated by a more globalized, petrodollar infused Euromarket. These developments made it possible for mid-sized, largely regional players like the Bank of Scotland to have the means to become significant players in this new, significantly more pervasive global debt cycle. These new sources of opportunity and oil-push price volatility spurred significant changes in the global derivatives market, as shown in the rise of interest rate futures and swap contracts. These petrocapital-driven shifts in financial practices would become significant components of the global financial system as emergency responses to changing times were adopted, normalized, and reproduced at scale.

Nothing better demonstrates the enduring nature of these long-term consequences or how significant the petrocapital cycle was for a newly globalized financial system than its role in helping create the 1982 Global Debt Crisis described in Chapter Five. Petrodollar wealth intensified the existing points of friction which had come to prominence in the Middle East following the 1973 Oil Embargo, inspiring a new arms race which ultimately bankrupted Iran, and ushered in the 1979 Iranian Revolution. The shock to oil prices this triggered, made worse by the 1980 Iraqi invasion which further imperilled the free flow of oil from the Persian Gulf, pushed many of the nations who had accumulated significant quantities of debt since 1973 to the brink of bankruptcy. These conditions were made worse for lenders who faced steeper lending costs and a sudden loss, beginning in 1981, of previously reliable Middle Eastern deposits. This capital flight articulated in Chapter Five was pushed by the deflated value of the 1979 Oil Shock windfall, increasingly uncertain monetary conditions at home, and the growing costs of Iraq's war for Saddam Hussein's Sunni Persian Gulf financial backers. The result was the collapse of the source of funding for the global pertocapital cycle, a development which deprived international financial actors of funding just as credit was in more demand than ever before. Just as the petrodollar cycle created the conditions for the 1982 Debt Crisis, both proximate and systemic, its decline sealed the fate of a heavily indebted financial system. Yet even as the petrodollar flows receded, the ways they had irrevocably altered the landscape once drowned in oil wealth remained embedded in the new financial world.

These findings leave little doubt that further investigation of this cycle is essential for understanding the Second Period of Globalization and how much it was shaped by these complex relationships between its two most valuable industries: finance and oil. As this research has demonstrated, these connections left indelible imprints on how the financial world has developed which has powerful implications for a soon to be post-petroleum world. The research of Spiro, Kopper, El-Gamal and Jaffe, and Altamura have built a strong foundation for understanding the key dynamics,

actors, and systems which drive and define the petrodollar cycle. Delving into these unexplored connections between monetary conditions and financial practices reinforces their arguments while providing further points for investigation to future discussions of this critical cycle that has so far wielded considerable influence over the globalized economy.

The impact of the petrodollars on international finance, as has been shown throughout this research, can broadly be divided into two categories: changes in monetary conditions and financial practices. As shown in Chapter Three, for the monetary world petrodollars became essential in reshaping how the US dollar and by extension the global financial system pegged value. They also provided the capital which grew and globalized the Euromarket, creating a totally unregulated and readily available source of capital for economic actors across the capitalist world. The petrodollar impact on financial practices was equally significant as shown in Chapter Four, beginning with the volatility they introduced into markets during the 1974 to 1982 period. These conditions and demands that came with petrodollars made new systems for securing liquidity and facilitating large-scale movements of capital necessary. The responses described in Chapter Four were the dramatic expansion of the use of international loan syndications while new volatility saw currency futures adapted to interest rates as swaps developed to provide secure, protected convertibility of assets and investments. This was all facilitated by the total breakdown of regulatory action on the international scale discussed in Chapter Three as attempts to take control of this increasingly volatile, lucrative process broke down.

The monetary element begins with the transformation of the US dollar's value during the 1970s. As Spiro himself laments, "such an agreement would have to be secret and informal (or else it would be subject to confirmation by the Congress), and therefore evidence is difficult to find."[113] This research provides direct proof that such an arrangement was reached in the form of newly available sources such

[113] Spiro, *The Hidden Hand of American Hegemony*, 116

as the WikiLeaks State Department cables and Archival sources, such as the BIS. These sources clearly demonstrate the United States was more than willing to achieve what was perceived to be a desirable end, monetarily speaking, through whatever means were available. They further show the extent to which other nations bristled at American unilateralism in this period, reinforcing his arguments regarding the failure of international policy coordination. As Spiro first asserts and is demonstrated here, the petrodollar process drove a wedge between national policymakers which was only exacerbated by American unilateralism and tensions within the European Economic Community. In many ways this monetary and regulatory story provides further proof of the viability of elements of Spiro's more geopolitical analysis of these financial changes.

