A Quantifiable Model of a Global Basic Income & Cash Transfer Programmes

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Written by Daniel Adam Siwecki

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First Supervisor,

Professor Sayantan Ghosal,

University of Glasgow

Second Supervisor,

Dr. Theodore Koutmeridis,

University of Glasgow

Convener,

Professor Marina Eliza Spaliara,

University of Glasgow

Internal Examiner,

Professor Jeanette Findlay,

University of Glasgow

External Examiner,

Professor Matthew Johnson,

Northumbria University Newcastle

Abstract

This thesis is organized into three distinct yet interconnected chapters, each investigating its own set of unique research questions and employing respective methodological approaches. Collectively, these chapters contribute to the overarching aim of facilitating a more comprehensive understanding of basic income and cash transfer systems. Furthermore, this exploration places an additional emphasis on studying these systems in the context of economic instability and times of crisis.

Chapter One develops a theoretical model exploring the impact of a lifetime basic income on economic decision-making in the presence of investment and risk. Theorising the presence of an affordable lifetime basic income can act as a form of insurance which can increase the adoption of high-risk, high-return actions and result in increased overall economic activity, increasing incomes and growth. The results further suggest that basic income programs can be feasibly self-financing through a dedicated mutual insurance scheme concept, where the additional funds generated from the increased economic activity can be used to finance the basic income.

These findings have implications for policy-making efforts aimed at promoting economic growth and reducing poverty and inequality. Additionally, the provision of an affordable lifetime basic income can serve as a valuable tool for reducing the economic vulnerability of individuals and households, especially in the context of unforeseen negative income shocks. Moreover, the results emphasise the importance of considering the interaction between risk and income in decision-making, where the provision of a basic income can help to mitigate the economic impacts of negative income shocks, especially for individuals and households who would wish to purse a high-risk-high-return-based investment path out of poverty. Suggesting this can help to reduce poverty and inequality and promote economic well-being.

The COVID-19 crisis was a humanitarian disaster unlike any this century; compulsory stay-at-home orders in conjunction with mass layoffs and many becoming too sick to work pushed welfare systems across the globe to breaking point. This crisis has underscored the crucial role of a robust, well-functioning welfare system in acting as a last-line safety-net against hardship for all, even those who may never have considered themselves in danger of income insecurity previously.

Therefore, it is imperative to analyse models of welfare not only during times of stability but crucially during the inevitable occurrence of times of instability too, black-swan style shocks which, if unprepared for, can plunge millions into hardship.

Considering the study of alternative welfare systems during both periods of stability and crisis as imperative, Chapter Two adopts a *Narrative Economics* approach, as outlined in (Shiller, 2021), to investigate the changing UK media narrative surrounding the welfare policy of a basic income during the COVID-19 crisis. By doing so, we aim to better understand the positive shift in preferences relating to aspects of basic income during the period of crisis, that was identified by (Nettle, et al., 2021) who observed “substantially more positive attitudes” towards basic income over the Pandemic and speculate media discussion as a potential causal originator.

This Chapter examines two corpora of UK news articles: one comprising all written articles published between 01/04/2018 and 01/04/2019 where N=312, serving as a pre-Pandemic baseline, and the other encompassing all written articles published between 01/04/2020 and 01/04/2021 where N=585, representing the post-Pandemic period. Employing the thematic analytical method outlined by (Braun & Clarke, 2006), Chapter Two analyses the key themes of the media narratives surrounding basic income during the two time periods. Enhancing the method through empirically analysing the qualitative data via quantification through thematic coding, enabling a deeper analysis of the two large corpora of articles.

This allowed for the identification five distinct themes characterising the pre-Pandemic narrative surrounding basic income and an additional six themes to characterise the post-Pandemic period. By comparing these themes, Chapter Two reveals the evolutionary progression of thematic changes, offering a comprehensive understanding of the emergent aggregated media narratives during the crisis. Findings indicate a significant shift towards favourability regarding the policy of basic income, particularly with its speculated implications for alleviating many of the new social costs wrought by the pandemic, this principal finding is identified the *New Crisis Narrative of Basic Income.*

Chapter Three employs a rigorous research design, combining a randomized control data collection and Difference-in-Differences analysis, to examine the influential effects of the identified *National Crisis Media Narratives* of the 2020 Covid Pandemic upon confidence in the effectiveness of alternative welfare systems, specifically Universal Basic Income (UBI) and Targeted Welfare (TW) systems. The study measures the impact across 21 outcome variables, comprehensively representing a desirable welfare system. The findings reveal a substantial and immediate influence of media pandemic narrative treatment on confidence levels, persisting significantly 15-21 days post-treatment.

Furthermore, the study explores the role of covariates related to unique *Lived Crisis Experience* in enhancing receptivity to national crisis narratives and policy perceptions, capturing personal, emotional, financial, health-related, and community impacts. Notably, the covariates demonstrate a boost in responsiveness, enhancing receptivity to policy perception changes triggered by the crisis narratives present at the time, except for instances where participants reported “admittance to an intensive care unit” (particularly in the case of UBI) and experienced “long-term health implications” (for TW). In these cases, negative reactions towards the respective policies were observed in response to the crisis narratives.

The study's main data collection involved a total of N=956 participants. Allocated randomly to either the placebo (Group A) or treatment (Groups B through E), which consisted of N=194, 190, 191, 192, and 189, respectively.

The main study (Part 1) was conducted simultaneously on the same day, beginning at 9 a.m. GMT (UTC+00:00), with each participant recording both baseline control and post-treatment response data. Part 2 of the study was conducted utilising longitudinal data of the same participants. Data collection commenced exactly 15 days after the initial data collection (of Part 1) and remained active for an additional 6 days. The follow-up data collection (Part 2) consisted of N=886, with Groups A through E consisting of N=181, 177, 175, 180, and 173, respectively.

The findings shed light on the intricate relationship between media crisis narratives, welfare system perceptions, and personal crisis experiences, contributing to the broader understanding of policy effectiveness and societal well-being. While also serving to highlight

the implied responsibilities of those who work to present national narratives as they emerge, as well as those who work to design welfare strategies and must forecast performance over not only periods of growth but crucially times of severe and unexpected instability.

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Acknowledgements: Growth & Gratitude

To any aspiring students currently in a position I was once in, whether you think you can or you think you can't, either way you are correct. As you continue to dive deeper down into your chosen subject, reaching depths greater than anyone has before, remain mindful that life is a function of both its breadth and its depth, from one you can better appreciate the other.

While the man who perseveres and climbs the great mountain to finally step upon the top will eventually find his moment of joy, the other who came to learn to simply enjoy each step along the way will find countless…

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Once more, with sincere thanks and loving gratitude,

- *Daniel Adam Siwecki*

Declaration

"I declare that, except where explicit reference is made to the contribution of others, that this dissertation is the result of my own work and has not been submitted for any other degree at the University of Glasgow or any other institution".

Printed Name - Daniel Adam Siwecki

Signature -

Date - On the 12th of August of 2023

Abbreviations

AI	*Artificial Intelligence*
DiD	*Difference-in-Differences*
DM	*Decision Maker*
EBI	*Emergency Basic Income*
FDR	*False Discovery Rate*
FRT	*Fisher Randomisation Test*
H0	*Hypothesis (Null)*
HA	*Hypothesis (Alternative)*
HC3	*Heteroscedasticity Consistent Covariance Matrix Estimator Type 3*
IID	*Independent and Identically Distributed*
N	*Number*
OLS	*Ordinary Least Squares*
Std.Dev	*Standard Deviation*
SUTVA	*Stable Unit Treatment Value Assumption*
TW	*Targeted Welfare*
UBI	*Universal Basic Income*

Introduction: Motivation, Objectives & Thesis Structure

In an era marked by unprecedented economic and societal challenges, the exploration of innovative welfare policies and their impact on decision-making processes has garnered significant attention from scholars, policymakers, and the public alike. This thesis delves into this, comprising of three distinct but interconnected chapters that collectively investigate the intricate relationship between welfare policies, decision-making behaviour, and the dynamics of public perception. Through a comprehensive analysis of the implications and outcomes of alternative welfare systems, with a particular emphasis on exploring cash-based and universal systems within the context of the COVID-19 pandemic, this thesis aims to provide a greater understanding of how policy narratives, crisis experiences, and societal needs interplay to shape economic behaviour and public opinion.

Chapter 1: *Modelling a Basic Income Cash Transfer System with Risk, Uncertainty & Investment Cost*

The first chapter of this thesis dissects a critical facet of decision-making: the influence of investment costs and the viability of a lifetime basic income on individuals' choices. Grounded in the premise that investment costs play a pivotal role in shaping economic decisions (Petengill, et al., 1995; Bali & Zhou, 2016), this chapter presents a theoretical model so to explore the implications of different investment strategies upon risk and uncertainty. Centring upon exploring the impact of introducing a lifetime basic income policy in incentivising a shift of investment choices to a degree which can feasibly result in an increased gain of per period output of which exceeds the transfer payment cost of the basic income itself, this coming to be defined as affordability, through acting as a liquid insurance against uncertainty of crisis related failure. The chapter demonstrates that within a bounded investment cost range, decision-makers opt for specific actions based on risk and return profiles whereby the additional funds generated within the economy can exceed the per period cost of the basic income transfer suggesting a lifetime basic income is able to be funded as a mutual insurance scheme from the additional funds generated within the economy if providing sufficient security to the recipient against the fear of crisis induced investment failure.

This chapter unveils the potential for a self-sustaining lifetime basic income under specific conditions, emphasizing the significance of policy decisions surrounding basic income schemes. It highlights how such policies can incentivize risk-taking behaviour, stimulate higher-yield investments, and foster economic growth. The theoretical model further suggests that an affordable lifetime basic income can pave the way for riskier yet more productive actions, ultimately contributing to economic advancement and offering options for individual investment led routes out of low income and poverty.

Chapter 2: *The Evolution of Media Narratives Surrounding Basic Income During Crisis: A Quantified Thematic Analysis of Pre- and Post-Pandemic Periods*

The second chapter immerses itself in the realm of media narratives and their profound impact on the perception of welfare policies, namely basic income, determining narratives across a pre- crisis baseline year (2018-2019) as well as during the COVID-19 pandemic (2020-2021). This exploration leverages thematic analysis of two corpora of all published written UK media articles featuring mention of a basic income, to trace the evolution of narratives both over and between the two periods, coming to determine the emergence of a *New Crisis Narrative of Basic Income,* characterised by a shifting narrative of general disparagement and infeasibility to one of a timely practical policy intervention in response to the crisis. The chapter underscores the crisis-backed transformation of basic income from a national narrative of an unaffordable utopian fantasy to an inclusive and rational policy alternative. It delves into the emergence of new themes, changes in sentiment, and shifts in public discourse, which collectively contributed to the general reframing of basic income as a feasible and beneficial solution.

This chapter's findings underline the power of narrative shifts in shaping public perceptions, and influencing policy debates which even came to spark renewed interest in basic income trials at a number of local levels. The shift in narratives not only reveals the perceptions of basic income as a crisis response but also highlights the need for adaptable welfare policies capable of addressing evolving societal needs. The analysis, conducted through combining qualitative and quantitative methods, offers unique insights into the dynamic interplay between media narratives and policy perception over periods of national uncertainty.

Chapter 3: *Quantifying National Crisis Narratives and Lived Crisis Experience upon Alternative Welfare System Perceptions: A Randomized Control Trial Using UK Residents*

The third chapter delves deeper into the relationship between media narratives, crisis experiences, and public policy perception, applying a robust experimental approach. This chapter presents a randomized control trial that exposes participants to the identified crisis-induced media narratives and assesses their subsequent confidence in two alternative welfare systems: Universal Basic Income (UBI) and a Targeted Welfare (TW) system. The study explores how crisis narratives and personal crisis experiences impact participants' reactions to the two different welfare policies, providing empirical evidence for the power of narratives and lived experience to shape policy preferences.

The chapter not only confirms the profound impact of media narratives on policy perception but also reveals the nuances of individual experiences in moderating this effect. It demonstrates that micro-level lived crisis experiences and macro-level perceived national narratives can combine to either boost or diminish confidence in the two welfare policies. The findings emphasize the importance of a flexible welfare framework that accommodates changing preferences and societal needs during times of crisis and beyond.

This thesis through utilising a mixed method approach collectively weaves together the three distinct chapters to present a holistic understanding of the intricate relationship between basic

income and cash transfer welfare policies, decision-making behaviour, and policy perception during times of crisis.

The implications drawn from this thesis are extensive and multifaceted. The first chapter underscores the potential of a basic income in shaping economic decisions, protecting against income instability, and providing alternative investment led routes out of poverty. It highlights the potential for a simple basic income provision to stimulate risk-taking behaviour and foster economic growth. The second chapter showcases the rapidly evolving nature of media narratives, which during a time of crisis came to reshape narratives of basic income from that of obscurity to a viable and optimistic policy alternative. The third chapter, through empirical evidence, illuminates the intricate relationship among media narratives, crisis experiences, and policy perception, determining the significantly powerful effect of both upon the latter. These chapters collectively emphasize the necessity of flexible welfare systems in anticipation of crisis as well as the benefits of continued research on the topic.

The insights garnered from this research hold profound implications for policymakers, scholars, and society at large. They underscore the significance of accounting for investment costs and basic income in understanding economic behaviour. The role of media narratives in shaping policy debates is evident, highlighting the need for adaptive welfare policies in response to evolving crises and preferences. This thesis not only contributes to the theoretical understanding of these dynamics but also informs practical policy design aimed at fostering economic growth, reducing inequality, and enhancing societal well-being.

In a rapidly evolving global landscape, the research presented in this thesis provides valuable guidance for navigating the complexities of economic decision-making, policy development, and public perception. The motivation behind this thesis stems from a personal understanding of the transformative influence of crises and narratives on perception, decision-making behaviour, and societal outcomes. By exploring the interplay between investment costs, media narratives, and lived crisis experiences within the context of basic income and targeted cash transfer welfare policies, this research seeks to untangle the intricate dynamics that shape our economic landscape and public preferences. The implications of this exploration extend to academia, policymakers, and society at large, offering insights that can inform policy design, foster economic growth, and contribute to the well-being of individuals and communities in an ever-changing world.

1 Chapter One: Modelling a Basic Income Cash Transfer System with Risk, Uncertainty & Investment Cost

1.1 Introduction: Background and Objectives

In recent years, there has been rapidly growing interest in the idea of basic income programs as a tool for reducing poverty and inequality, promoting economic growth, and mitigating the economic impacts of negative income shocks (Nettle, et al., 2021). A basic income program provides a guaranteed minimum income to all citizens, regardless of their employment status or income level, and is designed to provide a safety net of reliable financial security. However, despite the potential benefits, many questions and uncertainties remain surrounding the impact of basic income programs on economic decision-making and growth.

In light of these questions and uncertainties, this chapter aims to develop a theoretical model to gain insight into the impact of a lifetime basic income on economic decision-making within the context of investment and risk. The study explores a theoretical framework that considers the trade-off between risk and return in decision-making and the impact of a basic income on this trade-off. The framework is then applied to a simple economic model to test the validity of the proposition.

The findings of this study can have implications for policy-making efforts aimed at promoting economic growth and reducing poverty and inequality. By providing a theoretical foundation for the potential benefits of basic income programs, this study contributes to a deeper understanding of the complex interplay between social welfare policies, income, risk, and economic decision-making. The implications are of interest to international policymakers and development economists as they inform the theoretical body of work surrounding policies aimed at improving the economic well-being of individuals and households in both emerging from poverty, insulating against negative income shocks and developing a sustainable model of social investment lead development.

Presently cash transfer policies tend to be given under strict conditional criteria for a predetermined period of time while also being typically received under circumstances of uncertainty as policymaker funding priorities change over time (Bastagli, et al., 2016). The inherent nature of monetary transfers, characterized by conditionality criteria, short-term-focused funding commitments, and the resulting uncertainty due to shifting policymaker priorities, is likely to influence the impact of transfer policies on development outcomes over both short and long timeframes (Banerjee, et al., 2019, p. 962).

In addition, theory suggests that other factors may likely matter in determining the effectiveness of cash transfers as a tool of economic development. Such as choice of the target population, size of the payment, complimentary developmental interventions and longer-term accumulation of resources between initial and late stages of receipt of transfer funds, which, after sufficient time receiving a dependable stream of cash transfer income may influence factors associated with generating alternative income streams, mainly savings, investments and productivity improvements (Banerjee, et al., 2019; Davala, et al., 2015).

To further explore a cash transfer policy without receipt conditionality criteria, ensuring long-term funding commitments and providing basic income security, we would essentially be considering a developmental cash transfer policy akin to Universal Basic Income.

1.1.1 The Conceptual Philosophy of a Basic Income

A UBI is a *"universal and unconditional stream of cash income paid to every member of a society; It is paid irrespective of whether an individual is working, or of his or her existing income, and of who he or she lives with"* (Ghatak & Maniquet, 2019, p. 895).

UBI itself would represent a significant paradigm shift in governmental policy regarding not only the strategy of monetary transfers within society but also the individual's role in alleviating poverty. Mainly due to the UBIs' three defining components: "*1. Universality, 2. Unconditionality and 3. Individual Agency*". Three components which conventional welfare systems and developmental transfer policies largely overlook when co-ordinating monetary redistributions towards people experiencing poverty. With universality and unconditionality coming together, enabling individual agency, as recipients can develop longer-term interests in using the basic income stream to perhaps create a sustained alleviation of their monetary situation less precariously than they would have under a conventional conditional, less-guaranteed cash transfer system.

This "individual agency" provided to the poor by a Universal basic income "promotes liberty because it is anti-paternalistic" by being premised upon choosing to "respect, not dictate, recipients' choices" (Standing, 2019) as opposed to "current welfare system(s), (that) even when well-intentioned, inflict an indignity upon the poor by assuming that they cannot take economic decisions relevant to their lives" (DEA, 2018).

It instead incorporates the understanding that "the circumstances that keep individuals trapped in poverty are varied; the risks they face and the shocks they face also vary", embracing that the state, in reality, is not in the position to determine how to handle the risk and shocks those in poverty face, via strict conditionality clauses, but instead better suited to act as the vehicle by which they as capable individuals are monetarily enabled to overcome them within their situation best. In so doing, "liberating citizens from paternalistic and clientelistic relationships with the state" and treating them as trusted and valued individuals; in poverty, not by any incapability to make the correct decisions that lead to upward social mobility but instead being constrained monetarily (ODI, 2016).

From this, we can hypothesise that a UBI, as opposed to a conventional cash transfer system, will have a different developmental impact on an individual's decision-making and developmental outcomes. In particular, the development of longer-term income streams, as opposed to the short-term daily monetary restrictions targeted to be corrected by traditional cash transfer policies, and as such, may perhaps be more impactful in the alleviation of poverty and insulation against negative income shocks (Davala, et al., 2015).

1.1.2 The Historical Development of a Basic Income

The Universal Basic Income, although at the forefront of contemporary developmental economic theory, does derive from a long line of precursory historical programs and social policy concepts. Many might assume that the very concept of a universal basic income would likely have come to originate in the enhancement of any one of the many modern "quasi-UBI programs" which remain widespread and largely successful in many nations, such as extending the principle of universality to an existing social security scheme such as "child benefit" or "retirement pensions" or perhaps allowing unconditionality in the receipt of existing "conditional cash transfer schemes" such as guaranteed minimum income schemes. Like the many currently exclusively available to the unemployed, such unemployment benefits provided in the UK, the *"revenu de solidarité"* in France or the *"citizens' income"* in Italy; the latter two of which would likely not even need to change their names if extended into a truly universal and unconditional basic income (Van Parijs, 2020).

Instead, this history can be traced much further back, with the first of the two core constituent concepts, namely the *universality of a state minimum income*, explored as a fictional thought experiment as early as the beginning of the 16th century, while the second; true unconditionality of a state grant had been expressed as early as the 18th century. Resulting in a truly universal basic income as we understand it, emerging in the mid-19th century.

As the Renaissance swept Europe bringing with it groundbreaking waves of new ideas on the concept of modernity, that fundamentally, not only was change possible in life, but crucially, life could change and further should change for the better. This heralded the rapid advancement of many things which had until now remained slowed by old attitudes but had powerful practical applications in improving the welfare of society, such as the sciences, medical, agricultural, and geographical knowledge advancements, to name a few in addition to the embracement of many things which just improved the quality of life in a more subjective way, such as the arts, enhanced autonomy, individual agency, tolerance, free choice and greater equality of opportunity. Early economic theory was no exception to this trend, self-identified "humanist" Thomas More considered the possibility that guaranteeing the welfare of the poor could, in fact, also be a worthwhile goal of the state rather than purely left to the church or charitable foundations (More, 1516).

Within "Utopia", More (1516), describes a well-travelled elderly explorer who has not only travelled south of the equator and across the globe to Asia but also has personally witnessed the (fictional) island of Utopia; in addition to this, the captain possesses a keen understanding of the inner workings of "Utopian" society and social policy. Crucially he floats the idea that within "Utopia", a universal provision of basic social assistance is not only facilitated but is widely regarded as a "rational" means of effectively solving many of the problems still faced by society to this modern day. The example he presents is that of theft, among the biggest problems of the time. More describes how the crime of theft leaves the victim worse off if the thief remains uncaught, the thief hanged if caught, and the would-be thief starving if hanging proves a successful deterrent, and thus describes:

"This method of dealing with thieves is both unjust and undesirable. As a punishment, it's too severe, and as a deterrent, it's quite ineffective. Petty larceny isn't bad enough to deserve the death penalty. And no penalty on earth will stop people from stealing if it's their only way of

getting food. In this respect, English, like most other nations, remind me of these incompetent schoolmasters who prefer caning their pupils to teaching them. Instead of inflicting these horrible punishments, it would be far more to the point to provide everyone with some means of livelihood, so that nobody's under the frightful necessity of becoming, first a thief, and then a corpse" (More, 1516)

In response, Johannes Ludovicus Vives, fellow "humanist" and close friend to More, carried Mores' idea of a state-provided means of "livelihood" forward and presented a more comprehensive argument which embraced that the government of the municipality should seek to provide a subsistence minimum to all its residents. In 1526 Arguing within a memoir entitled *"De Subventione Pauperum (On the Assistance to the Poor)"* to the then mayor of Bruges in support of public officials' ability to more effectively target the needy than the church or charities and thus possessing the more effective means of providing the "morally required charity" of which to ensure that those who were deemed "deserving" via demonstrating their "willingness to work" would be monetarily supported so that it could be ensured that "a poor persons poverty must not be undeserved". Advocating that:

"Even those who have dissipated their fortunes in dissolute living – through gaming, harlots, excessive luxury, gluttony and gambling – should be given food, for no one should die of hunger. However, smaller rations and more irksome tasks should be assigned to them so that they may be an example to others" (Vives, 1526)

Furthering that "this concern should consistently extend to those born rich", Insisting that "the point of requiring such toil from the beneficiaries of the scheme is in part to make them contribute to the funding of the latter" when their fortunes did eventually improve. In addition, concluding that ultimately "the benefaction that precedes the hard and thankless necessity of asking is more pleasant and more worthy of thanks" coming "before the face of the needy blushes from shame" and even "before need induces some mad or wicked action" (Vives, 1526). Setting the foundational groundwork for the concept of a universal minimum income, albeit a conditional one, creating a foundational step in the progression of the concept of a universal basic income.

The second step in this progression, true unconditionality, is typically credited to the United States of America founding father, and humanist, Thomas Pain, who, like More and Vives before him, sought to incorporate reason with political-economic theory to improve the welfare of people experiencing poverty and improve economic injustices. In 1796 Paine proposed through taxation the establishment of a fund from which "there shall be paid to every person when arrived at the age of twenty-one years, the sum of fifteen pounds sterling" and then additionally "the sum of ten pounds per annum, during life, to every person now living, of the age of fifty years, and to all others as they shall arrive at that age".

Critically Paine argued that these payments should be made by the government "to every person, rich or poor", as fundamentally, these payments were owed "because it is in lieu of the natural inheritance, which, as a right, belongs to every man, over and above the property he may have created, or inherited from those who did". Clearly, in advocate of unconditionality in addition to universality in the delivery of this new state-provided entitlement which he described as a "right and not a charity" in providing every person with a means of independent survival and a stakehold within broader society (Paine, 1797).

Despite existing as a general concept, a UBI in implementation remained far from becoming a reality. However, its variants returned to the discussion within many nations over the 20th century. In 1918 mathematician and political philosopher Russell (1918) published "Roads to Freedom", in which he advocated "that a certain small income, sufficient for necessaries, should be secured to all, whether they work or not, and that a larger income – as much larger as might be warranted by the total amount of commodities produced – should be given to those who are willing to engage in some work which the community recognises as useful", in essence, UBI "sufficient for necessaries" implemented in conjunction with an additional conditional income for societally beneficial labour willingly supplied.