One element of the monetary story that takes on additional significance is the 1978 clash between the United States and Saudi Arabia over the weakening US dollar as discussed in Chapter Two. Through newly available sources it becomes clear that OPEC's members were actively challenging the dollar pricing agreement that even the Saudis were questioning. This pressure, combined with the extent to which American policymakers went out of their way to alleviate the Kingdom's monetary concerns in exchange for keeping the petrodollar standard intact, further reinforces Spiro, Eichengreen, and other scholars' assertions on how significant this system was, at that point in history, for sustaining the post-Bretton Woods dollar. What 1978 further shows is how fragile this arrangement initially was and how close it came to unravelling.

According to these arguments, this shift made accumulating dollars much more lucrative and would drive a significant clash within OPEC over monetary policy up to the present day. These often geopolitically motivated arguments centred as much around the potential value, or lack thereof, of the US dollar and of the flexibility that could be offered by later proposals like Saddam Hussein's proposal to price Iraqi oil in euros instead of dollars. The urgency of the American response to this threat, as shown in the primary sources discussed in Chapter Three, reinforces how seriously it was taken during the

formative years of this new system. These later tensions mirror the 1978 clash, showing the most consistent element of this new system was its vulnerability to the vicissitudes of Middle Eastern geopolitics.[114]

The other half of the monetary equation, in this research, is the question of the changing money market conditions shown in Chapter Three. This research demonstrates the extent to which the Euromarket became a truly globalized source of capital as discussed in Chapter Three, showing the transformation charted by Kopper was even more dramatic than they argue was the case. The shift in the Euromarket's deposit and user bases, in conjunction with the new liquidity offered by petrodollars, pushed this unregulated space to a truly globalized, fully saturating level of operation. As shown in the example of the Bank of Scotland, the Euromarket's petrodollar-pushed expansion saw it reach a level of ubiquity for market actors at all levels as even mid-sized regionals like the Bank of Scotland were depending increasingly on Euromarket-sourced loans as discussed in Chapter Four. This financing sustained a lucrative array of international credit, all dependent on the regular flow of petrocapital from OPEC. This research shows, the conflict-driven disruptions of this flow, beginning in 1979, deprived international finance of a reliably liquid source of capital just when it was most needed while also creating the requisite financial conditions for the 1982 Debt Crisis.[115]

This leads to discussing how financial actors adapted to such changing conditions covered in Chapter Four. Numerous larger and more internationally focused banks throughout Europe made several different, significant adjustments to their business practices. As he discusses, bank business operations became increasingly internationalized with more investment money and new lending opportunities emerging throughout the Global South. This expansion of lending to new regions,

[114] El-Gamal and Jaffe, *Oil, Dollars, Debt, and Crises,* 121-123
[115] Kopper, "The Recycling of Petrodollars", 43-45, Atlamura, *European Banks and the Rise of International Finance* 218-220

markets, and institutions paralleled and was directly fuelled by the growing, petrodollar infused Euromarket.[116]

Discussions of the declining maturities on financial instruments, shorter terms, and higher offered yields by international banks caught in the cycle show the specific impacts of these changing, increasingly volatile times on banking operations. For Altamura, these are thanks to these financial actors having a much freer hand to pursue different forms and durations for their bond offerings. As this research shows in Chapters Two and Four, this free hand came with a new set of increasingly demanding requirements. Although banks were less constrained by the power of regulatory authorities, both national and global, they were further pressured by volatile, petrodollar-driven conditions which forced market operators to harness newer instruments and implement adaptations of existing but relatively novel derivatives to meet them. The opportunity provided by the Oil Shocks was more than a complicating factor and source of capital. It was the beginning of a new, continuous cycle of capital accumulation and investment which was constantly redefining these channels by its actions.[117]

All these works, furthermore, leave no question the effective privatization of the petrodollar recycling process was thanks in part to the failure of international regulators to effectively coordinate a response. This is a clear consequence of the United States pursuing their own geopolitical interests at the expense of those of their allies, a tendency that was reinforced by the divergent economic interests of the United States and the members of the European Economic Community. This shift was a predictable, rationally made choice given the circumstances that was ultimately underpinned on all sides by a desire to adapt to new conditions. In this framework, American and Middle Eastern policymakers