Russell (1918) argued for this as a system whereby all individuals existed in a state of basic economic independence with the freedom to choose to contribute their labour to both better themselves and society, creating a society where for everyone at its very most basic, "when education is finished, no one should be compelled to work, and those who choose not to work should receive a bare livelihood and be left completely free".

While in the United States of America, the discussion began later on, first beginning with Friedman (1962) who posited a radical change for the American Welfare State. Specifically, the guaranteed minimum cash income via the introduction of a "negative income tax" (NIT), which Friedman championed in particular due to its simplicity. The plan aimed to combine income tax and transfer systems into one, doing away with the complicated current welfare programs[1]. Friedman saw the negative income tax as a steppingstone towards an "ideal capitalist society" with reduced state-based transfer payments. Friedmans NIT aimed to be both a radical and easy-to-understand alternative to the existing system as well practical and equitable in social outcomes[2].

Soon after Theobold (1964), in attempting to predict what the economic future of the United States may involve, advocated the need for the need of an American guaranteed minimum income in the future as a means of providing baseline levels of aggregate demand as to protect domestic markets and living standards in the face of ever-increasing technological progress leaving many forms of work no longer delegated to humans, predicting "automation is rendering work for pay obsolete, and that government handouts are the only way to give the public the means to buy the immense bounty produced by automatons" (Theobold, 1964).

[1] More specifically the NIT was proposed as a novel tax system that would provide income to people below a set income level instead of taxing them. Therefore, providing a minimum standard of living for all citizens at the expense of positive rates of taxation upon those higher-income earners above the set threshold.

Paying cash directly to those deemed in need, the NIT would replace other forms of welfare such as food stamps and housing subsidies and reduce the complexity of the existent welfare system vastly (Friedman, 1962).

[2] Despite a UBI and NIT ostensibly differing significantly Freidman himself remarked "A basic or citizen's income is not an alternative to a negative income tax. It is simply another way to introduce a negative income tax if it is accompanied with a positive income tax with no exemption". Furthering that "A basic income of a thousand units with a 20 percent rate on earned income is equivalent to a negative income tax with an exemption of five thousand units and a 20 percent rate below and above five thousand units" (BIEN, 2000).

This discussion in addition others by Friedman is available (BIEN, 2000). Discussing UBI as well as the NIT within the context of the Alaskan Permanent Residents Dividend Fund, The Family Assistance Plan, The Earned Income Tax Credit (EITC) scheme as well as proposals for guaranteed minimum income schemes in the developing world to name a few.

Additionally, Tobin, et al., (1967) publicly defended the concept of a guaranteed minimum income, even going so far as, in 1967, to support a variant of a negative income tax scheme whereby each citizen received an automatic payment as an effective means to both boost all incomes and keep all members of society above minimum income. Tobin argued that this transfer would be efficient, as without eligibility assessment uptake would be high, and bureaucracy costs would be low while also worker friendly as the payment would purely be determined by family member composition and so additional work would supplement the existing guaranteed minimum income rather than reduce or eliminate it. The payment, which they named a "demogrant", is, in essence, an early universal basic income (Van Parijs, 2020).

Tobins' demogrant made significant waves among influential American economic and political figures; by the spring of 1968, a petition was delivered to the governing administration which urged the Congress of the United States "to adopt this year a system of income guarantees and supplements" of which was not only carried by Tobin himself but co-signed by leading economists of the day such as Paul Samuelson, John Kenneth Galbraith and Robert Lampman as well as more than one thousand economists from varying fields[3]. Although the petition proved unsuccessful in launching a universal, unconditional income for all, it has been credited as influential in the eventual passing of a guaranteed minimum income for the elderly and disabled by the US Congress (BIEN, 2001).

From there, the progression of the UBI policy passed back over to Europe; however, this time, the benefits were expressed from the field of public health, Jan Pieter Kuiper, Professor of social medicine at the Free University of Amsterdam when studying work-related illness observed that there existed a widespread phenomenon whereby in pursuit of a subsistence income many individuals where driving themselves to both physical and mental unwellness through not only forcing themselves to work excessively to the detriment of their health but also in being unable to find work. Concluding that de-coupling work from subsistence was a means of treating against what he identified as the "dehumanising" nature of dependence upon employment as the only means to ensure basic living (Jäger, 2021).

Professor Kupier came to call for a "decent guaranteed income" to escape this work-related health trap. As a result, in 1977, the fringe 'Politieke Partij Radicalen' became the first European political party to incorporate a universal basic income within its electoral manifesto, keeping the issue alive until, eventually, the Scientific Council for Government Policy of the Netherlands came to definitively recommend what they termed a "partial basic income" which although never implemented represented a total universal income that only differed from an entire UBI in so that it would not cover the whole expense of basic living and thus would have to work in addition to the existing welfare system (Van Parijs, 2020; Simpson, 2021).

Despite the philosophical underpinning to a basic income having been discussed and examined for centuries no universal basic income based welfare system has come to be fully adopted at a national level. However, during the mid-1970s, Alaska, grappled with concerns regarding the potential concentration of vast wealth derived from oil mining in Prudhoe Bay, in concern that benefits of this economic boom might be limited to the current population of the state and not those of the future. As a solution, establishment of a permanent fund to

[3] With Economist Milton Friedman remaining a notable exception to the list of signatories (BIEN, 2001)

safeguard a portion of the oil revenues for future generations through active capital investments (O`Brian & Olson, 1990).

In 1976, the Alaska Permanent Fund was created following a constitutional amendment. To foster public interest in the fund's growth and ensure equitable distribution, a novel approach was fostered; an annual dividend paid to all residents based entirely on the proportion of years of their residency, regardless of income bracket, employment status or any other traditional monetary transfer conditionality pre-requisites.

However later this dividend payment faced legal scrutiny; being brought before the United States Supreme Court for alleged discrimination against immigrants from other states. The proposal was deemed inconsistent with the "equal protection clause" of the fourteenth amendment of the Federal Constitution. Subsequently, amendments were made to address this issue, transforming the proposal into the closest existent model of an authentic unconditional basic income at time of writing.

Since its inception in 1982, the Alaskan program has provided a uniform dividend to every individual who has maintained official residency in Alaska for at least six months. The amount of the dividend is linked to the average interest earned by the permanent fund over the preceding five years, with the aim of ensuring “self-financing” of all dividend payments through long-term capital growth[4]. Initially confined to investments within the Alaskan economy, the fund later diversified into international portfolios, thereby serving to hedge against local economic fluctuations via diversification across lesser-correlated international asset classes and sectors; maximising the funds long-term potential alpha while minimising inevitable beta, allowing for self-financing dividends to persist and supplement the incomes of residents despite inevitable periods of local economic fluctuations[5] (Widerquist & Howard, 2012).

Further O`Brian & Olson (1990) in examining “The Alaska Permanent Fund and its associated dividend distribution program” upon the “intergenerational transfer of wealth and in the redistribution of public funds back to the private sector” determined “that dividends in the form of direct cash payments[6] to state residents made from the interest income of the fund have benefited current Alaskans through higher personal income, higher employment[7], and

[4] To quantitatively illustrate the success of the Alaskan Permanent Funds dividend financing it is worth noting that not only has, “every child and adult in the state received an unconditional payment, every year since 1982” with the value of “dividends typically on the order of US$1,000 – $1,500”, this would equate to around $5000 to $7500 for a family of five. However, in 2008, a period marked by a sharp reduction in incomes globally that plunged millions into poverty and forced most governments into budgetary deficit was in Alaska, in contrast to much of the world “a bonanza year in which each state resident received $3,269” as additional funds were distributed as a further “resource rebate”. Generated from significant capital return in the long run up to the crisis, allowing for the supplementing of crisis time incomes and stimulating the local economy (Forget, 2014).

[5] (O`Brian & Olson, 1990) term this a “constitutionally involatile trust fund”.

[6] In exploring the income changes upon Alaskan society as result of the fund (O`Brian & Olson, 1990) note “lump-sum dividend distributions are extremely progressive and score high based on equity criteria. Using these same funds for public projects limits the number of beneficiaries. Reinvestment of dividends may be financially careful given high current real rates of return, and this option scores well on efficiency grounds because it is an easy way to raise needed revenue”.

[7] Further that “through the dividend distribution program, current Alaskans also benefit from the exploitation of resources directly by an increase in personal income and indirectly through higher employment brought about by the multiplier effect associated with the infusion of dividend payments (O`Brian & Olson, 1990).

mitigated recessions[8]" as in exploring Alaskan income data observed the "the dividend distribution program has tended to exacerbate the expansionary phase of the business cycle and mitigated the contractionary phase, Alaskan personal income has tended to grow more rapidly during the expansionary phase in the presence of dividend payments than it would have without the payments, and has tended to decrease less rapidly in the contractionary phase than in the absence of dividend payments".

Additionally noting that "future generations also may benefit from the dividend distribution program due to its role in reducing fiscal illusion and limiting current state spending". This would be due to the simplified nature of an unconditional universal program without complex inclusion criteria as well as positive income effects that may emerge and benefit the state's budget in the future, such as positive income effects upon employment, savings, investment and taxation that could result (O`Brian & Olson, 1990).

Alaska's distinctive oil dividend scheme has garnered attention as a potential model for other regions worldwide. Its fundamental premise lies in the belief that all individuals have an equal right to benefit from natural resources, that the universal distribution of this benefit is an optimal outcome in aggregate and with effective financial management, post initial startup cost these benefits can be repeatedly distributed sustainably, both through state taxation of economic activity in combination with the self-financing nature of dividends derived from medium-to-long-term growth of a realistically efficient capital fund. However, it is important to note that the funds capitalisation via non-renewable resources, like oil, raises questions about the Alaskan case studies applicability to other circumstance as well as its viability as a sustainable model for the future. Therefore, further theoretical exploration would be greatly beneficial, particularly incorporating important relevant real-world components related to differing initial endowments, assumptions and time periods, such as within the context of a developing economy or when subject to exogenous financial shocks (Widerquist & Howard, 2012b).

[8] Noting "the dividend distribution program acts as an anti-recessionary policy tool, whereby the boom-bust cycles that are associated with resource development and which have historically plagued Alaskans are somewhat mitigated" via increased capital accumulation during periods of growth financing greater dividends during periods of recession or volatility (O`Brian & Olson, 1990).

1.2 Basic Income in a New Context: Crisis Mitigation

1.2.1 The Crisis of 2020: A New Socio-Economic Reality

Conventional welfare systems, heading into the crisis of 2020, have been widely known as maintaining pretty severe issues, such as the threat of ever-increasing labour-saving automation, increasing prominence of flexible work offered via new internet platforms, the bureaucratic process and the large volume of time involved in delivering help to those who qualify as well as ensuring it is accessible to those who have difficulty accessing it and is not exploited by those who do not to name a few. In essence, the main issues faced by the welfare system of early 2020 can be categorised into two issues, namely its vulnerability to rapid economic changes and its inability to supplement incomes to all those who may need it in an effective, timely manner that may result. Prior to the crisis, many welfare systems were overstretched in providing support to the qualifying unemployed, and the vast majority had no policy in place to supplement the incomes of those who were, in fact, employed but prohibited from working for a prolonged period of time as a result (Andreotti & Mingione, 2016).

As varying degrees of lockdown measures and stay-at-home orders increasingly became adopted and enforced in the effort of public health policy, it became clear that the covid-19 pandemic of 2020 would have a devastating impact on employment, wages, incomes and living standards. Between the three months of April through June of 2020, the *International Labour Organization* has estimated the number of full-time jobs lost during this period alone equated to nearly four hundred million globally, contributing to an estimated USD 3.5 Trillion loss in documented wage-based income, equating to roughly a 10% drop from a "pre-crisis" scenario (ILO, 2020).

Despite this figure being huge to a degree without precedent, it excludes both loss in non-documented informal income which remains vital in sustaining incomes for many of the most impoverished without access to reliable state welfare as well as long-term impacts to incomes from potential cases of long term unemployment, lost income from the sickness or death of a "household breadwinner", loss of income from ensuing educational gaps as well as increased costs associated with interest payments on debt acquired to sustain households over lockdown periods and any other increased costs associated with adapting to the pandemic such as work from home materials or increased medical costs. Indeed, the crisis of 2020 posed a ruinous threat to much of society, straining welfare systems on a scale and in ways never before observed or, in many cases, even hypothesised before (OECD, 2020).

Additionally, major financial markets experienced a significant rapid decline, now the period of February 20th to April 7th is known to have been the worst crash seen on aggregate since Black Monday in 1987, leaving many firms with severe liquidity issues as banks cut credit lines short as many sectors were prohibited from operating such as both food and drink and overnight hospitality to name a few, forcing many to consider mass-layoffs as a means to retain solvency and prevent total liquidation before they were permitted to resume operation (FTC, 2020).

Naturally, the burden fell upon governments; however, in a time of crisis, where the need for urgent, effective basic welfare was approaching as close to universal as we had ever seen it, the institutions existing to supply it found themselves under more financial load and administrative strain than ever. Despite still being in its onset by the end of quarter one of 2020 global growth outlook had plummeted from predicting 2020 to be a year of moderate growth to observing a -3.4% year-on-year GDP decline among the G20 alone. With the People's Republic of China experiencing a cataclysmic drop of -9.8%, just short of a double-digit decline in such an astoundingly short period of time by just 0.2. While France observed a similarly disastrous drop of -5.3%, the exact figure Italy reported, the European Union cumulative growth reported a decline of -3.2%, the United States of -1.3% and the OECD total dropping -1.8%. By this point, out of the G20 nations and the billions of cumulative population it comprises, only two were forecast not to be plunging into severe budgetary difficulties; Turkey and India forecast an anaemic +0.6% and +0.7%, respectively, when considered against their previous expectations of growth (World Bank Data, 2020).

By the end of the year, it was realised that a large majority of nations had realised sustained recession, with much of the G20 experiencing drops in output reminiscent of the great crisis of 1929, with Argentina and the United Kingdom seeing double-digit levels of decline, with output plummeting as much as -12.9% and -11.2% respectively, with a number of other G12 states coming incredibly close with India which comprises over one and a quarter billion people it's-self falling by -9.9% along with Mexico, France, Italy and South African outputs dropping -9.2%, -9.1%, -9.1% and -8.2%. In fact, G20 growth finished -3.8% down, while global numbers ended even more severely as world GDP dropped by -4.2% on December 31st, 2020, from 2019's reported figures. Every country in North America, South America, Europe, the Middle East and Oceania finished 2020 in a year-on-year recession (World Bank Data, 2020).

1.2.2 Basic Income as a Pandemic Response: A New Era of Cash Transfer Interventions

As a result of the economic fallout of the *black swan* type crisis brought about by the pandemic, many governments rapidly attempted to deploy both expanded existing and newly contrived targeted welfare policies in an attempt to pre-emptively counteract the widespread collapse of incomes across countless areas of the economy.

The World Bank, taking record of the global social interventions, counted 190 countries either "expanding or instituting pandemic specific social protection measures", totalling an estimated "half-trillion dollars globally". Not only were these measures unparalleled in size, scope and speed of implementation, with respect to the existent conventional welfare systems most states have incrementally evolved over the decades, but of these interventions, "short-term cash transfer programs accounted for half of all interventions", a game-changing volume in the field of public welfare policy interventions (World Bank, 2020).

Although these interventions were at the time hailed as without a doubt a necessary measure by widespread policymaker consensus, it was also apparent at the time that for many, these

measures were not seen as going far enough, with it being noted that "despite these dramatic efforts, many—especially the most vulnerable, marginalised, and disadvantaged in society—found themselves scrambling to make ends meet on a daily basis" as the potentially lifesaving emergency liquidity distributed by targeted cash transfer policies only found its way into the hands of those who had successfully navigated the varying hurdles that must be jumped in order to qualify for a targeted transfer.

This resulted in in millions being without vital liquidity in the face of a rapidly moving crisis. For example, those who were unaware of new measures, those without paperwork or means to apply, and those in sectors where negative contagion had not been anticipated and had been hit unexpectedly. Further those who lost income immediately upon being forced to isolate and now were dependent upon receiving relief funds from an already over-burdened bureaucratic approval process. This frequently resulted in individuals having to wait weeks or months to receive the support they were entitled to. This would be particularly difficult for those who struggled financially prior to the crisis and potentially had no monetary savings to fall back upon (Wispelaere & Morales, 2020).

This welfare coverage gap was particularly difficult to overcome as those affected by the Covid-19 crisis came from widely differing sets of economic circumstances and so had varying needs that were subject to further change over time. Examples of this would be individuals facing reduced hours, lower waged workers being terminated or furloughed, essential workers grappling with additional crisis-related expenses and the possibility of sudden isolation, the many new caregivers created due to school and hospital closures, as well as self-employed individuals and temporary gig workers.

Many of these individuals likely shared a precarious "pre-pandemic labour market status that offers them little social protection as well as being poor or at risk of poverty, leaving them with little or no economic cushion against a sudden drastic loss of income"[9] (Wispelaere & Morales, 2020). Consequently, many now lacked the economic resilience needed to withstand a sudden loss of income brought about by the crisis.

Many found themselves without any form of liquid support to isolate themselves from the negative income shock of the crisis; resultantly, it has been pointed out by many that were cash transfer responses to be implemented without attempting targeted conditionality, this much-needed liquidity would have been received by a much more significant proportion of those affected and thus savings, incomes and investments would likely have remained more stable for individuals and thus the recovery of any negative crisis-related economic fallout may be both faster and more cost-effective (CEPAL, 2020).

For example, the discussion of what was termed an "emergency basic income (EBI)", which was defined as a crisis-specific universal basic Income, which was argued "could play a critical and timely role in a robust ethical pandemic policy response" for three specific reasons; firstly an unconditional, universal cash transfer income was argued to "constitutes a rapid response to a situation that requires an urgent intervention" as in times of crisis "support programs must keep pace with the rapidly evolving trajectory of the pandemic and

[9] It was also found that within this category women, ethnic and racial minorities were disproportionately represented (Wispelaere & Morales, 2020)

be able to offer immediate relief to populations economically affected" (Wispelaere & Morales, 2020).

It was argued that a crisis related UBI would be particularly advantageous as it "promoted agility and resilience" in the face of crisis where "anticipating effects is marred by complexity, uncertainty and the fact that administrative capacity itself is heavily impacted by the pandemic"[10]. From this perspective, when evaluated against both existent welfare measures and those also feasible, "EBI is uniquely placed to function as a rapid-response economic instrument because of its lack of conditionality". Allowing for support to be provided for those individuals who otherwise have found themselves "covered by different programs with different levels of generosity" and thus subject to the "multitude of coverage gaps" that "targeted programs inevitably produce", which in times of crisis "disproportionately affect those most vulnerable", which a universal basic income system would have avoided (Wispelaere & Morales, 2020).

While secondly, it was argued that an "EBI explicitly targets those most vulnerable to the economic fallout of pandemic lockdown measures"; is particularly advantageous as "public health interventions are meant to prioritise the most vulnerable in society" as "a universal program such as EBI avoids coverage gaps precisely because eligibility is automatic and guaranteed". While simply expanding existing welfare policies that "are heavily targeted and rely on excessive screening often end up excluding precisely those disadvantaged and vulnerable populations that are their primary target" (Korpi & Palme, 1998; Wispelaere & Morales, 2020).

While thirdly, in applying existing knowledge from the fields of public health and behavioural economics, it was argued that a robust universal welfare response would have resulted in a beneficial societal sense of "solidarity" whereby "citizens will be disposed to act in support of the collective as a whole and of individual members, particularly those who are the most vulnerable and in the greatest need of support" which would have been beneficial in combating the virus likewise in overcoming any crisis. Whereas rather than reinforcing a social consensus that "we are all in it together" via universally even social support, instead generated an "ethical challenge when the costs and burdens are distributed unequally" as eligibility requirements created new winners and losers and divided over deserving and underserving distribution of funds (Krishnamurthy, 2013; Wispelaere & Morales, 2020).

As such, it is widely noted that "the COVID-19 pandemic has generated unprecedented levels of support, with decision-makers and key stakeholders around the world calling for the urgent consideration of an EBI" (CEPAL, 2020) as "Covid-19 has put a very different spin on what many still regard as a radical utopian proposal" to open instead discussion surrounding the concept that a pre-existing, fast-acting, universal welfare system, as opposed to an increasing multitude of targeted systems, maybe "precisely what may be required in the midst of a pandemic that is spreading economic insecurity as much as a viral infection" (Wispelaere & Morales, 2020).

[10] See (Wildavsky, 1988) who outlines the pertinence in modelling "anticipation" and "resilience" in juxtaposition when attempting to ensure "sustainability" when designing a system that seeks to provide "safety".

From this, it is worthwhile understanding more precisely how exactly unconditional liquid cash support may impact individuals, particularly in the face of unanticipated negative income shocks, as ultimately, the best welfare system is not one that only operates effectively during the good times but one that insulates against the bad. Further, exploring feasibility in the form of sustainable self-finance would provide additional insight and grounding when examining the potential of a Basic Income.

1.3 Existing Research of a Basic Income

A recent Overseas Development Institute and Department for International Development commissioned report assessing cash transfer schemes has identified a number of gaps in the empirical understanding of cash transfer schemes, such as "the role and frequency and timing of payments, type and nature of conditionality and the longevity of impacts upon households receiving transfers", critically missing research into the defining components which differentiate the UBI from conventional cash transfer programs (ODI, 2016).

While research on models of a UBI has explicitly so far focused mainly on the primary factors in the alleviation of monetary poverty without incorporating the secondary ones, in particular, focus on deterministic factors that alleviate monetary poverty within the models ignores the broader impacts upon factors which may lead to longer-term income growth and thus lead a UBI to become more feasible, potentially justifying a larger UBI. Mainly the implications of a UBI-based welfare system upon variables such as savings, investment, credit changes in human capital, changing behaviour as the asset base grows, risk-taking, entrepreneurship and the wider societal benefits that may result, for example. While also excluding differing impacts of varying implementation features of a UBI, such as frequency of transfer, relative size (or purchasing power), duration of exposure to UBI, and intergenerational effect of transfer, among others (Pinto, et al., 2021).

Furthermore, theoretical frameworks have typically excluded the impact of complementary interventions and supply-side services, which can be utilised to optimise the positive impacts of a UBI, such as (non-conditional) advice and training, advertisement and education to encourage aspirational or productive investment. At the same time, excluding relative levels of public infrastructure and the impact of supportive economic institutions (Rizvi, et al., 2022).

1.3.1 Foundations & Findings: Seminal Research

Contemporary theoretical modelling has provided some valuable insights regarding the implications of a basic income policy such as (Ghatak & Maniquet, 2019) by establishing a static deterministic model of a basic income and applying it to what they label a first, second and third-best world which involves subsequently introducing further reductions in information.

Crucially, however, contemporary literature surrounding the theoretical modelling of a basic income remains presently entirely static and thus, although a practical seminal beginning "falls well short of being comprehensive" despite this Ghatak & Maniquet, (2019), have however, been able to generate valuable theoretical insights via their static model.

Nonetheless, the predominant literature provides the conceptual underpinning of universal basic income as a policy tool for alleviating monetary poverty in the developing world both in empirical observation of case study pilot trial data and in theoretical modelling and empirical simulation. This underpinning highlights the need to comprehensively explore universal basic income as a policy tool for alleviating poverty in developing nations more deeply. It justifies the need to progress existing static universal basic income modelling work into more comprehensive dynamic models which can come to represent a universal basic income more realistically and answer our key questions.

Examining several pilot studies designed to measure the impacts of a basic income, such as simple monetary transfer examples of government policies that have shared some combination of the three defining components of a universal basic income Banerjee, et al., (2019), on the whole, despite concluding that "we are, of course, in the early days of basic income research in developing countries", we "can draw many lessons from the earlier pilots". Banerjee, et al., (2019) draw on four fundamental case studies and draw attention to their essential findings; firstly, "the first significant pilot of UBI in a developing country", which was conducted in the "Otjivero-Omitara area of Namibia between January 2008 and December 2009" whereby "all residents younger than 60 and registered as living in the area as of July 2007 received monthly, unconditional transfers" (Banerjee, et al., 2019). They highlight that "before-and-after analysis by program advocates suggested that rates of poverty and child malnutrition fell, while rates of income-generating activity and children's school attendance rose, among other positive changes, in spite of significant in-migration, determining the indicated potential for universal basic income to act as a policy tool for the alleviation of poverty (Haarmann, et al., 2009).

They reinforce this further by considering additional pilot studies such as the 2010 and 2011 experiment by the "Self Employed Women's Association (SEWA), an Indian NGO, in the state of Madhya Pradesh" where "Over 6,000 individuals in nine villages received small monthly transfers over the course of 18 months. Transfers were given to each individual in the selected villages, including smaller transfers for children. Researchers compared outcomes for these individuals to those in control villages, which were chosen at random from the same pool as the treatment villages,". Stating that "they reported improvements in treated villages on savings and indebtedness; various measures of assets and wealth; child nutrition and food security; spending on health and education; school enrolment, attendance, and performance; labour supply for women; and women's empowerment" (Davala, et al., 2015); again, suggesting an indication that a universal basic income policy has the potential to benefit the impoverished in the developing world.

In addition to this Banerjee, et al., (2019) highlight a case study of Zambia from 2010 to 2013, whereby "the government substantially broadened eligibility for its Social Cash Transfer schemes, it did not make the scheme universal, but it removed means-testing and enrolled all households with children under five, orphans, or disabled members". Describing that not only did the "multiyear experimental evaluation" find that "the transfers (both)

reduced immediate poverty, (and) also had substantial impacts on assets and earnings" (Handa, et al., 2016) as did the other examples but in fact "these results contributed to an increase of the scheme's budget by a factor of eight" as the scheme increased incomes and raised the tax base (Banerjee, et al., 2019).

As such Banerjee, et al., (2019) indicate a large volume of observable instances whereby universal basic income-like policies and experiments have reduced poverty and enabled the growth of incomes and wealth in developing nations. Indicating that a universal basic income does have the potential to contribute to the desirable normative goal of reducing poverty and thus should be researched further for doing so.

In addition to the tangible case, study-based observations of Banerjee, et al., (2019), Ghatak & Maniquet (2019) contribute theoretical backing to the same conclusion. In creating a "static deterministic model" to compute the effects of a universal basic income from a theoretical point of view Ghatak & Maniquet (2019) conclude that "among the normative values that may be called for to justify redistribution policies, poverty alleviation seems to be the most compelling to justify UBI" suggesting that "UBI might be more appropriate in developing countries, especially those in which UBI could help circumvent the imperfections of government institutions in charge of helping the poor" (Ghatak & Maniquet, 2019). Again, coming to similar conclusions as the Banerjee, et al., (2019) case study lead analysis and supports the reasoning underpinning the justification that a universal basic income should be explored further as a tool for alleviating poverty in the developing world.

However, Ghatak & Maniquet (2019) note that "in our theoretical framework, we do not allow for the role of public goods and services or the role of policies that would lead to greater income growth (e.g., better infrastructure, governance)" and as such their "static deterministic model, (has) not paid sufficient attention to dynamics or uncertainty" as "a welfare system clearly has important impacts on savings, skill formation, and intergenerational effects, such as through human capital investments" and "by providing a steady flow of income, a UBI is also likely to affect risk-taking and entrepreneurship". Suggesting that although conclusions regarding the impact of universal basic income in alleviating developing nation poverty do hold within their static model, their "overview falls well short of being comprehensive", and as such, we can reason that the creation of a universal basic income model that incorporates additional characteristics may provide a more complete analysis of the theoretical potential of a universal basic income.

Further, Francese & Prady (2018) with the IMF provide empirical backing to the observational conclusions provided by Banerjee, et al., (2019) and the theoretical reasoning of Ghatak & Maniquet (2019). Francese & Prady (2018) through employing "partial static equilibrium simulations" employing LIS household data conclude that "in countries where there is no proper safety net, a UBI can be part of the debate as an option for the design of income-support mechanisms" in addition "putting forward UBI-type programs as a possible option if inclusiveness is of high concern and lack of coverage and non-take-up (of transfers) seen as an issue".

While also arguing "the usefulness of broadening the horizon when discussing universal programs and looking for ways to make social protection systems adequate for facing future challenges". Citing for example, in "an economic environment where job security decreases, and income volatility increases, expanding available insurance mechanisms for those who are

out of work may become an important policy objective; similarly, where there is a need to generate public support while protecting vulnerable households from undesired side effects of structural reforms that impact large segments of the population" as a UBI could prove beneficial in "protecting vulnerable households from undesired side effects of structural reforms that impact large segments of the population" (Francese & Prady, 2018).

Similarly Francese & Prady (2018) note much like Ghatak & Maniquet (2019) that "trade-offs and the design of a transfer program (have) implications that go beyond the performance of the specific scheme", explaining that "they are related to and impact how a country's overall benefit-tax system affects individual behaviours" of which "are not captured by the static simulations presented in the paper" of which bear "far-reaching implications for the labour market, consumption and investment decisions that will in turn impact back the fiscal sustainability of the tax-and-transfer system" noting that "a broader discussion is needed, that would move beyond just looking at UBI in isolation to assessing whether a policy package encompassing a UBI would increase or decrease the distortionary impact of government policies and or improve/reduce the performance of a safety net".

Leaving reason to suggest that moving beyond the "static simulations presented in the paper" and including the "implications that go beyond the performance of the specific scheme", the implications of a universal basic income system upon individual behaviours and, in turn, the labour market, consumption and investment decisions would provide a more comprehensive and realistic understanding of the fiscal sustainability of the tax-and-transfer system under a UBI system. Supporting the reason that a UBI model that incorporates dynamic properties would be better in accurately indicating the policy implications of a universal basic income (Francese & Prady, 2018).

Similarly, Rigolini, et al., (2020), with the World Bank, through similarly employing an empirical micro level simulation methodology, find that a "UBI reform leads to significant distributional impacts.

While, in some countries, differences in poverty impacts remain modest, on average, a UBI reform would generate more winners than losers among the poorest segments of the population". Similarly, determining that a universal basic income reform would lower levels of poverty, furthering that the "less existing programs are poverty targeted, the more a UBI reform may be a viable instrument" finding that "generous UBI programs continue to have meaningful impacts on poverty, even when considering taxation, suggests that they might be viable policy options" supporting the underpinning concept that a UBI is a viable system for the reduction of poverty and justified for advanced further exploration (Rigolini, et al., 2020).

However, Rigolini, et al., (2020) state that "importantly, these findings do not account—or do so only indirectly—for other poverty-related aspects that may affect performance and that are not easily observable from survey and administrative data" such as "transaction costs to access benefits, stigma, leakages, etc" thus accounting for these "other poverty-related aspects that may affect performance" would prove beneficial in furthering our understanding on the reasoned beneficial policy of Universal basic income in reducing poverty, doing so within a comprehensive dynamic model would as such be an advantage.

1.4 Identifying Gaps Within Existent Research

Contemporary studies on cash transfer policies are well documented to have observed far-reaching impacts upon the individuals within society, impacting factors such as education, health, nutrition, employment, sense of empowerment, general well-being and interpersonal relationships, as well as having different effects upon genders, age groups and other disaggregated demographics.

While more recently, there has been sustained interest in the potential for universal cash transfers to insulate against unforeseen risk in a more adequate way than a targeted system, this has come in the form of calls for the need to consider policies such as an Emergency Basic Income against existent targeted measures within the context of the pandemic crisis as well as when considering future crisis. It is this that gives value to an exploration of the effects of an unconditional basic income system upon the decisions of individuals as well as the financial sustainability of the system itself as a result of those decision changes.

The research gap in the literature exploring basic income programs and their impact on economic decision-making is the relative absence of work that explores the interaction between income, risk, and economic decision-making. Despite the growing interest in basic income programs and their potential benefits, there remains a lack of consensus on the impact of these programs on economic growth, poverty reduction, inequality and, more recently, protection against economic crisis (Pinto, et al., 2021).

Existing studies on basic income programs tend to focus on either the macroeconomic effects of such programs or the microeconomic effects on individual behaviour and well-being. However, there is a gap in the literature focusing on the intersection of macro and microeconomic effects and the interplay between income, risk, and economic decision-making (Rizvi, et al., 2022).

Therefore, this study aims to provide a theoretical exploration of the impact of a lifetime basic income on economic decision-making in the presence of initial effort investment and risk. By developing a theoretical framework that considers the trade-off between risk and return in decision-making and the impact of a basic income on this trade-off, this study contributes to a deeper understanding of the complex interplay between income, risk, and economic decision-making.

Additionally, this study seeks to explore the potential for a theoretical model of a basic income to meet conditions related to affordability related to lifetime income growth.

Seeking to add evidence that assists policy-making efforts aimed at promoting economic growth and reducing poverty and inequality. By providing a robust theoretical foundation for the potential benefits of basic income programs, this study contributes to closing the research gap in the field and informs the development of policies aimed at improving the economic well-being of individuals and households.

1.5 Theoretical Framework and Assumptions

The theoretical model aims to explore the influence of a lifetime basic income on economic decision-making concerning initial investment and risk. The model aims to understand the trade-off between risk and return in decision-making and the impact of a basic income on this trade-off.

The model assumes that economic decision-makers must choose between two actions, action α_1 and action α_2, based on the expected return and risk associated with each action. Without a lifetime basic income, the model predicts that decision-makers will opt for action α_1, which is characterized by low-return and low-risk.

However, the presence of a lifetime basic income changes the decision-making process. The model predicts that, in this case, decision-makers will choose action α_2, which offers a high-return and high-risk opportunity. This shift in decision-making is driven by the availability of the basic income, providing a safety net that reduces the perceived risk associated with action α_2, making it more attractive to decision-makers.

The theoretical framework of the model centres on a rational and risk-averse economic decision-maker within the context of a Universal Basic Income (UBI) system. It focuses on understanding how the availability of a lifetime basic income influences economic decisions, particularly in situations involving initial investment and varying levels of risk. By examining the trade-off between risk and return in decision-making, the model provides insights into the impact of a basic income on individual choices and its potential implications for economic growth and welfare.

Decision-Making Framework

The model considers an economic decision-maker denoted as DM, facing two alternative actions, α_1 and α_2. Action α_1 represents a low-return, low-risk option, while action α_2 embodies a high-return, high-risk option. The DM's utility function, u(.), underpins the decision-making process and captures the individual's prudence and decreasing absolute risk aversion. The presence of the third derivative of the utility function, $u'''(.)$, reflects the DM's risk attitudes, with prudence characterizing the decision-maker's increasing risk aversion as potential losses grow larger (Menezes & Hansen, 1970; Kimball, 1993; Valcanover, et al., 2020).

A Lifetime Basic Income

The model incorporates a lifetime basic income, τ, as a constant per-period transfer to the decision-maker. The τ can represent either a one-off or a time-limited cash transfer. The central aim is to investigate how the introduction of a lifetime basic income influences the DM's choices between the two actions and how this impact aligns with real-world scenarios, such as small business owners or farmers facing choices related to crop investments.

Utility Function

The utility function $u(.)$ is assumed to be strictly increasing and concave, with the third derivative $u'''(.)$ being positive. This assumption captures the DM's prudence and risk-averse nature, which are essential for modelling rational decision-making under uncertainty.

Independence of Investment Returns

The model assumes that investment returns for action α_2 are independent and identically distributed (I.I.D) shocks witnessed at each subsequent period. This assumption reflects the uncertainty and randomness associated with the high-yield crop investment and aligns with the concept of I.I.D shocks widely used in economic modelling.

Identical Decision-Makers

The model's predictions are based on the premise that the economy comprises a mass of identical decision-makers. This assumption allows for the aggregation of individual decisions to examine the impact on the overall economy and the feasibility of funding the basic income as a mutual insurance scheme.

Affordability of Basic Income

The model assumes that the lifetime basic income is considered affordable when the transfer cost, τ, is less than the expected gain in output in each period. This ensures that the benefits of the basic income cover its costs, which is crucial for incentivizing policy makers to consider the basic income as sustainable. Additionally, the affordability of the lifetime basic income is a critical factor in the model's predictions as it assumes that the basic income is considered affordable when the transfer cost is less than the expected gain in output in each period, resulting in the basic income's return covering its costs.

This theoretical model explores the beginning of a potential impact of a lifetime basic income on economic decision-making and with implications for promoting economic growth, reducing poverty, and fostering risk-taking behaviour.

1.6 Constructing a Model of a Universal Basic Income: A Theoretical Approach

Consider a model whereby:

- There exists a time period, denoted by t, where $t = 0, 1, \ldots$
- A single perishable good is available within each time period.
- The decision maker (DM) faces a discount factor, δ where $0 < \delta \leq 1$, in addition there is a second discount factor for the lifetime basic income, denoted as δ_b, where $0 < \delta_b < 1$.
- An instantaneous utility function is given by, $u(.), u'(.) > 0, u''(.) < 0, u'''(.) > 0$, demonstrating the decision- maker's prudence and decreasing absolute risk aversion. (The third derivative of the utility function is called prudence.)
- With an initial endowment denoted as, ω_0.
- The decision-maker faces two actions, Actions $\alpha \in \{\alpha_1, \alpha_2\}$, representing the choice between a low-return, low-risk option (α_1) or a high-return, high-risk option (α_2) with an investment cost, K[11].

The instantaneous utility function $u(.)$ of the decision-maker, is assumed to be continuously differentiable. Furthermore, the first derivative of the utility function, $u'(.) > 0$, is characterised by increasing marginal utility, and the second derivative $u''(.) < 0$, by decreasing absolute risk aversion. The utility function's prudence, indicated by the positive third derivative $u''' > 0$, reflects the decision-maker's rational risk-averse nature and decreasing absolute risk aversion. This assumption of the decision-makers prudence is based in established economic theory, capturing the notion that the decision-maker becomes increasingly risk-averse when facing increasing potential losses.

Existing empirical literature further substantiates the assumption of prudence and decreasing absolute risk aversion in the utility function, a number of studies have provided empirical evidence supporting the validity of these assumptions. For instance, behavioural economics experiments have consistently observed individuals exhibiting higher degrees of risk aversion when facing potential losses compared to potential gains Menezes & Hansen, 1970; Kimball, 1993; Valcanover, et al., 2020. Moreover, research in decision-making under uncertainty has identified the phenomenon of prudence, wherein decision-makers display heightened risk aversion when confronted with unfavourable prospects (Menezes & Hansen, 1970; Kimball, 1993; Valcanover, et al., 2020).

Consider a lifetime basic income as a constant per period transfer, where $\tau \geq 0$ in perpetuity, with modifications for a one-off cash transfer ($\tau \geq 0$ at a point in time) and a time-limited cash transfer ($\tau \geq 0$ over a finite number of periods).

The payoff sequence associated with enacting the status quo course of action, α_1, is $u(\omega_0)$ at each $t = 0,1,2, \ldots$

[11] The generally inverse relationship between capital risk and market return is a widely studied economic phenomena, see (Petengill, et al., 1995; Bali & Zhou, 2016)

The payoff sequence associated with adopting the risky course of action, α_2, is $u(\omega_0 - K)$ at t = 0, followed by $u(\omega_0 - 1)$ with probability p and, $u(\omega_0 + g)$, with probability $1 - p$ at each $\tau \geq 1$, where $0 < l < g$ and $c > 0$.

The decision-maker (DM) must choose either action α_1 or action α_2 at t = 0. Consider the DM with a practical application, for instance, the interpretation that the DM may be a small business owner such as an arable farmer. Additionally, consider the potential actions of the DM; action α_1 or action α_2 with the practical interpretation of the choice between choosing to sow a high-yield crop (action α_2) that, however, grows with an increased risk of total failure relative to continuing to sow the low-yield crop that grows with a reliably low chance of total failure (action α_1)[12].

The decision to sow either crop is irreversible, as no crop can be re-sown. Sowing the high-yield, high-risk crop (action α_2) requires an initial new capital investment in necessary machinery, investment *K*, and with probability, p generates a positive return $g > l > 0$, where *l* is the loss with probability $1 - p$ in each subsequent period: the yield is an I.I.D shock (Independent and Identically Distributed) shock witnessed at each period subsequent to adoption. Once the farmer chooses the high-risk, high-return crop (action α_2), the alternative low-risk, low-return crop (action α_1) can no longer be chosen.

The expected yield is $pg + (1 - p)l > 0$

Let $Eu = pu(\omega_0 + g) + (1 - p)u(\omega_0 - l) > u(\omega_0)$

We assume that $Eu = pu(\omega_0 + g) + (1 - p)u(\omega_0 - l) > u(\omega_0)$

We assume that $Eu > u(\omega_0)$

At $t = 0$, without any form of basic income, payoffs are:

From α_1:

$$V(\alpha_1) = \sum_{t\geq 0} \delta^t \mathrm{u}(\omega_0) = \mathrm{u}(\omega_0) + \frac{\delta}{(1-\delta)}\mathrm{u}(\omega_0)$$

Equation 1.1 Decision-Maker's Utility Function Equation (i): Action (α_1) Without Basic Income

From α_2:

$$V(\alpha_2) = \mathrm{u}(\omega_0 - K) + \sum_{t\geq 0} \delta^t E\mathrm{u} = \mathrm{u}(\omega_0 - K) + \frac{\delta E\mathrm{u}}{(1-\delta)}$$

Equation 1.2 Decision-Maker's Utility Function Equation (ii): Action (α_2) Without Basic Income

[12] Practical analogies of this are numerous, for instance one possible example of a high-value, high-risk arable crop is potatoes. Potatoes can be highly profitable to grow because they have a high yield per square meter and sell at a high price globally market, however, they also have a high cost of production, requiring large amounts of irrigation and labour from planting to harvest, while also being vulnerable to various pests, diseases, and weather conditions. While a possible example of a low-value, low-risk arable crop is grass. Grass is a crop that... can be grown for hay, silage, grazing, or fuel. Grass has a low market value compared to other crops and also has a relatively low cost of production (Tripathi, et al., 2005; Pusateri, 1958).

Given a lifetime basic income consisting of a per period transfer τ, at $t = 0$,

Payoffs are:

From α_1:

$$V(\alpha_1;\tau) = \sum_{t\geq 0} \delta^t \mathrm{u}(\omega_0 + \tau) = \frac{\mathrm{u}(\omega_0 + \tau)}{(1-\delta)} + \frac{\delta}{(1-\delta)}\mathrm{u}(\omega_0 + \tau)$$

Equation 1.3 Decision-Maker's Utility Function Equation (iii): Action (α_1) With Lifetime Basic Income τ at t=*0*

From α_2:

$$V(\alpha_2;\tau) = u(\omega_0 + \tau) - K + \sum_{t\geq 1} \delta^t E_{\tau u} = \mathrm{u}(\omega_0 + \tau) - K + \frac{\delta E_{Tu}}{(1-\delta)}$$

Equation 1.4 Decision-Maker's Utility Function Equation (iv): Action (α_2) With Lifetime Basic Income τ at t=0

Where,

$$E_{\tau u} = pu(\omega_0 + g + \tau) + (1-p)\mathrm{u}(\omega_0 - l + \tau)$$

Equation 1.5 Combined Utility for Action α_2 With Lifetime Basic Income τ.

Proposition: There exists an interval $[\underline{K}, \overline{K}], \overline{K} > \underline{K} > 0$, such that when $K \in [\underline{K}, \overline{K}]$:

$$(i)\ V(\alpha_1) > V(\alpha_2)\ and\ (ii)\ V(\alpha_1;\tau) < V(\alpha_2;\tau) \text{ for some } \tau \in (0, pg + (1-p)l)$$

Equation 1.6 Proposition: Conditions for Selecting α_1 & α_2 With and Without a Lifetime Basic Income τ.

Intuitively the proposition establishes that there exists an interval $[\underline{K}, \overline{K}]$ such that when the initial investment cost *K* falls within this interval:

(i) The decision-maker will prefer the low-risk, low-return option α_1 without provision of a lifetime basic income, as the difference in payoffs between α_1 and α_2 is positive. This reflects the cautious prudent approach of the farmer, who opts for the reliable low-yield crop in the absence of additional support.

(ii) However, when a lifetime basic income of transfer τ is introduced, making it affordable within the bounds of $[\underline{K}, \overline{K}]$, the farmer's decision changes. The basic income boosts the farmer's income in each period, making the higher-risk, higher-return option α_2 more attractive. The basic income effectively acts as insurance, mitigating the risk associated with the high-yield crop and incentivizing the farmer to choose α_2. Thus, the existence of $[\underline{K}, \overline{K}]$, highlights the critical role of the affordability of the lifetime basic income in shaping the farmer's decision-making process.

By proof,

Step 1: Establish the expression for the difference in utilities between actions α_1 and α_2 without any form of basic income.

By Computation,

$$V(\alpha_1) - V(\alpha_2) = K + \frac{\delta}{(1-\delta)}[\mathrm{u}(\omega_0) - \big(pu(\omega_0 + g) + (1-p)u(\omega_0 - l)\big)]$$

Step 2: Assume that $u(\omega_0) - \big(pu(\omega_0 + g) + (1-p)u(\omega_0 - l)\big) < 0$ based on the assumptions about the utility function and the decision maker's prudence.

By assumption,

$$u(\omega_0) - \big(pu(\omega_0 + g) + (1-p)u(\omega_0 - l)\big) < 0$$

Step 3: Define the lower bound $\underline{K}$ for the investment cost K such that $\underline{K} = \frac{\delta}{(1-\delta)}[u(\omega_0) - \big(pu(\omega_0 + g) + (1-p)u(\omega_0 - l)\big)]$

As $u'(.) > 0$, there exists a $\underline{K} > 0$ such that,

$$\underline{K} = \frac{\delta}{(1-\delta)}[u(\omega_0) - \big(pu(\omega_0 + g) + (1-p)u(\omega_0 - l)\big)]$$

Equation 1.7 Definition of the Lower Bound $\underline{K}$ for the Investment Cost K

Step 4: Show that whenever $K < \underline{K},\ V(\alpha_1) - V(\alpha_2) > 0$, implying that α_1 is preferred over α_2 without the lifetime basic income.

Thus, whenever $K < \underline{K},\ V(\alpha_1) - V(\alpha_2) > 0$

Step 5: Establish the expression for the difference in utilities between α_1 and α_2 with a basic income transfer included (τ)

By Computation,

$$V(\alpha_1;\tau) - V(\alpha_2;\tau) = K + \frac{\delta}{(1-\delta)}[u(\omega_0+\tau) - \big(pu(\omega_0+g+\tau) + (1-p)u(\omega_0-l+\tau)\big)]$$

Step 6: Utilize the assumption that $pu''(\omega_0 + g + \tau) + (1 - p)\,u''(\omega_0 - l + \tau) > u''(\omega_0 + \tau)$ to compare the utilities for α_1 and α_2 with the lifetime basic income.

As $u'''(.) > 0$, we have that $pu''(\omega_0 + g + \tau) + (1 - p)\,u''(\omega_0 - l + \tau) > u''(\omega_0 + \tau)$

So that $p\,u(\omega_0 + g + \tau) + (1 - p)\,u(\omega_0 + \tau) > pu(\omega_0 + g) + (1-p)\,u(\omega_0)$

For each $\tau > 0$ and $pu(\omega_0 + g + \tau') + (1-p)u(\omega_0 - l + \tau') - u(\omega_0 + \tau') > pu(\omega_0 + g + \tau) + (1-p)u(\omega_0 - l + \tau) - u(\omega_0 + \tau)$ when $\tau' > \tau$

Step 7: Define the upper bound $\overline{K}$ for the investment cost $\overline{\mathrm{K}}$ such that $\overline{\mathrm{K}} = \frac{\delta}{(1-\delta)}[\mathrm{u}(\omega_0 + \mathrm{pg} + (1-\mathrm{p})\mathrm{l}) - \big(\mathrm{pu}(\omega_0 + \mathrm{g} + \mathrm{pg} + (1-\mathrm{p})\mathrm{l}) + (1-\mathrm{p})\mathrm{u}(\omega_0 - \mathrm{l} + \mathrm{pg} + (1-\mathrm{p})\mathrm{l})\big)]$

Let $\overline{K} > 0$ be such that,

$$\overline{K} = \frac{\delta}{(1-\delta)}[u(\omega_0 + pg + (1-p)l) - \big(pu(\omega_0 + g + pg + (1-p)l) + (1-p)u(\omega_0 - l + pg + (1-p)l)\big)]$$

Equation 1.8 Definition of the Upper Bound $\overline{\mathrm{K}}$ for the Investment Cost $\overline{\mathrm{K}}$

Step 8: Show that for each $K \in (\underline{K}, \overline{K})$, there exists $\tau < pg + (1-p)l$ such that $(\alpha_2;\tau) > V(\alpha_1;\tau)$, indicating that α_2 is preferred over α_1 with the inclusion of an affordable lifetime basic income.

Note that $\overline{K} > \underline{K}$ and for each $K \in (\underline{K}, \overline{K})$, there exists,

$$\tau < pg + (1-p)l$$

Equation 1.9 Range of τ Values Within Which the Lifetime Basic Income is Considered Affordable

such that $V(\alpha_2;\tau) > V(\alpha_1;\tau)$

Step 9: Concluding that the proposition demonstrates the conditions under which α_1 or α_2 is chosen based on the affordability of the lifetime basic income, and how it impacts the decision-maker's preferences.

The existence of the interval $[\underline{K}, \overline{K}]$ highlights the critical role of the investment cost in determining the DM's choice. Additionally, the results reveal that a self-sustaining lifetime basic income is feasible under certain conditions,

Thus, the proposition demonstrates that if the initial effort investment is within a bounded range, then:

1. Without a lifetime basic income, the low return low risk (action α_1) will be chosen.

2. When including an affordable lifetime basic income, the high return and high risk (action α_2) will be chosen.

The lifetime basic income is considered affordable when the transfer cost is less than the expected gain in output in each period, ensuring that the benefits of the basic income cover its costs, making it self-sustaining.