[116] Atlamura, *European Banks and the Rise of International Finance,* 234-235
[117] Atlamura, *European Banks and the Rise of International Finance*, 201-206

hold the greatest agency here as expressed by the de facto alliance consummated by the petrodollar standard.[118]

This stresses the relative lack of regulation facing the Euromarket to begin with, a condition which made it extremely difficult for regulators to control. Altamura, by contrast, emphasizes the deliberate attempts by regulators to regain control over the increasingly chaotic monetary environment when the 1973 Oil Shock hit. The petrodollar flow which entered the Euromarket had, effectively, broken all attempts at cooperation and coordination to effectively contain this new crisis. He emphasizes this break point as critical in the rise of modern finance, arguing the "effective privatization" of the recycling process was the beginning of the effective privatization of the broader world of finance and monetary affairs. This shock thesis clearly diverges from this understanding in emphasizing this factor as critical in making the ongoing transformation of the Euromarket an unstoppable process.[119]

These arguments on regulatory breakdown, as discussed in Chapter Three, stand with further data in support. American unilateralism was a truly pervasive element, reaching the level of secret agreements and developments which prioritized American demands ahead of building an effective, global response. This was exacerbated by the divergent priorities of different European governments which effectively fractured any attempts at a unified response to either the petrodollar recycling problem or the dramatic expansion of the Euromarket. In sum, the regulatory conflict went beyond a question of losing control, controlling a difficult to regulate space, or shifting priorities. It was directly responding to the broader wealth redistribution triggered by the 1973 Oil Embargo and 1979 Oil Shock that forced a temporary re-alignment of the global balance of economic power. Nothing better shows this than how the genuine breakdown of OPEC described in Chapter Five, beginning with the Iranian

[118] Spiro, *The Hidden Hand of American Hegemony*, 80-84
[119] Atlamura, *European Banks and the Rise of International Finance*, 173-178; Kopper, "The Recycling of Petrodollars", 42-43

Revolution of 1979, was the trigger for the broader collapse of this precarious new economic environment.

These specific findings and additions to the understanding of petrodollars and the petrodollar cycle provide further support for investigating their significance in the Second Period of Globalization. They show the petrocapital cycle, as discussed by Spiro, Kopper, El-Gamal & Jaffe, and Altamura, played a critical role in restructuring the global monetary system and financial practices during the 1974 to 1982 period. It also shows, in concurrence with all relevant literature, this was enabled by and facilitated a significant regulatory retreat, effectively handing control over the growing endogenous petrodollar cycle to the private sector. These findings have significant implications for both the broader frameworks used for analysing petrodollars and our understanding of the broader process of financialization. Overall, these specific findings provide a clear addition to the larger discussions on petrodollars and their role in financialization. By understanding these changes to the monetary environment, financial practices, and the impacts these had on the development of the global economy we reach a more complete understanding of how the Second Period of Globalization unfolded. Engaging with the petrodollar cycle as a factor in this period shows how truly global these changes were, revealing a period which was upset and re-ordered by a sudden redistribution of the capitalist world's wealth. Recycling and its specific prescriptions were all responses by financial actors in the industrialized core powers of the Global North to a rapidly changing world.

Petrodollars, like Spanish doubloons, were the medium for moving one of the largest wealth transfers in economic history. Much like their 16th century predecessors, petrodollars continued to transform the economic order in ways stretching beyond their immediate uses by OPEC and the banks who were most responsible for processing them. Their arrival flooded markets with liquid capital, cheap credit, and seemingly reliable mechanisms for sustaining these cycles. These fluctuations were, in turn, closely connected to the geopolitical realities of the Middle East, the demands of these capital-exporting

governments, and the fortunes of their oil industries. This dynamic, organic, and truly global appreciation of the petrodollar cycle helps us better understand the Second Period of Globalization. As we enter a new period in global economic development, heralded by the COVID crisis and the sudden retreat of the privately held oil industry, it would be wise to consider how this relationship between oil and capital impacted the course of history. Even though these developments suggest the petrodollar cycle may become less significant in the future, these dynamics and how they drove this economic system is essential for any future works wrestling with the greater questions of energy, capital, and wealth in economic history.

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