> *Thus, in an economy consisting of a mass of identical decision-makers or, in our practical example, farmers, the additional income generated on aggregate when each decision-maker chooses (action α_2) will be $pg + (1-p)l$. As such, a lifetime basic income is able to be funded as a mutual insurance scheme from the additional funds generated within the economy.*

In practical terms, the proposition's implications underscore the significance of policy decisions concerning potential basic income schemes, particularly in encouraging risk-taking behaviour, fostering investment in higher-yield activities, and inducing economic growth. Implying the viability and long-term sustainability of such policies depends on ensuring that the basic income transfer cost remains within the interval $[\underline{K}, \overline{K}]$, where it does not exceed the expected gain in output from the high-return investment action.

By providing an affordable lifetime basic income, policymakers can incentivize decision-makers to opt for riskier, but potentially more productive, actions, thereby contributing to economic growth. However, it is necessary to acknowledge that accurate estimations of probabilities, potential gains, and potential losses would be essential for the effective implementation of these policies. Moreover, the degree of prudence and risk aversion among individual decision-makers can vary, as individual decision-makers may exhibit heterogeneous risk preferences both cross-sectionally within time and continually through time, as macroeconomic circumstances shift, impacting their response to the basic incomes risk insulating effect. Therefore, further empirical research is warranted to ensure the successful implementation of basic income schemes in varying national contexts before policy enactment[13].

[13] To better implement in practical terms, accurate estimations of probabilities, potential gains *(g),* and potential losses *(l)* are essential. To acquire relevant data, a combination of historical records and econometric techniques may be employed. For instance, running with the practical instance of the small arable farmer, historical yield data for feasible high-yield crops and low-yield crops could be used to estimate the probabilities *p* and *1-p,*

1.7 Conclusion: Summary & Implications

In conclusion, the implications of this model suggest that the implementation of a lifetime basic income can significantly impact the decision-making process of decision-making individuals. Without the lifetime basic income, the low return low risk (action α_1) is taken while, when an affordable lifetime basic income is implemented, the high return high risk (action α_2) is taken.

As the affordability of the basic income is defined by the transfer cost being less than the expected gain in output, the basic income is determined to pay for itself and so can be funded as a mutual insurance scheme from the additional funds generated within the system, resulting in a beneficial overall increase in aggregate income.

These findings present significant real-world applications in several areas, particularly in the further development of welfare policies aimed at improving the economic well-being of individuals and communities. In particular, the findings suggest that the provision of an affordable lifetime basic income can lead to an increase in the adoption of high-return-high-risk investment decision-making; this, in turn, can lead to an increase in income and economic growth, which can have positive impacts on poverty reduction and income equality.

Further, the mutual insurance scheme concept may have the potential to be applied in other settings beyond agriculture and could offer a promising strategy for financing national basic income programs in an economically sustainable manner.

Furthermore, these findings may also have implications for the design of national insurance programs, as they highlight the importance of considering the interaction between risk and income in decision-making. Providing valuable insights into the potential benefits and challenges of implementing basic income programs can inform policy-making efforts to promote economic growth and reduce poverty and inequality.

Moreover, the findings suggest that a basic income system can be self-financing, which is an important consideration. The mutual insurance scheme concept, where the additional funds generated from the increased economic activity can be used to finance the basic income, provides a unique model for financing welfare systems that are sustainable and equitable. This can have important implications for countries and regions facing budget constraints and economic challenges.

Overall, this model provides a theoretical foundation for the potential benefits of basic income programs and can inform policy-making efforts to promote economic growth and reduce poverty and inequality within budgetary constraints and individual aversion to risk, often presenting difficulty in reality. These findings are useful as they contribute to a deeper understanding of the interplay between income, risk, and economic decision-making.

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while data on past investments and their subsequent returns could inform the estimation of g and l. Moreover, conducting experiments or surveys to elicit risk preferences from decision-makers in the target industry, enabling a better understanding of the parameter values in this model, particularly in how they may shift over the evolution of the wider business-cycle. Allowing for practical robustness checks in addition to the inclusion of heterogeneous agents with varying degrees of risk aversion.

Specifically supporting the observations of Banerjee, et al., (2019), Ghatak & Maniquet (2019) and Handa, et al., (2016). Who have similarly determined via theoretical explorative methods and through the review of instances of near-basic income case study data that unconditional cash transfers can provide substantial positive benefits towards the growth of assets and earnings as well as the reduction of immediate poverty. While additionally further supporting the findings of Banerjee, et al., (2019) in identifying the feasibility of such an income transfer system to also do so to a degree that would allow for the transfer scheme to be considered affordable by a policy maker. Providing further conceptual evidence to support the greater exploration of a universal basic income as a practical policy tool for alleviating monetary poverty.

Further providing insight towards the gap in the existent literature relating to the theoretical effects of an unconditional cash transfer system in the context of providing protection during an income crisis as identified by Pinto, et al., (2021). Extending the volume of understanding regarding the existing deficit in theoretical exploration of the intersection of macro and microeconomic effects and the interplay between income, risk, and economic decision-making recognised by Rizvi, et al., (2022).

1.7.1 Key Findings in Light of the 2020 Crisis

The model's conclusion may be further contextualised within the context of the notion of the *Emergency Basic Income* and recent crisis, where we consider the framework of using liquid cash support to insulate individuals against unforeseen negative income shocks. This is a pressing issue, as discussions surrounding the benefits of a universal welfare system have grown dramatically over the course of the recent crisis among those in "vulnerable employment situations" as well as within the context of sustainable welfare policies in low- and middle-income countries where individuals and households are often exposed to a range of economic risks, such as job loss, illness, and natural disasters, which can result in sudden reductions in income (Nettle, et al., 2021).

In this context, providing an affordable lifetime basic income could potentially serve as a valuable tool for reducing the economic vulnerability of individuals and households to oncoming crisis situations. The implications suggest that a basic income can increase the adoption of high-risk, high-return investment options, which with the addition of the cash transfer can provide a buffer against negative income shocks and increase overall economic activity and growth, enabling a potential path out of poverty despite future crisis. Furthermore, the mutual insurance scheme concept provides a potentially sustainable model for financing basic income programs that can be self-financing, thus reducing the burden on government budgets.

Overall, the results of the theoretical exploration can inform the development of policies aimed at improving the economic well-being of individuals and households in the face of negative income shocks. Providing an affordable lifetime basic income via a mutual insurance scheme could serve as a valuable tool for reducing economic vulnerabilities and promoting economic growth and development. These findings are of interest to policymakers, economists, sociologists, and development professionals, as they contribute to a deeper understanding of the interaction of income, risk, and economic decision-making in the context of negative income shocks, which have been somewhat prevalent globally in recent years.

While this model provides theoretical insight, further exploration of an individual's micro-level reaction, decision-making changes, and the effects and perceptions upon a basic income to deliver other necessary aspects of welfare, specifically during times of crisis, would be beneficial.

2 Chapter Two: The Evolution of Media Narratives Surrounding Basic Income During Crisis: A Quantified Thematic Analysis of Pre- and Post-Pandemic Periods

2.1.1 Introduction

It has become evident that unique forms of unforeseeable crisis can bring about economic instability; regardless of what form these crises may present themselves in, the underlying lesson to be understood is that welfare systems can represent the last line of defence against destitution and facilitate the return to prosperity for those who find themselves at the receiving end of the adverse effects of an unforeseeable crisis. As such, welfare systems are of great importance in preserving the living standards for millions and keeping the prosperity of wider society afloat.

Thus, it is critical to understand how models of welfare systems fit the needs of individuals during normal times and during times of crisis.

This Chapter aims to determine and explore the narratives of basic income within the print news media of the UK from April 1st, 2018, to April 1st 2019, to establish a baseline from which we can use to understand how these narratives changed and evolved during the COVID-19 crisis of 2020. This is done through determining and exploring the narratives of basic income within the print news media of the UK from April 1st 2020 to April 1st 2021 via conducting a comprehensive narrative analysis, enabling the exploration of how national media narratives surrounding the policy changed and evolved over the period of the crisis.

The data set used was extracted from Lexis Nexis Academic UK, a complete data base of published news articles and legal papers, which can be filtered and collected by keyword and by date of publication.

The two corpora of articles are coded and examined using a thematic analysis methodology, allowing for qualitative codes to be quantified and compared. After this, themes could be identified, explaining how the coded points together weaved a broader narrative of discussion regarding basic income in both the pre-covid year and how this evolved and changed during the Covid pandemic. From which the two narratives can be compared in the final narrative analysis to fully understand how the print news media narrative of basic income changed between the two periods, culminating in the defining of what is termed *A New Crisis Narrative of Basic Income.*

2.1.1.1 Foundational Definitions

2.1.1.1.1 What is a Basic Income?

In essence, a Universal Basic Income (UBI or Basic Income) is fundamentally a financial transfer policy in which every citizen of a population is entitled within the law to a regular

monetary sum paid without requiring any means-testing. For the purpose of this study, we will be utilising the definitions laid out in Nettle, et al., (2021):

"A universal basic income is a social security system where every citizen is paid a modest guaranteed income every month, just enough to cover basic necessities. The payment is the same for everyone. The payment is not conditional on what other earnings the person has and they do not have to do anything in particular to receive it" (Nettle, et al., 2021)

2.1.1.1.2 What are Targeted Transfers?

The traditional model of welfare known as a targeted transfer system exists with the aim not to provide unconditional monetary support on a universal basis but instead aims to target only those who qualify as in need for exactly as long as they remain in need. This is determined via regular means testing, and support is often provided through a variety of channels, such as the direct provision of goods, services or vouchers. Means-testing of need is determined, and support is supplied conditionally with eligibility requirements, such as evidence of actively seeking employment or participation in employability skills schemes, for example. Within this study, we will be utilising the definitions laid out in Nettle, et al., (2021):

"A type of system is called a targeted welfare system. Here, assistance is only available to people who meet certain eligibility criteria, for example if they are unable to work or have a low income. Some people are eligible for more, and others to nothing, under this system. People who believe they are eligible have to apply, and their circumstances are then assessed. People's eligibility may change if their circumstances change" (Nettle, et al., 2021).

2.1.1.1.3 Why is the Difference Significant?

Fundamentally the difference is important as it illustrates exactly how an institution critical to the quality of life and the prosperity of many individuals, in addition to wider society such as welfare, can be designed in entirely different ways and from this, satisfy the needs, wants and preferences of different areas of society at the expense of other areas. By understanding this balance further, we can better accommodate needs, wants and preferences when designing social welfare policy.

2.1.1.1.4 Existing Research on Basic Income

Existing Research is centred mainly around a handful of pilot studies of varying sizes focused upon the short to medium-term readily measurable effects of implementing a basic income, such as changes in levels of household incomes, employment, and self-reported measures of well-being. Generally, prior to 2020, policy preference research remained relatively scarce:

"Contrary to extravagant claims by some critics that there is no evidence on the impact of basic income, there have been a series of experiments that have yielded relevant findings. Most have not been complete basic income pilots, but most have been flagged as testing basic income and have important features of a proper basic income, such as non-conditionality" (Standing, 2019)*".*

2.1.1.1.5 The Pandemic of 2020: The COVID-19 Crisis

Despite only first being identified in December 2019, the novel virus SARS-CoV-2 forced the World Health Organisation to declare a Public Health emergency of international concern on the 30th of January 2020 and a full state of pandemic by the 11th of March 2020. This passed the onus of further response onto national governments, of which the vast majority came to embrace measures of social distancing in an attempt to limit spread which later evolved into total national lockdown measures with the desire to completely prohibit further transmission of the virus (The World Health Organisation, 2022).

What followed was a period of unprecedented uncertainty and a rapid new distribution of winners and losers as direct result of the new status quo, which, as many came to speculate, could come to instigate a new socio-economic reality as national lockdowns extended and infection levels rose and fell in seemingly endless volumes of waves (IMF, 2020).

This new socioeconomic reality presented its-self as a bleak alternative to the previous one; beginning on February 27th 2020, US stock indexes posted their sharpest decline since the financial crisis of 2008, furthering to UK markets which saw their sharpest drop since Black Monday of 1987 on March 12th, all in anticipation of the now imminent prospect of vast swathes of the economy being indefinitely mothballed, forcing countless individuals into a state of effective unemployment, crippling domestic consumption, aggregate investment and tax revenues, all at a time when a mass of people who prior to the pandemic would never have expected to find themselves attempting to seek support from the welfare system, now had to attempt to sign on, meet conditionality criteria and receive support in order to prevent their long worked for standards of living from collapsing (Rowles, 2020).

The first national lockdown within the UK was imposed on the 23rd of March 2020; large numbers of people now found themselves in an unexpected and indefinite state of income insecurity as many sectors were entirely shut down, with no sector un-effected in some form. The first national lockdown extended well beyond its initially intended lifetime, continuing in a reduced form until September 2020, only to be replaced by further national lockdowns between October 2020 to January 2021.

A patchwork of conditional welfare measures were hurriedly implemented with the aim of reducing devastation to whichever sector or demographic was under particular restriction at that point in time, such as the "Coronavirus Job Retention Scheme", "Job Retention Bonus", "Job Support Scheme", "Self-Employment Income Support Scheme", "Pandemic Relief Business Grants & Loans" as well as "Eat Out to Help Out", to name a few (House of Commons Library, 2021). As the volume of schemes expanded, so did criticisms of the misallocation of funds, exclusion of those in need, excessive bureaucracy, and the accumulating potential for fraud (Booth, 2020).

As vaccination rates began to increase from the beginning of 2021, so did the gradual easing of restrictions upon economic activity and daily life (House of Commons Library, 2021). It is without a doubt that the period of crisis experienced between April 2020 to April 2021 changed economic circumstances and perspectives to a magnitude without modern historical precedent but also changed the relationship between the interaction between individuals with the media and the welfare system. As on a near daily basis, it was required that each individual would wake up and study morning newsprint to learn if they were able to continue working for income or instead had to try to sustain themselves through attempting to access the rapidly evolving crisis welfare system, in many cases for the very first time.

2.1.1.2 Existing Research on Basic Income Following the Pandemic

Recently through the deployment of survey response polling research, an uptick in support for basic income has been found generally in the context of the pandemic. However, within Nettle, et al., 2021 basic income was simply defined, and then popularity was measured, among number of respondents and thus has limitations in telling us if this perception is carried over to the broader population; many of which who may or may not even have encountered the very topic of the concept of a Basic Income style welfare system.

It may be helpful to examine further to see if this finding can be observed within the national dialogue and explore the very specifics of why, how and by what means this policy preference shift may have come to be. Filling the gap in knowledge of why there was increased support for Basic Income during the crisis, as identified in Nettle, et al., 2021:

> *"Our findings, as well as specifically demonstrating an increase in support for UBI as a consequence of the pandemic, contribute to a general view of political preference formation and the sources of social change"* (Nettle, et al., 2021)

2.1.1.2.1 Present Opportunity for Research

Considering this, there is a pressing need to further explore welfare system preference surrounding Basic Income nationally through news media policy presentation and discussion; this study aims to perform a comprehensive narrative analysis of the UK print media to present representative themes which can be drawn together into more expansive national narratives of the UK print media's discussion surrounding Basic Income. Doing so both prior to and during the pandemic, which can then be compared and contrasted to understand the aggregate narrative shift, providing insight to fill the gap in knowledge regarding the source of causality for increased support towards Basic Income during the pandemic, identified in Nettle, et al., 2021.

2.1.1.3 Narratives in Economics and Economic Crises

Narrative economics studies the spread and dynamics of popular narratives, particularly those of human interest and perception, and how these change through time and are frequently utilised to understand economic fluctuations. Narratives have been used to explain a wide variety of economic phenomena, from the great recession to the desire for the welfare state. Within welfare analysis, significant historical events are widely considered as shifting narratives and resulting in observable economic phenomena. An example is the connection between the collective horrors witnessed during the Second World War and the resultant desire for an expanded welfare and healthcare system in the UK (Kaza, 2002; Obinger & Schmitt, 2019).

Nobel Economist Rober Shiller argues that the application of narrative analysis through "studying popular stories that affect individual and collective economics behaviours" presents us with effective means to "vastly improve our ability to predict, prepare for, and lessen the damage of financial crises, recessions, depressions, and other major economic events". Shiller himself has applied narrative analysis to explore the spread of the effects of narratives upon market perceptions, such as through exploring theme change around narratives, for instance, "the belief that tech stocks can only go up, that housing prices never fall, or that some firms are too big to fail" concluding "whether true or false, stories like these—transmitted by word of mouth, by the news media, and increasingly by social media—drive the economy by driving our decisions about how and where to invest, how much to spend and save, and more" (Shiller, 2021).

Providing us with a definition of narrative economics:

> *"Narrative economics, the study of the spread and dynamics of popular narratives, the stories, particularly those of human interest and emotion, and how these change through time, to understand economic fluctuations"* (Shiller, 2017)

From this narrative economics presents us with the concept of identifying and observing narrative change, allowing us to understand better and predict the interaction between the populace and economic policy:

> *"This address considers the epidemiology of narratives relevant to economic fluctuations. The human brain has always been highly tuned toward narratives, whether factual or not, to justify ongoing actions, even such basic actions as spending and investing. Stories motivate and connect activities to deeply felt values and needs. Narratives "go viral" and spread far, even worldwide, with economic impact. The 1920–1921 Depression, the Great Depression of the 1930s, the so-called Great Recession of 2007–2009, and the contentious political-economic situation of today are considered as the results of the popular narratives of their respective times. Though these narratives are deeply human phenomena that are difficult to study in a scientific manner, quantitative analysis may help us gain a better understanding of these epidemics in the future"* (Shiller, 2017)

2.1.1.3.1 The Media and Narratives

In seeking to "measure the impact of narratives on issue cycles", McComas & Shanahan, (1999) conclude that "narrative considerations are evident in stories told in the mass media",

arguing that the mass media constitute "today's most visible and important storytellers" were "for news media, these include decisions about storylines, actors and themes that take into account shared social realities of storyteller and audience". Arguing that "narratives contribute to the formation and maintenance of values and value systems which are tightly linked with beliefs, attitudes and behaviours" and that fundamentally ", narratives use a specific temporal order of events to construct meanings" and thus "when discussing coverage over a specific time interval, narratives seem particularly relevant".

Within communication theory, Bormann (2009) describes how "shared social experiences and storytelling contribute to the appearance of "group consciousness" more so than "individual experience". With Fisher, Hoff, Robertson, & Hurst (2008) going further to describe humans as "*homo narrans*" or "storytelling beings", offering a paradigm whereby humans hold the judgement of observed narrative as the "master metaphor", of which "subsumes all other means of communication", using perceived narrative as the "primary influence" when "constructing meaning and realities about the world". Further describing that the means to judge narrative is "acquired socially through shared sets of experiences", of which primarily emanate through society via the media as "arguably today's most visible and important storytellers" (McComas & Shanahan, 1999).

2.1.1.3.2 The 2020 Pandemic, Narratives and Basic Income

As Shiller (2021) outlines, narratives do not develop at a consistent rate; some stories shared throughout society resonate, form narratives and influence perceptions more effectively than others. To demonstrate this, Shiller outlines the impact of the coverage of the May 25th, 2020, death in Minneapolis of George Floyd, linking it to a narrative shift in perceptions of the US national police force and media discourse surrounding stories of individuals interacting with police. Describing how from this, we have observed: "a rush of protests against police brutality and racism, not just in the United States but also the world", instigating a "new public consciousness of police brutality" from which "this narrative may lead to fundamental economic changes, involving not just police departments but also labour unions and other institutions, with additional impacts on inequality and economic growth and welfare" all instigated through the media presenting "a video capturing reality in a deeply distressing manner" (Shiller, 2021).

From this, Shiller (2021) goes one step further to hypothesise that the global covid-19 pandemic would likely be an event of sufficient magnitude to alter narratives, stating:

> *"We know that fluctuation and differences in economies are substantially driven by swirls of multiple narrative epidemics, and, as Covid-19 reminds us, sometimes by disease epidemics too. At any given time, some of these epidemics are expanding in their impact, some peaking, some fading. It is becoming clear that economic prognosticators must observe this reality. Viral popular narratives that are plausibly motivating for economic decisions should themselves be seriously studied and their time paths over years and decades mapped"*
> (Shiller, 2021)

In addition to this view that major events that significantly alter media discourse can bring about narrative change and thus change social perceptions presented by Shiller similarly,

Nettle, Johnson, Johnson and Saxe theorise that the Covid-19 pandemic not only would be of sufficient magnitude to alter the "structured psychology" of "intuitive political preference" but also that it measurably has done so, observing "that people expressed stronger support for UBI for the context of the pandemic and its aftermath than for normal times**"** (Nettle, et al., 2021)**.**

"Nettle and Saxe (2020) argue that intuitive political preferences are not fixed individual differences variables but are continuously generated by structured psychology that is highly responsive to situational features. In other words, the same people generate different ideas for how a society should work in wartime than peacetime. They do so because they spontaneously represent and infer the demands and difficulties of each situation, leading them to weight possible advantages and disadvantages differently as the situation changes.

The COVID-19 pandemic has changed the social and economic situation in massive ways for millions of people. It would be problematic for that view if we did not observe large pandemic-related changes in perceptions of what features of a social policy were important, and hence which policies were preferred" (Nettle, et al., 2021)

Additionally, Nettle, et al., (2021), drawing on Breitnauer (2020), describe that this hypothesis is well within studied historical precedent; "historical accounts of how societies change, particularly in regard to the expansion of social assistance and universal services, often stress the role of large exogenous events" (Nettle, et al., 2021). For example, expanded welfare provision has been linked historically to the experience of war (Kaza, 2002; Obinger & Schmitt, 2019), and the influenza pandemic of 1918–1919 has been implicated in the gradual creation of universal access to health care (Breitnauer, 2020).

Therefore this investigation aims to enhance the understanding of how the COVID-19 crisis may have influenced perceptions of Basic Income, leading to its increased popularity during times of crisis, as observed by Nettle et al. (2021).This will be achieved by utilising a narrative analysis to examine how news media narratives have evolved and how they have shaped public perception of Basic Income and social welfare on a national scale. Specifically, we will explore the link between news media and narrative change, aiming to uncover the transforming media themes and new narratives surrounding Basic Income. By doing so, we seek to shed light on the mechanisms driving the shift in public opinion during crisis periods.

2.1.1.3.3 Research Aims

Nettle et al. (2021) identified that the influence of the pandemic shifts social policy preference towards that of basic income. They explain the reasoning behind this by hypothesising that as the COVID-19 pandemic has changed the social and economic situation in massive ways for millions of people, it would be expected that significant pandemic-related shifts in perceptions of what features of a social policy were important would occur, and hence which policies were preferred.

This hypothesis would likely be supported by Shiller (2021) through the analytical lens of narrative economics whereby impactful socially shared events could change narratives of

perspective and discussion so much so that there could be real-world shifts in economic policy preference, which Shiller did explicitly hypothesise the pandemic would constitute.

This hypothesis would be supported by the communication theorists such as Bormann (2009), who advocated that shared social experience was the primary contributor to instances of "group consciousness" as well as Fisher et al., (2008), who advocate narrative as the primary influence when "constructing meaning and realities about the world". While McComas & Shanahan (1999) advances the notion that this narrative change was likely generated and disseminated by the media as "today's most visible and important storytellers" from which "narrative considerations are evident in stories told in the mass media".

Based upon this theoretical lens, this study seeks to deploy a thematic analytical methodology to identify if and how narratives may have shifted within the UK written news media regarding basic income during the Covid-19 crisis. Seeking to find a better understanding of the increase in support for Basic Income during the crisis as observed by Nettle et al. (2021) via the application of Schiller's Narrative economic concepts that narrative shift can result in an economic change in conjunction with assertions from the communication theorists, McComas & Shanahan (1999) and Fisher et al., (2008) who identify the central role that the media plays in narrative construction and change.

2.1.2 Basic Income & the Global Pandemic: Contemporary Research

As the COVID-19 global health crisis has only existed for a couple of years, research on basic income as an interventional tool during this crisis remains scarce but not entirely non-existent. Within the Give-Directly basic income study, the "world's largest and longest-term experiment to date studying the effects of universal basic income", initial results of the effects of UBI during the COVID-19 crisis have been released (Haushofer & Shapiro, 2018).

Using survey data Banerjee, Faye, Krueger, Niehaus, & Suri (2020), explored the effects of transfers upon measures of individual well-being, public health and monetary measures that the aggregate shock may have negatively impacted. Within the study, they found that "transfers significantly improved well-being on common measures such as hunger, sickness and depression despite the pandemic". Furthermore, the basic income recipients noted that the transfers "may have had public health benefits, as they reduced hospital visits and decreased social (but not commercial) interactions that influence contagion rates". While finding that concerning financial resilience, transfer recipients saw greater losses of non-agricultural enterprise income during the shock, as previous gains they had made through the creation of new businesses were reversed. Further transfer recipients saw a greater drop in income overall due to having access to additional income sources established prior reversed they remained sheltered from the effects and saw "smaller increases in hunger".

Leading to the conclusion that "in the context of a large unanticipated shock like COVID-19, access to a generous pre-existing UBI has modest positive effects on a range of measures of well-being" and that, as a whole, "the ability to access income supplements helped during the pandemic" as such "strengthens the case for building the infrastructure for making universal cash transfers that can be activated at short notice and can be used to deliver additional cash in response to unanticipated crises".

The additional study on the effects of cash transfers during times of crisis comes from the context of the devastating hurricanes that hit Puerto Rico and Texas in 2017. The NGO GiveDirectly provided nearly $10 million in direct cash transfers to "hard-hit, low-income families" who were severely affected by the disaster (Haushofer & Shapiro, 2018). Through a mixed method evaluation employing "recipient surveys, focus group discussions and reported spending" and "thematic analysis individual interviews", they found that the recipients reported that the direct cash transfers had a broad "impact across many aspects of their lives". With 48.3% of Texans and 70.5% of Puerto Ricans who received financial benefits stating that cash transfers helped them avoid taking out interest incurring debt, 13.1% and 7.6% reported that the transfers helped them avoid losing their job combined with 20.3% and 13.9% reporting that the transfers aided them in returning to work more quickly. While additionally reporting health benefits ranging from 22% of Texans and 62.2% of Puerto Ricans stating that the transfers helped them avoid unsafe living conditions, in addition to 15.6% and 43.8% reporting that the cash transfer helped them maintain their health and a massive 55% and 98% of recipients reporting that they experienced stress reduction as a result of the direct cash transfer during the disaster. Culminating in 93% of Texan recipients and 84% of the Puerto Rican recipients assessing that they expect to be still incurring benefits from the direct cash transfer aid up to a year from receipt (Haushofer & Shapiro, 2018).

Their results suggest that not only did the transfers help recipients financially, materially, and physically during the disaster, but when compared to non-monetary standard aid alternatives, the recipients reported an overwhelming preference for cash over in-kind-support, with "near unanimous support" for cash over standard aid forms in Texas at a 95% preference and a similarly large 80% in Puerto Rico. While additionally, they observed a recurrent theme of recipients citing "intrinsic value on the signal of trust and respect that cash transfers embody", with many citing the "emotion" of feelings of returned "autonomy and independence" that cash had given to them during the time of crisis (Haushofer & Shapiro, 2018).

Finally, concluding that not only do "recipients themselves prefer cash" as "the needs of recipients vary" but "cash is cost-effective" when evaluated against goods transfers for benefiting recipients financially, materially and physically in the event of a disaster (Haushofer & Shapiro, 2018).

This carries further as Patel & Kariel (2021) draw a comparison to what has been gathered within existing basic income pilot study data, applying that to data from late 2020 to early 2021 in the UK. Identifying that "In the recent Open-Safely study of over 17 million adults in the UK, deprivation status was strongly associated with covid-19 mortality" and as such, "poverty and stagnant income growth are inextricably entwined with poorer health outcomes", so "welfare programmes (that) were often criticised as unable to deal with economic changes, such as the threat of automation and rise in flexible work" have left many exposed to the dangers presented by the Pandemic (Patel & Kariel, 2021).

Going on to cite the many positive health and poverty-related outcomes that have been observed within basic income style welfare system trials so far, such as "a review of 24 cash transfer trials in sub-Saharan Africa looked at social determinants of health. All eight studies examining the financial effect found that short-term poverty was reduced. Nine of 11 trials looking at healthcare use reported a positive effect, including an increased likelihood of seeking healthcare when seriously unwell. Pre-Pandemic evidence from five out of six trials in Latin America reported a considerable reduction in short-term poverty with universal basic income, while in Brazil, poverty has fallen to its lowest level in 40 years as about a quarter of the population has been receiving monthly cash payments of $110 since March 2020" (Patel & Kariel, 2021).

Concluding that "since March 2020, rising inequality and drastic changes to the labour market have forced governments to implement economic initiatives, such as basic income programmes, that previously would have been politically untenable" and that further, as a direct result of the pandemic "Poverty is increasing, and this damages the health of the most vulnerable members of society. Fiscally conservative governments are backtracking on previously inconceivable economic spending because of ballooning unemployment rates and shrinking economies. Universal basic income, or a variant, may help economic and health outcomes once normality resumes" (Patel & Kariel, 2021).

Similarly, Stahl & MacEachen agree that "the COVID-19 pandemic has opened up thinking about how our social security programs, including workers' compensation, function and whether they are able to provide adequate support to people in the context of today's difficult health and work conditions". Identifying that "at present, with COVID-19, we have a dramatic situation of un- and under-employment for which there are no ready policy

remedies" and that "Instead, we have seen emergency limited-term hand-outs, such as the pay-out of $1200 to all US citizens with a gross income less than $75,000–$150,000 in April 2020 and the Canadian Emergency Response Benefit that provided $500 per week to Canadian citizens who have stopped working due to COVID-19". That "although not universal" benefit has "extended to groups who had previously not been recognized as possible recipients of unemployment benefits, including self-employed, gig workers and part-time workers" all of which had been exposed as dangerously un-covered within the existing system in the event of an unexpected income shock such as the pandemic" (Ståhl & MacEachen, 2020).

Due to this, Ståhl & MacEachen (2020) identify that "a temporary variety of UBI has become a popular suggestion during the COVID-19 pandemic as a way of combatting challenges during a specific time of crisis". Where they identified four points as the general reasoning with those being; "(firstly) it serves as a cushion for people who are un- or under-employed during the crisis; (secondly) it also serves as a cushion for people who need to keep working—the essential workers—who often have relatively low wages and could benefit from a bonus that recognizes their contribution to society; (thirdly) it serves as a stimulus for the economy as a whole and limits multiplier effects; and (fourthly) it is simpler than other policies, as it involves fewer transaction costs and less bureaucracy (such as delays due to determining eligibility)".

Additionally, Ståhl & MacEachen (2020) identify that "COVID-19 has brought previously less visible problems into view—such as inequalities in the labour market with regard to income and working conditions, and the fragility of the economy which is apparently not equipped to deal with extreme external shocks" furthering that "a flexible labour market, while advantageous to employers, poses a problem for workers who have to survive through employment in precarious or self-employed gig jobs where social security systems are not designed for such non-standard employment contracts. While UBI provides an option for the widespread unemployment that has occurred with the COVID-19 pandemic, experiences from the crisis also provoke the question of whether current social security systems are sufficient for security in a flexible economy".

Additionally, further describing that "the main advantage of UBI is that it offers financial stability to individuals, which is never uncertain or questioned. This would likely most benefit disadvantaged workers, such as people working in precarious jobs or in the gig economy, as UBI would reduce the stress of irregular income (for instance, zero-hours contracts & varying 'gig economy' income) or losing one's income. It could also serve as a safety net for those not qualifying for other benefits due to weak employment status without stigmatizing the recipients. Further, in the context of COVID-19, UBI would support the temporary workers who see their livelihood vanishing with the crumbling economy". Concluding that as a result, "the COVID-19 pandemic has led to the idea of UBI taking root in the imagination of some policymakers" (Ståhl & MacEachen, 2020).

Similarly, Prabhakar (2020) suggests that "the global pandemic has already prompted some sceptics to rethink their views on a universal basic income" as "Covid-19 presents the need for rapid and immediate relief" and that further as "It may be very complex to devise rapid and targeted help, and so universal income payments have the virtue of simplicity".

While pointing out that although “affordability is at the heart of the adequacy objection. This objection might make more sense in usual times” and that with regard to the role of state-provided welfare moving forward, “Covid-19 seems to have enlarged the realm of the possible for public spending” creating “the immediate priority” (to) “provide emergency help, and this has entailed mass state spending”. As such resulting in “previous ideas about what is unaffordable (to) no longer hold” and thus, “according to this argument, the coronavirus crisis has shown the extent to which government spending is driven by political choices; a universal basic income might therefore be deemed to be affordable” (Prabhakar, 2020).

Leading to the assertion that as “Covid-19 has caused a major shock to the economy”, observationally “one initial response has been to refuel calls for a universal basic income”, but “despite the flurry of interest, Covid-19 is unlikely to change the core arguments over a universal basic income” and that for the moment “the coronavirus makes a case for temporary emergency income payments. Turning these temporary payments into permanent ones requires engaging with the more usual arguments over a basic income heard in more usual times” (Prabhakar, 2020).

2.1.2.1 Methodological Justification

This Chapter will employ a thematic analysis methodology; when analysing data of this nature, the thematic analysis presents itself as useful in its flexibility, rather than entering analysis with preconceived inflexible notions of what we expect to find or not find, thematic analysis allows us to discover and incorporate a wider range of factors when answering our research questions. Thematic analysis is effective for analysing non-empirical data sets of texts, interview transcripts, survey responses, social media data or other longer qualitative sources.

Enabling us to effectively analyse sources and data sets which often remain impenetrable to many forms of empirical analysis, thematic qualitative analysis allows us to collect and process data that provides findings on people’s views, knowledge, opinions, experiences, or values, from which important research findings can be derived.

Although advantageous in its flexibility, a qualitative thematic analytical methodology is invariably less concrete in its analytical output than a purely quantitative method by some degree, as any qualitative analysis incorporates an element of subjectivity, relying on the researcher’s judgement, presenting risks of error such as missing nuances within the data, overlooking of present themes, making observations that are possibly absent or even unknowingly incorporating a bias. It is crucial to fully understand the variance of approaches within the thematic analysis, identify which are appropriate, and recognise which should be implemented for this data.

The first to consider is precisely by what themes the thematic analysis will be performed, this being discerned via which of two fundamental approaches we derive them by, specifically if we employ an inductive approach to determine our themes or through utilising a more deductive approach. The inductive and deductive approaches differ largely, with an inductive approach involving collecting the data, familiarising the researcher with the data and then deriving the important themes from the data itself.

Whereas a deductive approach would differ from this largely by approaching the data with some preconceived themes that the researcher would expect to find and plan to explore within the data, these preconceived themes are derived from existing theory or the researcher's stated theoretical framework. As such inductive and deductive approaches differ as an inductive approach serves as a more appropriate approach when attempting to very generally explore a qualitative data set, providing maximum flexibility in the ability to incorporate themes that prior to research, may have been entirely unknown to the field. In contrast, a deductive approach is a more appropriate method when seeking to either explore how theory translates into the data collection group or in exploring more refined research questions and fully testing a theoretical framework.

Within this study, we seek to gain a better understanding of how views, knowledge, opinions, experiences and values have changed as result of the policy intervention and during the crisis, particularly as we seek to test and gain further insight into the results obtained in Banerjee, Faye, Krueger, Niehaus, & Suri, (2020), through utilising a largely deductive approach to our thematic analysis method. This is done through creating a matrix of codes that are identified a via coding, as present within the data. These codes can then be analysed and evaluated into themes to test our theoretical framework and answer our research questions. However, to not waste the opportunity to gain insight from unanticipated codes or themes that may arise from the data after collection, additional inductive analysis will be performed so all themes collected can be fully utilised.

The next distinction that must be assessed is how the language within our data set will be analysed, which is the distinction between taking a semantic or latent approach to the analysis of statements. The contrast is that a semantic approach entails analysing the explicit, literal content of the data, whereas a latent approach would involve deeper reading into subtext and non-explicit assumptions within the data. A latent approach, although very effective when used for levelling one-to-one comparison between unambiguous statements within data, such as finding agreement or contradiction, there is more to be gained in incorporating a level of latent analysis to derive more rich subjective data if the data permits.

In the case of this study, although semantic analysis is going to be the core of our coding and eventual thematic analysis; so we can find agreement, contradiction and contrast between participants towards the themes within our questions, where possible, a latent approach will be fully utilised to gain additional information for our analysis, such as where statements go particularly far in providing superior depth to their insight, or social context can be inferred. Again, despite one predominant method, a mixed approach will be employed so our thematic analysis can be more comprehensive and robust overall.

From this point, we can largely implement the six-step methodology of thematic analysis developed by Braun & Clarke (2006), namely, “familiarization with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes and then finally producing the full analytical report”. These six steps vary slightly and require specific actions within the context of this study.

Familiarisation essentially involves the researcher getting to know the depths and breadths of their data’s content as its important to develop an overview of overarching “meanings, patterns” and language style, from which “notes taken or ideas for coding that will then be revised in subsequent phases” will come to form the “bedrock of the rest of the analysis”. In

the case of this study, as we are unable to collect the data first-hand and translations are likely to arrive in a written transcript format, this will involve "spending additional time familiarising with the data" as well as "'repeated reading' of the data, and reading the data in an active way" (Braun & Clarke, 2006).

Generation of the initial codes "begins when you have read and familiarised yourself with the data and have generated an initial list of ideas about what is in the data and what is interesting about them". In essence, this entails creating the initial codes for the data obtained. Where codes represent the identification of a "feature of the data (semantic content or latent)" (Braun & Clarke, 2006) that is inciteful to the research, where specifically the term "*code"* refers to "the most basic segment, or element, of the raw data or information that can be assessed in a meaningful way regarding the phenomenon" (Boyatzis, 1998). Coding should be thorough; every idea, sentence or phrase that matches the definitions of the codes should be included, as coding remains a broad categorisation, separating the strands of data from the bulk of the transcript. When completed, all relevant codes can be extracted and indexed into specialised data sets per theme, allowing for a condensed view.

Through reviewing a number of studies utilising qualitative interview methodologies Hill & Meagher (1999) concluded that "qualitative research methods are a viable alternative for researching particular kinds of questions that lie outside the traditional concerns of economics", adding that "qualitative research enables the researcher to create concepts and identify patterns of economic behaviour that may feed back into the theoretical literature" of which can then be utilised by further quantitative work as concept measurement is central to most empirical orthodox economics, either in econometrics or experimental work". Further finding that "qualitative data challenged the existing consensus in the literature and produced original research findings. If one of the goals of the research is to discover and investigate 'gaps' in our understanding of economic processes and behaviour, then qualitative methods potentially have a lot to offer economic researchers" (Hill & Meagher, 1999).

Further, Hill and Meagher explain that "economics is essentially concerned with people" and as such, "taking the opportunity to listen to the people groups we were researching provided us with relevant and contemporary data" while crucially "providing insight and sensitivity into aspects of our informant's economic involvement that is not documented" that "provided crucial contextual information" that "made sense" of "particular economic policy".

Eventually, concluding that:

"Qualitative research is more than amassing piles of written transcripts and other forms of unstructured data as an alternative to numbers. Its value lies in the use of alternative techniques designed to access data that cannot be captured, contained, or communicated in a linear numerical framework. By employing research methods that lie outside the constraints of quantitative data, economists can add a new dimension to their research and hopefully develop a more complex, multi-layered picture of the economic sphere. The breadth and complexity of information that can be captured by qualitative methods are of particular importance to research projects that focus on policy outcomes. Most importantly, qualitative methods can produce data that requires us to ask new or different questions important to understanding economic processes. For our hope is that these opportunities will be welcomed by more" (Hill & Meagher, 1999).

2.1.2.2 Methodology Employed

This Narrative analysis can be carried out using an applied thematic analytical methodology. First outlined and applied to large qualitative data sets to identify psychological, behavioural, and attitude change over time, the process of thematic analysis was standardised into a six-step process (outlined within Table 2.1 below) and used for the analysis of large qualitative data sets, which in its barest essence could be summarised as, after familiarisation with data sets until the point of data saturation creating a finite number of groups of codes by which every item of information could be effectively categorised (Braun & Clarke, 2006).

Allowing for an idea of how ideas are quantitatively proportioned, change over time and ultimately, how themes emerge[14]. Allowing us to explore then further how the interaction between ideas, arguments and the volume of points being made can interplay to form wider narratives that emerge and recede over a given period of time in response to one another.

Thematic analysis is useful in having application in the analysis of non-empirical data sets of texts, interview transcripts, survey responses, social media data or other longer qualitative sources within data sets which often remain impenetrable to many forms of empirical analysis, thematic analysis allows us to collect and analyse data that provides findings on people's views, knowledge, opinions, experiences or values, from which important research findings can be derived.

Table 2.1 Six Steps of Thematic Analysis

Step One:	Familiarization	Data analysis is facilitated by an in-depth knowledge of, and engagement with, the data set. Familiarization — reading and rereading transcripts, listening to audio-recordings, making notes of any initial analytic observations — helps the researcher to move the analysis beyond a focus on the most obvious meanings
Step Two:	Coding	A systematic process of identifying and labelling relevant features of the data (in relation to the research question). Coding is the first step in the process of identifying patterns in the data because it groups together similar data segments.
Step Three:	'Searching' for themes	The 'search' for themes is not simply one of 'discovery'; the themes are not in the data waiting to be uncovered by an intrepid researcher. Rather, the researcher clusters together codes to create a plausible mapping of key patterns in the data.
Step Four:	Reviewing themes	The researcher pauses the process of theme generation to check whether the candidate themes exhibit a good 'fit' with the coded data and with the entire data set, and each has a clear, distinct 'essence' — or central organizing concept. Reviewing may lead to no or few changes, or to discarding the candidate themes and restarting the previous phase

[14] For outline of the traditional Thematic Analytical Process See Table 2.1 Six Steps of Thematic Analysis

Step Five:	Defining and naming themes	Writing theme definitions (effectively a brief summary of each theme) and selecting a theme name ensure the conceptual clarity of each theme and provide a road map for the final write-up
Step Six:	Writing the report	The researcher weaves together their analytic narrative and vivid, compelling data extracts. Themes provide the organizing framework for the analysis, but analytic conclusions are drawn across themes

N.B 2.1 Source: (Clarke & Braun, 2006)

In this study, the application of quantitative coding and thematic analysis has allowed us to transform what was a cluster of thousands of articles, each presenting pieces of information into quantified data sets which can present an aggregated picture that provides insight as to how narrative emerged and evolved over a particular period of time.

For example, within Figure 2.1 Coding Qualitative Data**,** we have a sample piece of qualitative data collected from a self-identified conservative, giving information on their views regarding climate change. Within this data set, four codes are identified as categories of data, specifically *"Uncertainty", "Distrust of Experts", "Acknowledgement of Climate Change"*, and *"Changing Terminology".* The data set can then be thoroughly dissected and coded by idea, allowing the total volume of codes to be quantified and compared[15].

After empirical comparison, themes can then begin to be established and justified, for instance, within our sample data set, Table 2.2 Quantifying Coded Data, despite *"Uncertainty"* remaining highly prevalent within the data, representing 33% or a third of all codes there is also significantly high amounts of *"Distrust of Experts"* also representing 33% of total code volume, suggesting that despite a high prevalence of overall personal uncertainty, this individual has the unwillingness to accept research outcomes and information from those in positions of information authority.

A specific theme that could then be identified could be *"Personal Resistance to Expert Consensus";* reasoning for this could perhaps be explored through the prevalence of *"Changing Terminology",* which contributed 16.5% of total code volume and may have contributed to general personal confusion and "uncertainty" on the topic, leading to "distrust of experts", supported by statements such as "the facts keep changing" and "who's to say they don't have their own reasons for pushing this narrative"—providing insight that perhaps there is a terminology-related communication error between research authorities and climate sceptics on the issue, resulting in either high levels of personal uncertainty and, therefore, distrust of experts or high levels of distrust in experts and greater personal uncertainty.

This process could then be repeated with additional sources until data saturation to discover if these specific insights are prevalent across wider data pools, such as if this theme can be observed across the wider population, within self-identified conservatives or even within those that would express climate sceptic views.

[15] See Table 2.2 Quantifying Coded Data

Additionally, this process can be repeated through time to discern additional thematic analytical insights, such as if themes remain present through time, change in frequency or shift in nature; for instance, in this example were the same individual to be interviewed using the same question again after experts had attempted to rectify this terminology related communication error, and there was a quantifiably lower number of the codes of *"Uncertainty"* and *"Distrust of Experts",* then this would indicate a theme change of *"Personal Resistance to Expert Consensus"* to perhaps one of *"General Acceptance of Expert Consensus"* suggesting positive policy implications with regards to mitigating climate change where this to be observed across a more representative data set.

Additionally, were we to draw a number of themes together, we could establish a generalised narrative to represent large volumes of qualitative data as a whole and as an apt way to present a discourse climate surrounding a particular topic or issue. Within the example of Figure 2.1 Coding Qualitative Data, were similar themes to be found determined via coding a larger more representative population then a narrative could be drawn of *"Communication Breakdown, Personal Uncertainty and Distrust of Expert Derived Climate Scepticism",* which were the terminology related communication error to be corrected, as in the hypothetical example above, resulting in new themes across a more representative population, such as the one drawn above, may result in a quantified narrative change to *"Expert Informed Climate Change Acceptance".*

Figure 2.1 Coding Qualitative Data

Text Extract:

"Personally, I'm not sure. I think the climate is changing, sure, but I don't know why or how. People say you should trust the experts, but who's to say they don't have their own reasons for pushing this narrative?
I'm not saying they're wrong, I'm just saying there's reasons not to 100% trust them. The facts keep changing – it used to be called global warming".

Codes:

1. Uncertainty
2. Acknowledgement of Climate Change
3. Distrust of Experts
4. Changing Terminology

N.B 2.2 Source: (Clarke & Braun, 2013)

Table 2.2 Quantifying Coded Data

Code	Total References	Percentage Distribution
Uncertainty	2	33
Distrust of Experts	2	33
Acknowledgement of Climate Change	1	16.5
Changing Terminology	1	16.5

Figure 2.2 Visualisation of Quantified Data

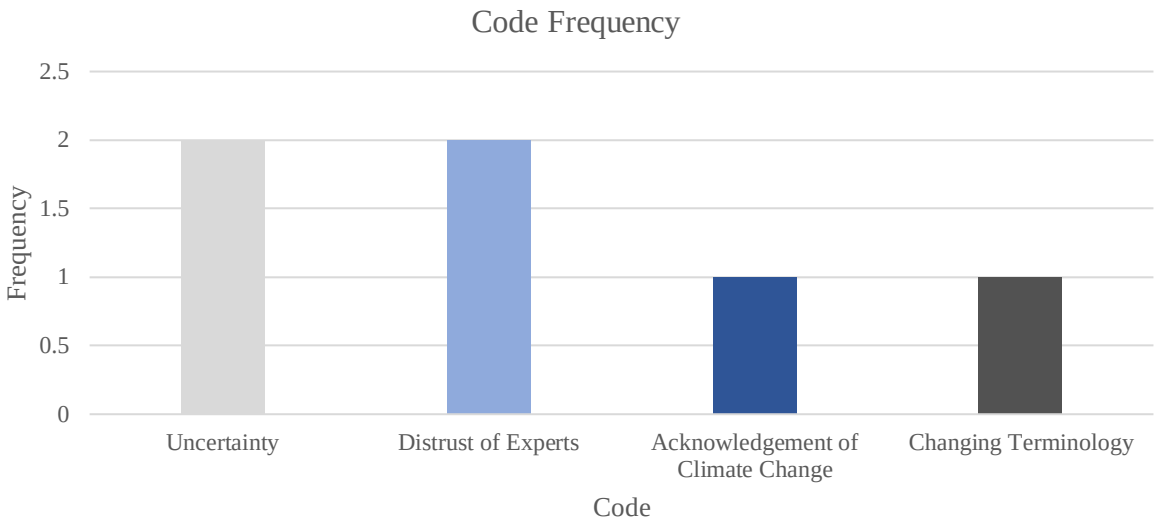
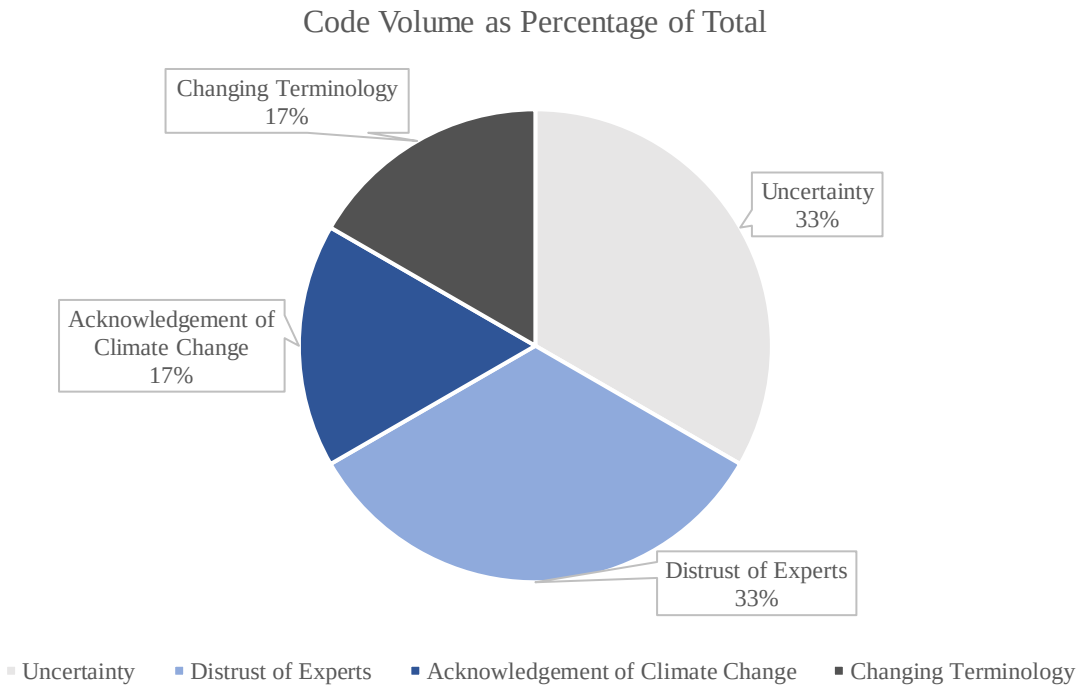


Figure 2.3 Relative Distribution of Quantitative Data



2.1.2.3 Research Design

Aiming to enrich understanding surrounding the narratives and narrative change within the media discourse of Basic Income both before and after the global pandemic, filling the gap in the literature identified in Nettle, et al., (2021) by contributing to the understanding of surrounding narratives, popularised by Shiller R. (2017) using a methodology designed by Braun & Clarke (2006).

Narrative analysis can be conducted through comprehensive thematic analytical methodology as outlined by Braun & Clarke (2006). While our data set was extracted from LexisNexis Academic UK, and so our study design is as follows[16]:

Data Source

LexisNexis Academic UK, a Comprehensive database of published written news media[17].

Search Strategy

The search was done to identify and collect all news articles published within the UK media within the periods of April 1st, 2018, to April 1st, 2019, which we refer to as the Pre-Pandemic period and April 1st, 2020, to April 1st, 2021, which we name the post-Pandemic Period, of these Articles, the *key-word-search* function, in combination with the *filter-by-date* and *hide-duplicates* search commands, enables us to identify all relevant articles from the exhaustive main pool accurately and to extract them for further analysis, providing a comprehensive data set within this study. Specifically surrounding the targeted terms: *("Basic Income" or "UBI")*. The Search itself was enacted on June 1st, 2021.

Data Cleaning

Application of Inclusion and Exclusion criteria, removal of either (A) Irrelevant to basic income as a policy and/or (B) Duplicate articles

In addition to removing articles that had been inevitably included in the set by featuring the term “basic income” but not the conceptual form of basic income this study focuses on, such as the handful of articles that (perhaps mistakenly) referred to the “personal income tax allowance”, the minimum income from which income tax must start being played in the UK, as the “basic income tax allowance” in addition to articles that had somehow been included in the count and that were, in fact, a duplicate of an earlier article, despite the *hide-duplicates* search option having been selected.

[16] See Figure 2.4 Methodology Employed

[17] The data collected can be considered comprehensive as LexisNexis is among the most rigorous in collecting and storing all existing news articles, featuring over 66.9 million articles as of April 22nd, 2022 (Lexis Library News, 2022).

The data cleaning process was conducted by hand and carried out twice on both the pre-Pandemic and post-Pandemic data set to ensure only the articles meeting desired methodological criteria needed were included.

Coding

Coding was conducted using the software Nvivo 12, which effectively allowed the storing of codes, coding itself and count of codes to remain within one system to mitigate chances of error. Additionally, *practice coding* was carried out until data saturation as so a comprehensive categorical list of codes could be constructed prior to collection in addition to developing total proficiency and accuracy of the coder[18]. Codes were revised frequently, both corpora coded consecutively to prevent any methodological discrepancies, and effort made to prevent fatigue-induced inaccuracy.

Quantifying Codes

Codes after collection were quantified into aggregated datasets allowing for empirical findings to be made.

Construction of Themes

These empirical findings provided quantitative justification for themes that were found. A number of key quotations along with other qualitative data points such as publication name and publication title have been presented alongside the themes presented as supplementary evidence.

Thematic Analysis

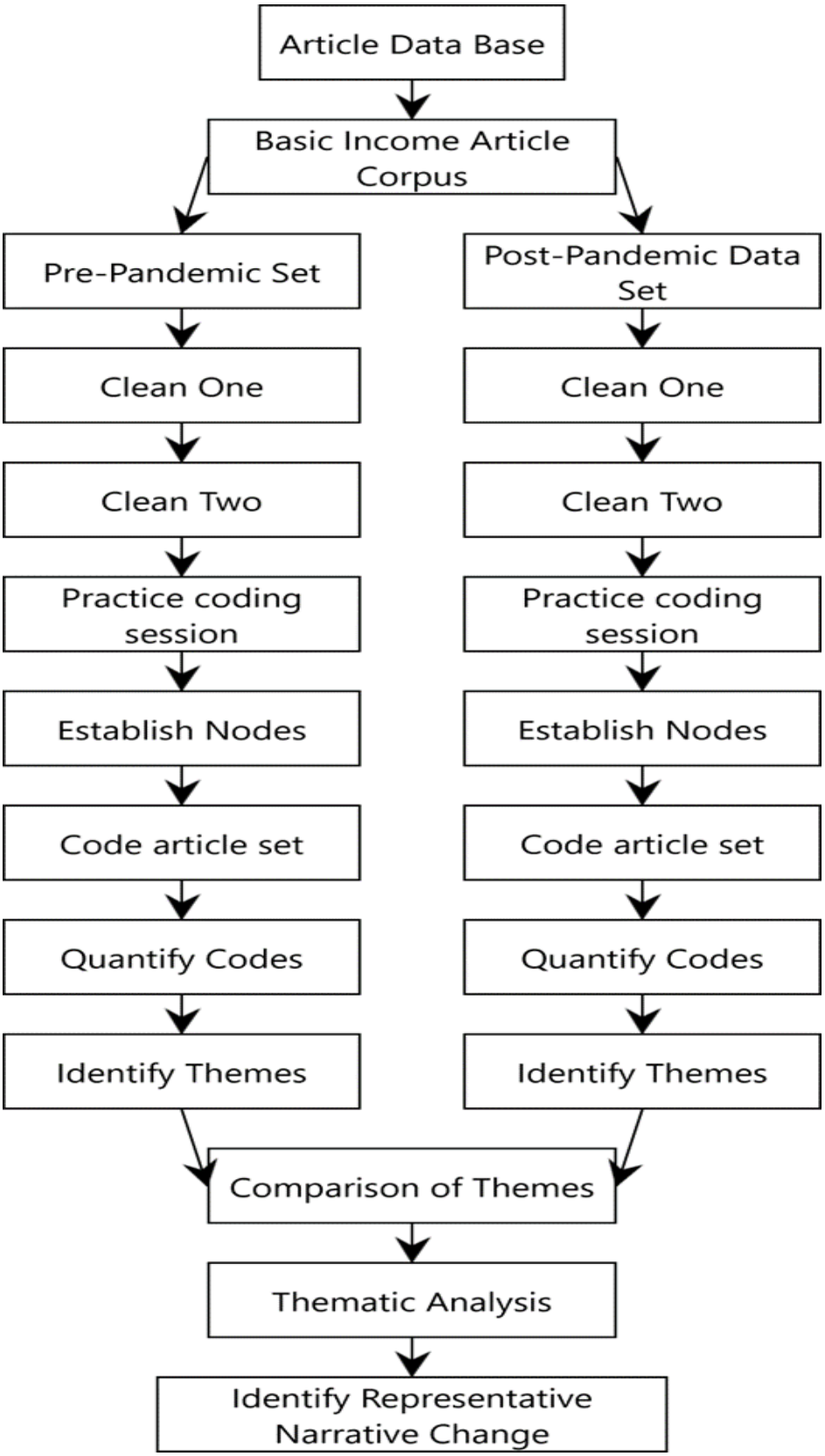
Thematic Analysis was then performed to provide insight as to how the quantitively constructed themes changed between the two data sets and thus provided us with a basis for narrative analysis to help explain the observed increase in popularity of the perception of the policy (basic income) due to the event (pandemic).

Narrative Change

A representative media narrative is presented by evaluating themes as an aggregate.

[18] All coding was conducted by the author.

Figure 2.4 Methodology Employed



2.1.2.4 Data Collection: Defining the Corpora of Interest

2.1.2.4.1 Search Strategy

Utilising the Lexis Nexis Academic UK article archive database (Lexis Nexis, 2021)[19], a comprehensive search was done to identify and collect all news articles published within the UK media within the periods April 1st 2018, to April 1st 2019, which we refer to as the pre-Pandemic period and April 1st 2020 to April 1st 2021 which we name the post-Pandemic Period. All articles were collected using the search criteria – '*("Basic Income" or "UBI"), hide duplicates'.*

Data collection was carried out, which required collecting all 1,121 relevant articles and transferring them from the LexisNexis Archive into internally stored PDFs, which could then be incorporated into Nvivo 12[20], creating the two corpora. At this point, both article sets went through data cleaning; data cleaning was done twice by hand and required carefully reading through both corpora and removing irrelevant or duplicate articles. Then articles progressed to coding; creating codes required running *practice coding* sessions until data saturation for both corpora; once this was completed, each basic income related piece of information was coded in every article by hand. This allowed for codes to be quantified and tabulated.

2.1.2.4.2 Criteria for Data Inclusion and Exclusion

In total there were, as of June 2021, 5,039 article results within the UK press returned for the search – *'("Basic Income" or "UBI"), hide duplicates'.*

This figure is narrowed to 441 articles for the 01/04/2018-01/04/2019 pre-Pandemic period and 680 articles for the 01/04/2020-01/04/2021 post-Pandemic period.

Two rounds of data cleaning were then implemented with the exclusion criteria of removing articles that had been included in the main set but were either (A) Irrelevant to basic income as a policy, this was sometimes observed in articles referencing the phrase "basic income tax allowance" but not discussing basic income anywhere in the totality of the article or (B) A Duplicate article, this would include an article that although only published once was stored more than once with a differing article title despite the same main body of contents, this did not include articles that had been published across multiple media sources.

Resulting in 69 irrelevant articles being removed from the pre-Pandemic set in the first round and 37 duplicate articles being removed, totalling 106 articles. While in the second round, 23 articles were removed for being irrelevant, and none were removed for being duplicates. A total of 129 articles were removed over both rounds from the pre-Pandemic corpus.

While for the post-Pandemic set, 24 articles were removed in the first cleaning round for being irrelevant to basic income as a policy and 39 articles were removed for being duplicates, resulting in 63 articles being removed. Similarly, in the second cleaning round, 32 articles were removed for being irrelevant for analysis, and no articles were removed as

[19] See: https://www.lexisnexis.com/en-us/home.page
[20] See: https://lumivero.com/products/nvivo/

duplicates. This resulted in the exclusion of 95 articles from the 01/04/2020-01/04/2021 post-Pandemic set.

As a result, the corpora used as the data for our coding and thematic analysis would, in total, be 312 articles in the pre-Pandemic set[21], as 129 articles had been excluded from the original 441 articles and 585 articles within the post-Pandemic Set[22] and 95 articles had been excluded from the original 680 articles within the set.

[21] See Figure 2.5 Corpus One: Pre-Pandemic Corpus
[22] See Figure 2.6 Corpus Two: Post-Pandemic Corpus

Figure 2.5 Corpus One: Pre-Pandemic Corpus

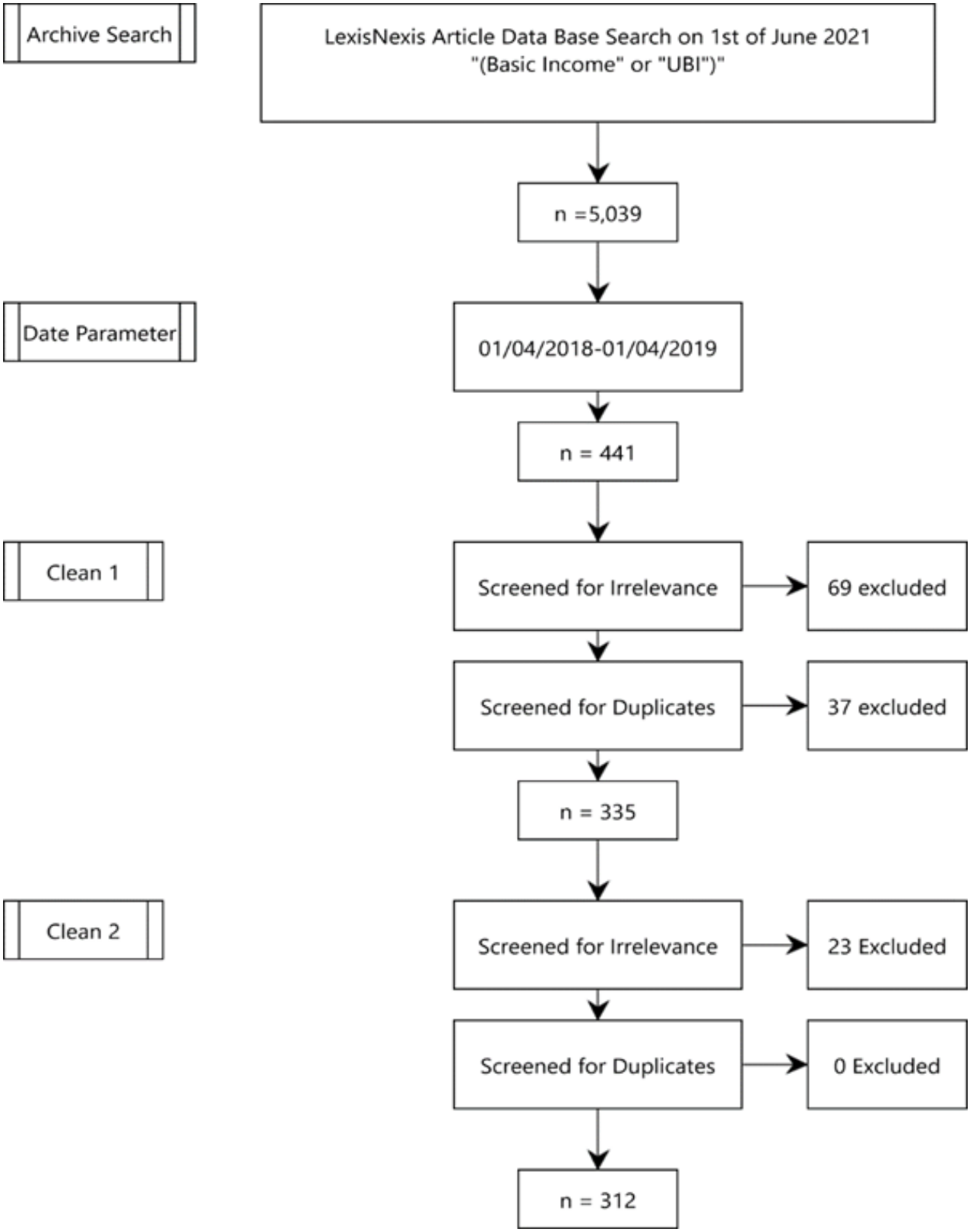
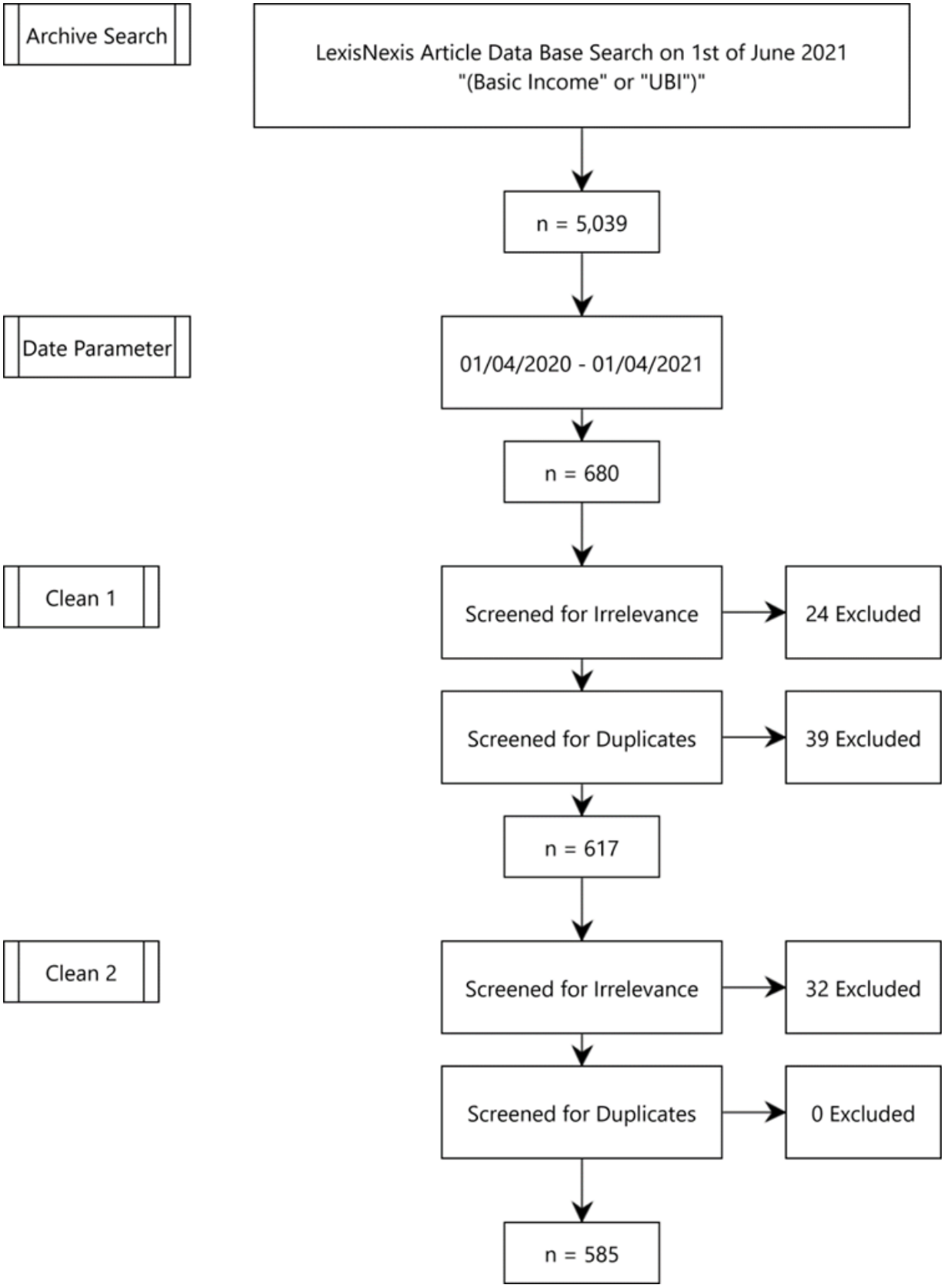


Figure 2.6 Corpus Two: Post-Pandemic Corpus



2.1.3 Results

2.1.3.1 Quantification of Article Corpora: Coding Identification, Frequency & Prevalence

Coding qualitative data involves the generation of concise and meaningful labels that highlight crucial aspects of the data relevant to the overarching research question guiding the analysis. Coding is both a practical data consolidation method and an analytical process. The codes assigned to the data capture both the semantic meaning and the conceptual interpretation of the information. When coding data, it is required to systematically apply codes to every piece of relevant information and conclude by organizing all the codes and pertinent data extracts, allowing for a comprehensive qualitative data analysis. This meticulous coding process helps uncover patterns, themes, and relationships within the data, ultimately contributing to a deeper understanding of the research question and facilitating subsequent data interpretation and synthesis (Clarke & Braun, 2006).

Specifically, qualitative coding is defined as "generating pithy labels for important features of the data of relevance to the (broad) research question guiding the analysis. Coding is not simply a method of data reduction; it is also an analytic process, so codes capture both a semantic and conceptual reading of the data. The researcher codes every data item and ends this phase by collating all their codes and relevant data extracts" (Clarke & Braun, 2013)

2.1.3.1.1 Coding the Pre-Pandemic Corpus

Quantifying the prevalence of patterns of qualitative data points via coding is crucial for gaining insights into the discourse surrounding Basic income in the written news media in the year prior to any notion of the global pandemic. Table 2.3 displays the quantified frequency count of the codes identified, their proportion relative to the total references, and their recurrence within the articles.

The data set comprises a total of 1,159 references, with each reference assigned to a specific code. The most frequently coded aspect is the *Negatives of Basic Income*, which accounts for 197 references, representing approximately 17% of the total references. This is closely followed by *Other Basic Income Positives* with 188 references (16.221% of the total), and *Political Party, Politician or Figure Calling for Basic Income* with 179 references (15.4% of the total).

Analysing the recurrence of codes within the articles reveals that *Political Party, Politician or Figure Calling for Basic Income* appears most frequently, referenced in 126 articles, corresponding to around 39.252% of the total articles analysed. Following closely behind *is Other Basic Income Positives* with 106 occurrences (33.02% of the total articles) and *Basic Income Abroad* with 89 occurrences (27.726% of the total articles).

Additionally, other significant codes include *Basic Income Pilot Studies* (74 articles), *Basic Income in Title* (53 articles), and *Basic Income and Existing Welfare System* (51 articles). These codes contribute to a comprehensive understanding of the discourse surrounding basic income within the pre-Pandemic media national discourse.

Table 2.3 Data Set One: Pre-Pandemic- Total Code Volume, Total Code Volume as Percentage of Total, Codes by Article Recurrence, Codes by Article Recurrence as Percentage of Total Articles.

Code Name	Total Code Volume	Volume As % of Total (N = 1159)
Negatives of Basic Income	197	16.997
Other Basic Income Positives	188	16.221
Political Party, Politician or Figure Calling for Basic Income	179	15.444
Basic Income Pilot Studies	157	13.546
Basic Income Abroad	100	8.628
Basic Income and Existing Welfare System	82	7.075
Casual Mention of Basic Income	58	5.004
Basic Income in Title	53	4.573
Factual Account of what Basic Income is	41	3.538
Basic Income Costing	34	2.934
Political Party, Politician or Figure Calling Against Basic Income	29	2.502
Support for Basic Income from Both Left and Right Politically	19	1.639
Basic Income is Popular Polling	17	1.467
Basic Income is Not Popular Polling	5	0.431
	Codes by Article Recurrence	As % of Total Articles (N=321)
Political Party, Politician or Figure Calling for Basic Income	126	39.252
Other Basic Income Positives	106	33.022
Basic Income Abroad	89	27.726
Negatives of Basic Income	87	27.103
Basic Income Pilot Studies	74	23.053
Basic Income in Title	53	16.511
Basic Income and Existing Welfare System	51	15.888
Casual Mention of Basic Income	50	15.576
Factual Account of what Basic Income is	38	11.838
Basic Income Costing	29	9.034
Political Party, Politician or Figure Calling Against Basic Income	25	7.788
Support for Basic Income from Both Left and Right Politically	16	4.984
Basic Income is Popular Polling	13	4.050
Basic Income is not Popular Polling	4	1.246

2.1.3.1.2 Coding the Post-Pandemic Corpus

Table 2.4 Quantifies the codes identified as present in the in post-Pandemic article corpus, providing insight into how the discourse surrounding basic income evolved during the global health crisis.

The data set comprises 1,499 references, each associated with a specific code. The most prominent code is *Basic Income and Pandemic Response*, which accounts for 313 references, representing approximately 20.881% of the total references. Following closely behind is *Political Party, Politician or Figure Calling for Basic Income* with 246 references (16.411% of the total), and *Other Basic Income Positives* with 166 references (11.074% of the total).

Observing the recurrence of codes within the corpus reveals that *Basic Income and Pandemic Response* is the most frequently referenced code, appearing in 225 articles, which corresponds to approximately 38.462% of the total articles analysed. *Political Party, Politician or Figure Calling for Basic Income* follows closely with 195 occurrences (33.333% of the total articles), while *Other Basic Income Positives* appears in 110 articles (18.803% of the total articles).

Other notable codes include *Basic Income in Title* (99 articles), *Negatives of Basic Income* (88 articles), and *Basic Income and Pandemic Response Abroad* (87 articles). These codes provide quantitative insight into the qualitative data of media discussion around basic income in the post-Pandemic period.

Table 2.4 Data Set Two: Post-Pandemic- Total Code Volume, Total Code Volume as Percentage of Total, Codes by Article Recurrence, Codes by Article Recurrence as Percentage of Total Articles.

Code Name	Total Code Volume	Volume As % of Total (N = 1499)
Basic Income and Pandemic Response	313	20.881
Political Party, Politician or Figure Calling for Basic Income	246	16.411
Other basic income Positives	166	11.074
Negatives of Basic Income	126	8.406
Basic Income Pilot Studies	113	7.538
Basic Income and Existing Welfare System	106	7.071
Basic Income and Pandemic Response Abroad	106	7.071
Basic Income in Title	99	6.604
Basic Income Costing	51	3.402
Political Party, Politician or Figure Against Basic Income	46	3.069
Casual Mention of Basic Income	45	3.002
Factual Account of What a Basic Income is	39	2.602
Basic Income is Popular Polling	21	1.401
Support from Both Left and Right Politically	19	1.268
Basic Income Not Popular Polling	3	0.200
	Codes by Article Recurrence	As % of Total Articles (N=585)
Basic Income and Pandemic Response	225	38.462
Political Party, Politician or Figure Calling for Basic Income	195	33.333
Other Basic Income Positives	110	18.803
Basic Income in Title	99	16.923
Negatives of Basic Income	88	15.043
Basic Income and Pandemic Response Abroad	87	14.872
Basic Income Pilot Studies	79	13.504
Basic Income and Existing Welfare System	77	13.162
Casual Mention of Basic Income	45	7.692
Basic Income Costing	43	7.350
Political Party, Politician or Figure Against Basic Income	41	7.009
Factual Account of What a Basic Income is	38	6.496

Support from Both Left and Right Politically	15	2.564
Basic Income is Popular Polling	14	2.393
Basic Income Not Popular Polling	3	0.513

2.1.3.2 Application of the Thematic Framework: Identification of Themes

In the process of analysing qualitative data, turning coded data into themes is a crucial step that allows us to derive meaningful insights and patterns from the rich and diverse information collected. Following the framework out lined in Braun & Clarke (2006)[23], this involves identifying key themes that capture the essence of the coded data and organizing them into coherent and meaningful categories. Themes go beyond individual codes and represent higher-level concepts that emerge from the data, providing a deeper understanding of the research questions guiding the analysis. This process requires careful consideration of the relationships between codes and the connections among different themes. By transforming qualitative coded data into themes, we can uncover overarching patterns, highlight important features, and develop a comprehensive narrative that adds depth and significance to our research findings.

2.1.3.2.1 Overview of Themes

2.1.3.2.1.1 Pre-Pandemic Themes Identified

Theme 1: Mixed Sentiment

The count of the code *Negatives of Basic Income* was observed to be as high as 197 or 16.997% (17%) of total reference volume in 87 articles out of the total 321 or 27.103% (27%)[24].

While the volume of the code *Other Basic Income Positives* was observed at a notably similarly high count of 188 or 16.221 (16%) of total reference volume in 106 of the 321 articles examined or 33.022% (33%) of the pre-Pandemic corpus.

Theme 2: Negative Attitude Towards Basic Income Pilot Study Research

Constituting as many as 157 or 13.546% (14%) of all basic income related references for the period, the code *Basic Income Pilot Studies* was discussed within 74 of the 321 articles considered suggesting 23.053 (23%) of all articles featured the topic, and overwhelmingly critical in contents.

Theme 3: Basic Income a Toxic Association

The code *Political Party, Politician or Figure Calling Against Basic Income* was fairly infrequent, constituting 29 out of a total 1159 articles or just 2.502 (3%) of the total references identified across just 25 articles or just 7.79 (8%) within the pre-Pandemic corpus.

[23] See Table 2.1 Six Steps of Thematic Analysis
[24] For all pre-Pandemic Code data see: Table 2.3 Data Set One: Pre-Pandemic- Total Code Volume, Total Code Volume as Percentage of Total, Codes by Article Recurrence, Codes by Article Recurrence as Percentage of Total Articles.

While *Political Party, Politician or Figure Calling for Basic Income* was very frequently discussed and the most widely discussed topic by number of article sources, with a total frequency of 179 or 15.44 (15%) of all basic income related codes featuring across as many as 126 of the total 321 articles within the period implying that the code *Political Party, Politician or Figure Calling for Basic Income* was present within 39.252 (40%) of all articles within the pre-Pandemic Corpus. However, within this corpus reporting on public advocacy for basic income was largely attributed with conveying negative attitudes towards both the basic income policy and the advocate.

Theme 4: Basic Income Less Desirable than the Present System

The Code *Basic Income and Existing Welfare System* representing 82 out of 1159 total basic income references or 7.075 (7%) of total references within the pre-Pandemic set. Similarly, the measure of the number of articles the code occurred within was also fairly high at 51 or 15.887 (16%) of articles. Largely within this set of codes welfare preference fell towards the existent system over a comparable basic income based welfare system.

Theme 5: Infrequent Factual Policy Explanations

Basic Income public polling was counted a total of 22 times, via considering the codes *Basic Income is Popular Polling* which was observed 17 times and the *Basic Income is Not Popular Polling* which was observed only 5 times, together constituting only 1.898 (2%) of all references across only 17 articles of the total 321, that being a low 5.295 (5%) of the pre-pandemic corpus articles in percentage terms.

Despite claims that a basic income policy would or would not be affordable being made highly frequently throughout the set, numerical costing estimates of the policy were surprisingly infrequent, with a numerical costing in GBP via the code *Basic Income Costing* only counted in 34 of the total 1159 references made towards basic income or just 2.933% (3%) of all basic income related codes only occurring within 29 of the 321 articles or just 9.03 (9%).

A *Factual Account of What Basic Income Is* was only observed 41 times in total, constituting 3.537 (4%) of total references made; this was spread thinly across just 38 of the total 321 articles or 11.838 (12%) within the entire pre-Pandemic set.

2.1.3.2.1.2 Post-Pandemic Themes Identified

Theme 1: Basic Income as a Pandemic Response

As a code, *Basic Income as a Pandemic Response* is very numerous, both in absolute number at a massive 313 references out of the total 1499 observed, the highest count of any code in either of the corpora by a large margin, constituting 20.88 (21%) of all codes within the post-Pandemic corpora.

Similarly, the code *Basic Income as a Pandemic Response* featured over a large number of articles, spanning 225 of the 585, a massive 38.46 (38%) of all articles within the corpus of the post-Pandemic year. Particularly significant considering the code was non-existent throughout the entirety of the pre-Pandemic corpus representing the period of 01.04.2018-01.04.2019, emerging to become the most numerous code by volume by a substantial margin by the post-Pandemic corpus representing all written publications during the time period of 01.04.2020-01.04.2021[25].

Theme 2: Open Call for Basic Income Policies

The code *Political Party, Politician or Figure Calling for Basic Income* counted a huge 246 references out of the total 1499 within the post-Pandemic set, constituting as much as 16.410 (16%) of all references, spread very widely across 195 out of the 585 total articles published, making up 33.33 (33%) of the total.

Whereas the code *Political Party, Politician or Figure Calling Against Basic Income* remained significantly smaller at just 46 codes out of the total 1499 or just 3.002 (3%) of the total. Spread relatively thinly across only 41 articles of the total 585 or just 7.009 (7%) of the total.

Theme 3: Positive Sentiment

The code *Other Basic Income Positives* was relatively high in volume, constituting 166 out of the total 1499 references or 11.074 (11%) of the total, spread across 110 articles within the 585 total, suggesting a relatively wide distribution being featured in 18.803 (18%) of total.

Code *Negatives of Basic Income* were present in relatively lower volume, counted in a total of 126 out of the 1499 references or just 8.405 (8%) of the total, spread relatively thinly across just 88 of the total 585 articles or 15.042 (15%) of total.

Theme 4: Positivity Towards Basic Income Trials and Future Research at the Local Level

[25] For all post-Pandemic Code data see: Table 2.4 Data Set Two: Post-Pandemic- Total Code Volume, Total Code Volume as Percentage of Total, Codes by Article Recurrence, Codes by Article Recurrence as Percentage of Total Articles.

The code *Basic Income Pilot Studies* occurred at a moderately large frequency, being coded for 113 out of a total 1499 codes or 7.538 (8%) of the total, in a fairly concentrated manner across 79 articles of the total 585 analysed or 13.504 (13%) of the total.

Theme 5: The Frequency of Factual Explanations Increases

The code *Basic Income Costing* had a frequency of 51 out of the total 1499 references representing just 3.402 (3%) of all references, spread across 43 of the total 585 articles or 7.350 (7%).

The code *Factual Account of What a Basic Income Is* was counted at a frequency of 39 out of the total 1499 references or 2.602 (3%) observed within 38 of the total 585 articles or 6.495 or (7%).

The code *Basic Income is Popular Polling* was counted at a frequency of 21 out of a total of 1499 references or 1.400 (1%) spread across just 14 articles or 2.393 (2%) of the 585 total. Whereas the code *Basic Income is Not Popular Polling* was observed only 3 times or just 0.2% of the total 1499 references within only 3 of the 585 articles reviewed or 0.5%.

Theme 6: Basic Income Touted as a Solution to the Failure of the Existing System.

The *Basic Income and the Existing Welfare System* code has a fairly large frequency overall, seeing 106 codes out of a total of 1499 for the entire set, meaning 7.071 (7%) of the total. Distributed in a fairly concentrated manner across 77 articles out of the total set of 585, or 13.504 (14%) of the total. The discussion changed considerably in basic incomes favour, as many who had found themselves "left out" under the current welfare system advocated for more inclusive and fast acting replacement systems, resulting in a frequent discussion that attempted to justify a "revolutionary reform" to the welfare system as a result of the extreme times rather than the "evolutionary reform" that had been predominant prior.

2.1.3.3 Thematic Analyses: Illustration & Exemplification of Themes

In the process of turning qualitative coded data into themes, it is crucial to delve into the specifics of the articles using illustrative key quotes, as emphasized by (Braun & Clarke, 2006). While themes provide a high-level overview of the patterns and insights within the data, including illustrative key quotes adds depth and richness to the analysis:

> *"The researcher writes the themes into the wider report, this involves weaving the analytic narrative into a persuasive story that uses informative and vivid data extracts as evidence"* (Finlay, 2021).

In addition to generating a high-level quantified representation of the qualitative data, via creating themes after coding the data, exploring the specifics and nuances within the discussion is further beneficial. This is done by including representative tangible evidence directly extracted from the articles that exemplify the themes and provide context and

justification to the data used to determine findings. By incorporating illustrative key quotes, we can better connect with the original data, support conclusions drawn, and the arguments made, therefore better understanding the themes in in reality. This approach enhances the credibility and transparency of the analysis, presenting a more compelling and robust narrative supported by concrete examples from the qualitative data.

"'Good' thematic analyses are powerful and persuasive. They have lively, punchy theme headings and/or contain descriptive-interpretive analyses which are rich, compelling, and distinctive. A good analysis is informative –it teaches us something and gives us a fresh perspective. Good themes hang together well; they tell some sort of a story; and they have sufficient data to support and substantiate them... While my own preferences lead towards evocative, literary presentations of themes, I also value those scientific studies which provide a solidly rigorous accounting." (Finlay, 2021).

Moreover, information regarding written article titles, publication, language pattern, punctuation and page positioning have been presented alongside each illustrative quote where possible to further deepen the connection with all evidence used in the arguments.

2.1.3.3.1 Thematic Analysis One: Understanding the Pre-Pandemic Corpus

2.1.3.3.1.1 Theme 1: Mixed Sentiment

The most prominent theme observed within the 01/04/2018 to 01/04/2019 pre-Pandemic set was a consistent display of mixed sentiment in the discussion of basic income/UBI policies. As the total volume of negative discussion towards basic income matches very closely to the total volume of positive discussion, with total negative codes observed at 197 and total positive codes being 188, out of a total volume of references of 1159 basic income related points of discussion made this puts the total negative discussion of basic income at 16.997% (17%) of total reference volume and positive discussion extremely close behind on 16.220 (16%)[26].

Demonstrating not only was sentiment near perfectly evenly mixed but it was also highly frequently discussed, with the positive discussion of basic income marginally more thinly spread through a wider range of sources, featuring in 106 of the 321 articles examined or 33.021% (33%) so effectively a third of all articles published in the UK press discussing basic income in some way during the pre-Pandemic examination period. While discussion of the negative aspects of basic income occurred in a marginally more concentrated group of sources while remaining widely discussed as 87 articles out of the total 321 discussed negative aspects of basic income, constituting 27.102% (27%) in some way, although less than the effective 1/3 of articles discussing positive aspects of basic income, negative aspects where still relatively widely discussed.

This mixed sentiment discussion mainly presents itself in a few keyways; first, pro-basic income discussion commonly stems from presenting basic income as a necessary policy to protect living standards in the future, largely against automation and the rise of AI

[26] See Table 2.3 Data Set One: Pre-Pandemic- Total Code Volume, Total Code Volume as Percentage of Total, Codes by Article Recurrence, Codes by Article Recurrence as Percentage of Total Articles.

technologies replacing increasing volumes of the workforce. Often presented alongside additional benefits such as enabling recipients to live a life of greater choice due to their basic monetary needs being met in addition to the possibility of pursuing enjoyable tasks/goals that infrequently give a monetary reward but are nevertheless fulfilling, such as personal creativity, physical exercise, family time, leisure time and travelling to name a few. This argument was also presented in the context of specific fields of work at risk of automation-related redundancy, such as agricultural, art and repetitive professions.

Some key quotes to illustrate this would be:

> *"Ideas for the future include the introduction of a universal basic income - a sum of money every citizen is entitled to in order to ensure a decent standard of living, and something that may be essential if jobs for the masses disappear on a gargantuan scale. It could enable people to pursue more creative or aspirational vocations in the gap left by the loss of traditional jobs." – The Herald, Page 13, "Instead of fearing change, let us embrace the future"* (Allen, 2018)

In addition to:

> *"Self-service check-outs and touch screens are now commonplace, but what happens if call centre jobs vanish, and baristas are replaced with robotic machines that make you coffee on the spot? A big concern is that the rise of driverless cars and trucks could strip millions of taxi drivers and hauliers of a livelihood".*

As well as:

> *"If millions of jobs no longer exist, radical solutions to prevent an unemployment crisis may be needed. And a basic income is seen as a possible way of ensuring that time out of work - or doing less work - does not lead to poverty." – The Western Mail, Page 13, "Could a universal income scheme benefit jobless?"* (Williamson, 2018)

Additionally, the positives of basic income related discussion came from a variety of political perspectives, with sources more typically considering arguments that would typically be considered leaning to the political right, such as advocating for the benefits of reduction in bureaucracy and the sheer number of payments that make up the existing welfare state while those considered more left-leaning advocated for positives in the form of basic income improving the negotiating power of both jobseekers and those involved in collective bargaining, while also favouring the ability for the working to be materially comfortable and productive outside of the labour market if voluntarily out of work which *"to rich people with inherited or financial wealth, many of whom are praised for their philanthropic and voluntary "work". UBI would simply extend that luxury to everyone."- (The independent, Page 40, "AI OF THE STORM; Thanks to artificial intelligence the need for humans to work to survive could be reaching the end"* (Raddi, 2018)

Illustrated in the key quotes:

> *"The most high-profile proposal is a universal basic income (UBI), a programme designed to pay a basic salary to every adult, guaranteeing our subsistence in an automated future without jobs. Proponents argue a minimum income would allow jobseekers to eschew positions for which they are over-qualified, spend more time in work retraining schemes, and ultimately seek more fulfilling occupations, whilst*

> *strengthening the collective bargaining power of workers."- The independent, Page 40, "AI OF THE STORM; Thanks to artificial intelligence the need for humans to work to survive could be reaching the end"* (Raddi, 2018)**.**

And:

> *"For the left, it's liberating. A safety net for all. No more pushy welfare bureaucrats hassling you. For the right, it's also liberating. No more pushy welfare bureaucrats."- The Times London, Page 13. "Dáil sops would complicate a basic income; In the land of the granny grant politicians will not easily be weaned off spending public money in search of votes"* (O'Mahony, 2018)

While additionally, positive sentiment was presented in the context of pilot studies, namely the Finnish study, which concluded in December of 2018, Which although was widely reported negatively in the press due to its premature termination, the positive sentiment towards basic income presented was in the metric of "participant happiness" particularly in the metrics of physical and mental health, trust in their wider society and state security systems as well as trust in their own futures with many sources that were otherwise opposed to basic income on either a philosophical or moral level discussing and praising the observed health benefits observed within the high profile study and speculating on the broader benefits this could bring to not only society but the future of humankind.

> *"Despite limitations on the study, the results on the wellbeing for those receiving the basic income are very promising: Physical and mental health improved by 17 percent Depression decreased by 37 percent Stress decreased by 17 per cent Life satisfaction improved by 8 per cent Trust in other people improved by 6 percent Trust in politicians improved by 5 percent, Confidence in the future improved by 21 percent Confidence in the ability to influence society improved by 22 percent Financial security improved by 26 percent.*
>
> *These are the measurements that matter most, as they show that investing in people immediately and drastically improves their lives. A society where everyone is healthier, more satisfied, and more trusting is one where we're better able to come together to tackle large problems like climate change and the rise of authoritarianism. It's one where people are more likely to approach their differences with tolerance rather than hatred." – The Independent, "I'm running for president and I think everyone deserves $1,000 a month - so I'm putting my money where my mouth is; There's more to the Finland experiment than meets the eye. You may have heard it 'failed', but you didn't hear the full story"* (Yang, 2019)

Secondly, the anti-basic income discussion focused intensely on the negatives of basic income. These were relatively narrow in variance but were high in volume and spread widely, although across relatively fewer sources than basic income related positive sentiment. Specifically, criticisms lay within two main areas: practical policy-specific related criticisms and moral objections.

The practical policy criticisms came mainly in the form of criticising the implementation of a basic income relative to existing welfare measures, mainly in the form of promoting that to bring a basic income from theory to reality would require substantial increases in taxation, redistribution from other important areas of public expenditure or a significant increase in

public debt.

These criticisms extend to negativity surrounding basic income increasing unemployment, further reducing government revenue and undermining living standards through a lack of investment and opportunity provision. While some were rallying against basic income on the assumption that where it not to be a substantial increase in welfare expenditure, it would become a redistribution of funds away from those with the lowest incomes towards the middle- and higher-income earners, advocating instead that rather than spread evenly these funds should be focused only on those most in dire need, as is more similar to the existing welfare system.

Additionally, this practical negativity extends to political criticism of the policy as many negative sources frequently write off the policy as "politically impossible" as schisms in desires of the specifics of what a basic income implementation could look like in reality would result in perpetual non-agreement between varied political sides. Further criticism extends to basic income, presenting further impracticality as if once agreed upon, politically passed and found sustainable, with each successive election, new politicians alter the policy to levels that rewards their voters but perhaps undermines the fiscal longevity of the policy (Bourne, 2018).

The negativity in this regard usually culminates in describing basic income as something desirable in concept but ultimately untenable in reality, with words such as "utopian" or "idealistic" frequently being used descriptively for the basic income policy (Bourne, 2018).

Illustrative quotes would include:

> *"Iain Duncan Smith, the former Tory leader, said a UBI would hurt those it intended to help. "It would require a giant tax hike for all, hurting those on the lowest incomes the most," he said, "and bankrupt the exchequer." – The Express, Page 7, "Labour's benefit overhaul 'would hit pay to poorest'"* (Maddox, 2018)

And:

> *"Claims that UBI reduces poverty are also unproven. Last week a report from the Centre for Social Justice concluded that UBI is a "false hope" and branded the scheme unaffordable. It found the system would not meet the needs of low-income households facing complex issues, was no more generous for the most disadvantaged households than the current Universal Credit system, and, worryingly, provides a major disincentive to find work."- The Daily Telegraph (London), Page 14, "Universal Credit works. Labour's UBI doesn't; Universal Basic Income is expensive, unsustainable and doesn't work - unlike our existing system"* (McVey, 2018)

Furthermore, some criticised that if a basic income were to be implemented and direct cash transfers to be utilised that distortions in CPI inflation could prove harmful to living standards and macroeconomic stability:

> *"There are macroeconomic drawbacks, too. Putting an extra £323 a week in the pockets of every UK adult would cause inflation to rocket. Inevitably, the tax revenues to pay for it would be lacking, so borrowing would soar and governments on the UBI bandwagon would end up printing money." – The Telegraph, "Universal basic income is a dangerous idea"* (Halligam, 2018)

Additionally, practical basic income criticisms include objections to basic income being viewed as an all-encompassing solution to poverty reduction, arguing that rather than providing small amounts of cash to the individual to autonomously spend, that instead taxation funds are better utilised within socialised projects specifically aimed at poverty reduction. For example:

> *"Universal basic income only goes so far - Improving livelihoods through free transport, childcare, internet, and housing would likely be more efficient and longer-lasting when compared pound-for-pound with handing out more cash. It would also represent a deeper reversal to the existing trend of monetisation and privatisation in the provision of public goods."- The Guardian, "Universal basic income only goes so far - free public services are essential too; Our weekly allowance may sound like UBI-lite, but it is part of a radical programme to transform lives"* (Stirling, 2019)

While finally, this practical criticism of basic income was present in the discussion surrounding the Finnish basic income pilot. This is mainly in the form of sources emphasising the lack of greater levels of employment in the basic income treatment group when compared to the control while remaining unconvinced in the desirability of the "happiness" related benefits observed:

> *"The general reaction to this is that the experiment has been somewhat disappointing. You would expect people to be more willing to take on a job if they knew that they would still keep their state benefit, but this has not happened. And the difference in happiness, while statistically significant, is not that huge." – The Independent, "The key takeaway from Finland's universal basic income experiment is that countries need to learn from each other; Before any new drug is introduced, there are randomised trials to see whether it is safe, whether it improves the condition of the patients, whether there are side effects, and so on. Why not apply the same to social policies?"* (McRae, 2019)

The second main area of criticisms surrounding basic income, namely morality-based criticisms, is less frequent than practical criticisms. Negative criticisms targeted at basic income from a moral standpoint often argued that it would enslave rather than liberate people, leaving them dependent upon the state and without a sense of purpose as their material needs are met regardless of drive or perseverance, arguing that not only would enabling people to spend more time outside of the workplace rob them of their self-respect but it would damage workplace relationships and cultures, eventually breaking down social cohesions and creating harmful societal externalities. In addition, disincentivising individuals to prepare for future changes in the employment market as they have a comfortable fallback of the basic income, where the job they have grown used to becomes automated.

> *"Apart from the ridiculous cost, UBI would damage social cohesion. People work not only for income, but also meaning, self-respect, networks and friendship. Paying the entire workforce to stay at home if they choose would spark widespread sloth, ill health and rancour. Crime, drug use and other socially destructive outcomes would spiral. Another objection is that it is merely an easy way out. AI and robotics clearly present challenges. There is a need to support more part-time "gig" work, while better preparing school-leavers and graduates to cope in a hi-tech world. The answer is to meet those challenges, not pay people to stay idle. UBI advocates from Silicon Valley*

could help by paying more of their fair share of general taxation." – The Telegraph, "Universal basic income is a dangerous idea" (Halligan, 2018)

Overall, the article set averages out to contain near perfectly balanced mixed sentiment and is presented within a wide range of articles. Positive basic income-related sentiment presented basic income as a necessity for the future and a radically new means to improve living standards and society through additional intangible non-monetary channels. In contrast, negative related basic income sentiment is primarily presented as either a more "realistic" path towards pursuing utopian social ideals or a deeper argument against the desirability of these "utopian" welfare aspirations at all (Bourne, 2018).

2.1.3.3.1.2 Theme 2: Negative Attitude Towards Basic Income Pilot Study Research

Discussion surrounding basic income pilot studies was fairly high within the pre-Pandemic 01/04/2018 to 01/04/2019 article set, particularly due to the premature termination of the famous Finnish basic income pilot in December 2018. The code *Basic Income Pilot Studies* counted as many as 157 basic income related references, therefore constituting as much as 13.546% (14%) of all basic income related references for the period. Being discussed within 74 of the 321 articles considered, suggesting 23.052 (23%) of all articles featured the topic, a relatively broad number of sources[27].

Although positives were highlighted to some degree, largely within this article set, basic income pilot studies were mainly discussed with negativity or factual neutrality**.** This appeared to draw largely from basic income critics seizing upon the underwhelming employment changes in the Finnish basic income pilot treatment group relative to the control, where they found employment remained largely unchanged or decreased in the case of some that had recently had children, while also under emphasising the "happiness related benefits" generally considered to be the success from the trial.

> *"The impact on employment seems to have been minor on the grounds of the first trial year," Finland's Minister of health and social affairs Pirkko Mattila said. The experiment attracted global attention when it began, as it was the first time a European nation committed to paying its citizens a monthly tax-free wage with no strings attached.*
>
> *But when compared to a control group who were not receiving the basic income, the test subjects given the money were not significantly more likely to have got back into employment. However, they did report being happier and healthier than the control group." – The Independent, Page 39, "World News in Brief"* (The Independent, 2019)

While additionally, the whole concept of testing a basic income policy was ridiculed by some more biased anti-basic income sources. Referring to the social policies examined as "money

[27] See Table 2.3 Data Set One: Pre-Pandemic- Total Code Volume, Total Code Volume as Percentage of Total, Codes by Article Recurrence, Codes by Article Recurrence as Percentage of Total Articles.

for nothing", "free money", "too good to be true", and associating the policy with opposition parties that are known to be not supported among their readers.

Illustrated in the following article headline surmising the results of the recently released Finnish pilot data:

> *"MONEY for NOTHING; Should the Government start giving us all free money? Following trials in Canada, Finland and the US, the Labour Party says it wants to test universal basic income here. But, asks Joy Lo Dico, is it too good to be true?" -The Evening Standard, Pages 12-14* (Lo Dico, 2018)

2.1.3.3.1.3 Theme 3: Basic Income a Toxic Association

The next theme identified within the pre-Pandemic 01/04/2018 to 01/04/2019 article set is how public support of basic income related policies is presented. As a policy option passes from theory into reality via legislative means within a democratic system, it requires political backing; this comes in the form of public support from political parties, politicians and public figures with influential weight over voters' perspectives. This was coded within the article set within the code *Political Party, Politician or Figure Calling for Basic Income* in addition to the *code Political Party, Politician or Figure Calling Against Basic Income*.

Although the latter code *Political Party, Politician or Figure Calling Against Basic Income* remained relatively infrequent, only constituting 29 out of a total 1159 articles or just 2.50 (3%) of total references within the whole basic income discussion spread thinly across just 25 articles or just 7.799 (8%) of the total. *Political Party, Politician or Figure Calling for Basic Income* was very frequently discussed and the most widely discussed topic by number of article sources, with a total frequency of 179 or 15.44 (15%) of all basic income related references featuring across as many as 126 of the total 321 articles within the period meaning *Political Party, Politician or Figure Calling for Basic Income* was mentioned in 39.252 (40%) or 4 in 10 articles[28].

These numbers, although significant, give a false perspective to the content of the discussion; while *Political Party, Politician or Figure Calling Against Basic Income* nearly wholly contained negative sentiment towards basic income policy, *Political Party, Politician or Figure Calling for Basic Income* also contained a large volume of negative sentiment towards basic income policies. A party, politician or figure calling for basic income was frequently presented in a negative light and was often used to attempt to diminish said party, politicians or figures popularity or credibility. Typically, this was distributed as a negative when a politician or party publicly indicated support for basic income, with negative terms such as "populist", "worrying idea", "reckless", and "fiscally dangerous"—suggesting fierce criticism for initial acceptance into the political mainstream (Little, 2018).

> *"LABOUR was accused yesterday of plotting to "kick taxpayers in the teeth" with a "money-for-nothing" flat rate state payment for everyone. Shadow chancellor John McDonnell revealed he wants to try out the idea of a universal, or basic, income if*

[28] See Table 2.3 Data Set One: Pre-Pandemic- Total Code Volume, Total Code Volume as Percentage of Total, Codes by Article Recurrence, Codes by Article Recurrence as Percentage of Total Articles.

Labour wins the next general election."- The Express, Page 6, "Huge tax rises fear as Labour plans flat-rate state payments for all" (Little, 2018)

This even carried over to reporting of foreign politics, such as in the US, for example:

"In the US, proposals for a Green New Deal led by Democrats Alexandria Ocasio-Cortez and Ed Markey appear to advocate for something like a UBI - potentially for those "unwilling" to work, although it is light on detail". The Guardian, "Free money wouldn't make people lazy - but it could revolutionise work; Finland's experiment with unconditional payments suggests a way to undermine our society's damaging fixation with work" (Dent, 2019)

To India, where support for the policy is just reported on as an irresponsible "expensive" gesture to win "election votes":

"The Indian government has announced the introduction of a basic income for poor farmers, as part of a budget full of expensive vote-winning policies clearly geared towards a general election in just a few months' time."- The Independent, "India budget: Modi announces universal basic income for farmers in bid for rural vote ahead of election; Opposition accuses ruling BJP of 'tinkering around the edges' as economy falters" (Withnall, 2019)

Further, in Italy, where basic income support is reported on as a fiscally irresponsible, populist, nationalist vote winner for an upcoming election that stands at odds with the greater European community:

"Italy budget: Parliament backs lowering retirement age and new basic income after standoff with EU; Spending plan approved by MPs amid concern in Brussels over populist government's expensive policies" -The Independent, "Italy budget: Parliament backs lowering retirement age and new basic income after standoff with EU; Spending plan approved by MPs amid concern in Brussels over populist government's expensive policies" (Barnes, 2018)

"Italy's populist government has refused to succumb to pressure to change its deficit target of 2.4% of GDP as it seeks to move forward with election campaign promises, such as introducing a universal basic income, cutting taxes and lowering the retirement age." – The Guardian, "Italy demands respect after EC budget rejection - as it happened; Italy faces an excessive deficit procedure after Commission rules that Rome's 2019 tax and spending plans aren't acceptable EC rejects Italy's budget again Salvini demands respect from Brussels PM Conte: It's an excellent budget",
(Wearden, 2018)

"In fact, Gianantonio Da Re, regional secretary-general of the League in Veneto, has challenged the basic income as it has been approved in parliament: "We will erect barriers, we will not allow immigrants too to access the basic income. We stand for 'Italians first' on everything."- BBC Monitoring Europe - Political, "Italy mayors refuse to apply decree targeting asylum seekers" (BBC Monitoring International Reports, 2019)

While as a whole, the narrative is generally created that both basic income and its proponents are “radical”, “utopians”, and “idealists”, remaining largely outside of the reasonable political mainstream and so to be distrusted when advocating viable policy.

> *“This is an idea (Basic Income) that has excited political idealists for decades - some even trace it to Thomas More's Utopia, published in 1516. The Green Party has been advocating it for years, and last summer John McDonnell said that the policy might be included in the next Labour manifesto. It isn't solely a darling of the Left, either: half a century ago, Milton Friedman toyed with the idea of providing a basic income in the form of a negative income tax.”- The Sunday Telegraph (London),* (Clark, 2019)

The only exception to this is reporting on Hilary Clinton's discussion of her consideration on whether to include a basic income like policy within her 2016 presidential campaign manifesto, where this very fact is suggested as a sign of “UBI`s normalisation” and entrance into the acceptable and implementable mainstream of societal opinion.

> *“One of the "biggest signs" of UBI's normalization was when Hillary Clinton mentioned in her book What Happened that she'd considered including basic income in her campaign, describing it as "Alaska for America". (The Alaskan government gives state residents a dividend of its oil revenue.) After all, Clinton, Santens pointed out, "gauges political winds and follows where they're going once strong enough".- The Guardian, “How economic anxiety could help reshape America for the better; Today's economic uncertainty and struggle can motivate people to change their allegiances and sensibilities, and make 'pie-in-the-sky' solutions seem more attainable”* (Quart, 2018)

While similarly, support for basic income is typically presented more neutrally or positively when reporting on vocalisation of support from Policy Research Think Tanks or high-profile Silicon Valley-type tech figures such as Elon Musk, Mark Zuckerberg, Chris Hughes, Ray Kurzweil and Richard Branson, to name a few. Where not only is their advocacy or interest in basic income policies typically stated without ridicule or underlying implications that it is a view that will undermine their credibility but instead that their advocacy for basic income policies makes them “forward thinking”, “open to new ideas” or even “philanthropic towards the whole of society”, with instead criticism typically manifesting in the form of presenting basic income as a policy with potential merits for the distant future of which was so far off only those gifted in creative, innovative vision could imagine it.

> *“The decision will come as a blow to campaigners for the state to pay a basic income to all citizens. Supporters of the idea, including Mark Zuckerberg of Facebook and Elon Musk of Tesla, claim that the idea ensures a fairer distribution of wealth as more jobs are lost to machines and would help to avoid feelings of anger and alienation that threaten the cohesion of society”- The Times, Page 31, “Finns end (EURO)560-a-month universal income experiment”* (Charter, 2018)

> *“Rather than waiting for government trials, it is also possible for tech companies to take on UBI themselves. 'You've seen this curious private provision of public infrastructure - tech companies providing utilities,' says Lowrey. 'Uberpool supplanting buses is the biggest example. The real intellectual headway is coming*

> *from Silicon Valley, driven by guilt and fear.' Could they run their own UBI schemes, bypassing the state?"- London Evening Standard, "MONEY for NOTHING; Should the Government start giving us all free money? Following trials in Canada, Finland and the US, the Labour Party says it wants to test universal basic income here. But, asks Joy Lo Dico, is it too good to be true*?" (Dico, 2018)

Suggesting that perhaps when it comes to advocating and educating about basic income, a crucial component of integrating basic income policies into mainstream consciousness and perhaps one day implementing them that to a degree it may be less about the policy itself to a degree and more about the advocate in terms of reporting sentiment during the pre-Pandemic period.

Additionally, within the category of *Political Party, Politician or Figure Calling Against Basic Income* typically due to criticisms of the policy itself and fall in line with the typical arguments observed with the *Negatives of Basic Income* code, those being practicality problems with the policy and moral objections to basic income. Public opposition to basic income was overwhelmingly from conservative politicians, typically in reaction to an opposition MP advocating for the policy, such as:

> *"Conservative MP Andrew Bridgen described the plan as the economics of the madhouse', adding: I'm not surprised Labour want to give away more free money. It used to be called buying votes."- Daily Mail London, "£280 BILLION"* (Groves, 2018)

And:

> *"Conservative Party chairman Brandon Lewis said: "This handout would cost hundreds of billions of pounds and is a kick in the teeth to hard-working taxpayers, who would have to pay for it through huge tax rises and more borrowing."- The Express, "Huge tax rises fear as Labour plans flat-rate state payments for all"* (McKinstry, 2018)

As well as:

> *"Iain Duncan Smith, the former Tory leader, said a UBI would hurt those it intended to help. "It would require a giant tax hike for all, hurting those on the lowest incomes the most," he said, "and bankrupt the exchequer."- The Daily telegraph, "Labour's universal pay plan attacked"* (The Daily Telegraph (London), 2018)

To typify a few; however, the exception to this was the inclusion of prominent economist Joseph Stiglitz whose opposition to basic income was not presented as a politically motivated attack on a proponent of the policy but instead an inferior alternative to other means of poverty reduction and as such a less politically motivated evaluation.

> *"Taxes are not enough. To Stiglitz, this is about labour bargaining power, intellectual property rights, redefining and enforcing competition laws, corporate governance laws and the way the financial system operates. "It's a much broader agenda than just redistribution," he says. He is not a fan of universal basic income, a proposal under which everyone receives a no-strings handout to cover the costs of living."-The Guardian, Joseph Stiglitz on artificial intelligence: 'We're going towards a more divided society'; The technology could vastly improve lives, the economist says - but*

only if the tech titans that control it are properly regulated. 'What we have now is totally inadequate' (Sample, 2018)

2.1.3.3.1.4 Theme 4: Basic Income Less Desirable than Present System

A hugely significant theme identified within the pre-Pandemic 01/04/2018 to 01/04/2019 article set is the continual discussion regarding the profound change that the implementation of a basic income related policy would pose to not only the existing welfare system but also to broader society and the degree to which not only basic income would or would not be a more desirable system than the existing welfare system but also as to whether a radical overhaul as significant as a basic income policy would be desirable at all. This has been thematically identified as the appetite for revolutionary or evolutionary change to the existing welfare system. Basic income policies are again frequently discussed with terms such as "utopian" to label them as a policy change that, although potentially positively viewed, remains outside feasible political reality. At the same time, the typical criticism of high policy cost remains frequently taken for granted, while policy pricing remains infrequent.

A direct comparison of basic income to the existing welfare system within the articles set presented itself as a medium frequency discussion point, representing 82 out of 1159 total basic income related references or 7.075 (7%) of total references, or about half as many as the *Political Party, Politician or Figure Calling for Basic Income* code. This was similar within the measure of the number of articles the code occurred within at 51, or 15.887 (16%) of articles, again representing just under half the figure recorded for a top frequency code such as *Political Party, Politician or Figure Calling for Basic Income* which was found to be present in 126 of the total 321 articles or 39.25 (39%) of all articles, so again discussion of basic income policies against existing welfare policies comes out as a fairly middle of the road figure[29].

Within the *Basic Income and Existing Welfare System* code basic income related policies are heavily criticised; typically, they are acknowledged to present some desirable attributes, such as welfare system simplification and bureaucratic streamlining of payments, but after further inspection, this is generally evaluated to be not worth overhauling the entire existing welfare system for. Leaving many of the articles to evaluate a basic income-related welfare system to be "utopian" in thinking, specifically that being unattainable in implementation and naïve in expectation for success, as frequently it is discussed that a basic income-based welfare system would not only be fiscally unsustainable and politically impossible to implement but that it may instead have negative consequences upon those currently benefitting from the existing welfare system as well as those contributing to maintaining the existing system.

> *"A universal basic income would involve all citizens receiving a payment from the state, replacing or supplementing out-of-work benefits. It is seen as a form of welfare utopianism, potentially simplifying and improving benefits, though probably at huge*

[29] See Table 2.3 Data Set One: Pre-Pandemic- Total Code Volume, Total Code Volume as Percentage of Total, Codes by Article Recurrence, Codes by Article Recurrence as Percentage of Total Articles.

cost."- The Guardian, "Politics live; Rolling coverage of the day's political developments as they happen Afternoon summary" (Sparrow, 2018)

This leaves many of the articles concluding that although some aspects of a basic income may be desirable presently, we cannot be sure about the net implications, and therefore conclude, rather than gamble with the lives of those currently receiving state support, those contributing their incomes to the welfare budget as well as the peoples' balanced state budget its self, we would be far safer and wiser to evaluate the current welfare system and to improve it in calculated non-radical increments, essentially advocating for the need for an evolutionary change to the welfare system rather than a revolutionary change.

> *"YET an indiscriminate universal scheme, because of its horrendous costs, would leave the poorest far worse off, with payments to the most vulnerable much lower than under the current social security system. The Left has bleated for years about "Tory cuts", but such cuts are nothing compared with those that would happen in McDonnell's brave new world.*
>
> *It is absurd to call for the demolition of the present welfare structure just when it is starting to work well. Conservative reforms since 2010, including restrictions on entitlements, have helped to boost employment to record levels, shrink the number of workless households, reduce inequality and enhance social mobility.*
>
> *The reality of the improved welfare system also smashes another plank of the supposed case for a basic income: that of lowering the costs of state administration.*
>
> *"It costs way more money to manage benefits, set against what is paid out to claimants," screeches one enthusiast. That is nonsense." – The Express, Page 12, "A universal basic income? It's a potty Marxist scheme"* (McKinstry, 2018)

This was reaffirmed within the evaluation of the basic income pilot schemes using the criteria that a welfare system should push participants out of payment receipt and into employment:

> *"Countries piloting the scheme have come to similar conclusions. In April 2018, the OECD Economics Department published a paper comparing Finland's benefit system with both UBI and Universal Credit. It found that a UBI system could improve incentives for many, but with a "drastic redistribution of income and likely increasing poverty as a result", whereas Universal Credit would "consistently improve work incentives and transparency while preserving or improving social protection". In a nutshell, Universal Credit better supports people into work."- The Daily Telegraph, Page 14 "Universal Credit works. Labour's UBI doesn't; Universal Basic Income is expensive, unsustainable and doesn't work - unlike our existing system"* (McVey, 2018c)

In essence, the message of:

"The very last thing we need is a total upheaval of our steadily improving welfare system. If it ain't broke, don't fix it."- The Express, Page 26, "Labour's latest brainwave is pure financial madness" (Maddox, 2018)

This argument against a significant alteration of the existing welfare measures was made frequently, often presented as a counter to arguments that may have advocated for a basic

income.

Arguments made in favour of a basic income-based welfare system in comparison to the existing system mainly were arguments made to explain how a basic income could patch various holes in the existing welfare system. Specifically, explanations of how basic income could eradicate the poverty trap and the incentives against work, how a basic income-based system could remove stigmas associated with welfare receipt and could present positive psychological benefits to not only recipients but to broader society, as well as cut welfare bureaucracy costs and errors that can have life or death impacts on recipients.

For example:

> *"The Finnish basic income trial, of which I am part, finishes at the end of the year. Having been interviewed by nearly 70 separate media outlets, from the BBC to Le Figaro, the question I have been asked most often has been: how has the basic income trial changed my life? My answer is simple. In money terms, my life has not changed at all. However, the psychological effects of this human experiment have been transformative. I vastly prefer basic income to a benefits system fraught with complicated forms, mandatory courses and pointless obligations." – The Guardian- "Universal basic income hasn't made me rich. But my life is more enriching; Trying out the scheme in Finland pushed me to find better work opportunities. It beats a complicated benefits system"* (Muraja, 2018)

And:

> *"A report by independent thinktank Reform Scotland claimed that a lot of the costs of providing a basic income for every adult of £5,200 - around £1,500 more than the basic annual amount obtained through only Jobseekers Allowance - could be offset by money saved on benefits bureaucracy and scrapping the personal tax allowance.*
>
> *Having written a number of stories about the bureaucracy of the benefits system, I can well believe that removing the nonsense could save a fortune. I heard about a chap who had his Jobseekers' Allowance sanctioned because he failed to turn up for the multiple interviews set up for him that week - because he was in hospital, unconscious after a heart attack. When he began his recovery at home, he discovered no money had been paid into his account since he was admitted to hospital, leaving him unable to buy so much as a can of beans. Another man was sanctioned because on arriving at an interview for a security guard job, he discovered that the role required him to have a level of security clearance which he did not already have - nor was there time for him to obtain before he would be needed to start. He agreed with the company that going ahead with the interview would be a waste of his time - and theirs - so left. The next month, his benefits were docked to reflect the fact that he had "not turned up" to an interview.*
>
> *All of this is costly and bureaucratic - not to mention unbelievably stressful for those who have to navigate what appears to many to be an entirely unnavigable system"- The Scotsman, "How Scotland could take a step closer to Utopia"* (Bradley, 2019)

However convincing these arguments were, they, in essence, only amounted to the patching of existing holes in the existing welfare system. A system that has come to evolve incrementally over its nearly 200-year history, purely through the patching of holes and not

through upheaval and replacement. In essence, with the welfare system operating inefficiently but somewhat functionally at that time, using the patching of holes as a justification for revolutionary change and the deviation from nearly 200 years of evolutionary change was a losing argument**.** For basic income to become a compelling alternative to a gradual reform of the existing system, there had to be a fundamental shift; this could come in the form of the existing system radically failing for all those involved or the unique benefits of basic income becoming so apparent that the desire for it was obvious and overwhelming, or perhaps even more potently, both.

> *"Proponents argue a minimum income would allow jobseekers to eschew positions for which they are over-qualified, spend more time in work retraining schemes, and ultimately seek more fulfilling occupations, whilst strengthening the collective bargaining power of workers. Critics counter that people would stop looking for work altogether and become dependent on the state, although it is curious how the same concerns aren't extended to rich people with inherited or financial wealth, many of whom are praised for their philanthropic and voluntary "work". UBI would simply extend that luxury to everyone.*
>
> *The alternative is to reform the current welfare state. As Cambridge University Academic Dr Peter Sloman, who is researching the history of UBI, points out: "Basic income campaigners can reasonably argue that the current system of low-paid work and benefit sanctions has become coercive and degrading." However, Sloman also notes that the infrastructure created for the much-criticised universal credit could be turned into a powerful anti-poverty tool without going as far as UBI - for instance, by improving benefit rates and reducing conditionality requirements. The government could also be doing much more to tackle in-work poverty by working with firms to create skilled jobs and investing in training programmes."- The Independent, Page 40, "AI OF THE STORM; Thanks to artificial intelligence the need for humans to work to survive could be reaching the end"* (Raddi, 2018)

2.1.3.3.1.5 Theme 5: Infrequent Factual Policy Explanations

The final theme observed within this set is the infrequency of neutral informative information surrounding the policy of basic income. Basic income polling was reported on a total of 22 times, constituting only 1.898 (2%) of all references across only 17 articles of the total 321, a disappointing 5.295 (5%) of articles within this the code "Universal basic income has the support of 40% of British people, poll reveals" to some variation was typical (Cowburn, 2018). However, many articles failed to report on the number explicitly 'against' basic income being just 15%, with the rest being 'don't knows' or 'undecideds', instead leaving the reader to assume that 60% are against a UBI without adequate clarification.

Additionally, despite claims that a basic income policy would or would not be affordable being made highly frequently throughout the set, numerical costing estimates of the policy were surprisingly infrequent, with a numerical costing in GBP figure only quoted in 34 of the total 1159 references made towards basic income or just 2.933% (3%) of all basic income related codes. Translating to a numerical costing for a basic income policy only occurred within 29 of the 321 articles or just 9.03 (9%), a low number considering that the most

frequent code from the set was *Negatives of Basic Income* and the most frequent criticism within the code was 'excessive cost' of the policy.

Furthermore, correct 'factual written accounts of what a basic income is' was markedly low, considering the three most frequent codes were all either related to praising or critiquing the policy itself. A factual account of what basic income is was only stated 41 times in total, constituting 3.537 (4%) of total references made; this was spread thinly across just 38 of the total 321 articles or 11.838 (12%) as some contained more than one complete, accurate factual definition of the policy, implying that if you were uninformed of the policy were you to read a single random article on the topic, you would have a less than one in eight chance of having the opportunity to read a factually correct full description of what a basic income policy is[30].

Together painting a more comprehensive picture of an article set containing a disproportionately large volume of opinions towards the policy and advocacy for or against but a disproportionately smaller presentation of strictly neutral factual policy information.

[30] See Table 2.3 Data Set One: Pre-Pandemic- Total Code Volume, Total Code Volume as Percentage of Total, Codes by Article Recurrence, Codes by Article Recurrence as Percentage of Total Articles.

2.1.3.3.2 Thematic Analysis Two: Understanding the Post-Pandemic Corpus

2.1.3.3.2.1 Theme 1: Basic Income as a Pandemic Response

Without a doubt, the single most impactful theme present within the 01.04.2018-01.04.2019 Basic Income Articles set in the emergence of the discussion of basic income as a response to the global pandemic. Within this set, the discussion surrounding how a basic income based welfare system transforms dramatically, presenting it as a system that is fast acting, broadly protective, fair in coverage, inclusive of those outside of the existing welfare system and even an obvious necessity to both protect both the individual and wider society from the ongoing crisis, the difficult period of post-crisis emergence and reconstruction, as well as the uncertainty of the rapid onset of an un-knowable crisis likely to come into reality at some point in the future.

As the narrative shifts from the consensus that the existing welfare system is acceptable, but in places imperfect, to instead a new, more critical discussion where the welfare system is frequently contextually mentioned as now dangerously inadequate and failing. The demand for rapid revolutionary change is more prevalent, while the argument for gradual evolutionary progression decreases. This new context forms the backdrop for the re-invigoration of the discussion of bringing a basic income style policy into reality, further propelling it to new heights and unique narrative forms not observed within the pre-crisis corpus.

As a code, *Basic Income as a Pandemic Response* is hugely numerous both in absolute value at a massive 313 references out of the total 1499 observed, the highest in any of the observed sets by far and in relative value constituting 20.880 (21%) of all references within the 01.04.2020-01.04.2021 Basic Income Articles set again the most dominant singular point not only in absolute terms but also in relative out of all years analysed. This high absolute and relative frequency is featured over a large number of articles, spanning 225 of the 585 considered, a massive 38.462 (38%) of all articles within the 01.04.2020-01.04.2021 Basic Income Article set only narrowly beaten as the second most widely featured basic income related topic across articles for their year behind the code *Political Party, Politician or Figure Calling for Basic Income* within the 01.04.2018-01.04.2019 Basic Income Article set which featured within 39.252% (39%) of articles[31].

Not only massive in volume and breadth of discussion, but the code basic income as a response to the global pandemic was an entirely new contribution to the discussion. Coming from a frequency of zero codes within the 01.04.2018-01.04.2019 Basic Income Article set to become the largest by a substantial margin within the 01.04.2020-01.04.2021 Basic Income Article set suggests massive significance in how the discussion altered and perhaps how the inescapable paradigm-shifting events of the global pandemic may have changed priorities and perspectives in relation to the desires for and against a basic income related welfare system.

As a whole, the discussion of basic income within the context of being a policy relevant to lessen the damage of the pandemic was overwhelmingly positive with regards to advocating for a basic income style system to not only patch the holes in the existing welfare system but

[31] See Table 2.4 Data Set Two: Post-Pandemic- Total Code Volume, Total Code Volume as Percentage of Total, Codes by Article Recurrence, Codes by Article Recurrence as Percentage of Total Articles.

to totally replace it, providing benefits that the old system would never be capable of and that where now overwhelmingly pertinent as result of the pandemic crisis.

This discussion came largely from journalists who either now felt emboldened to share their advocacy for basic income now that those making the argument for evolutionary welfare reform had receded or those who had newly shifted to accepting the need for revolutionary welfare reform with basic income policy characteristics. Additionally, the argument was significantly pushed by politicians who no longer had their credibility diminished when integrating basic income into the discussion with terms such as "utopian", "populist", or "fiscally unsustainable" as article responses became not only less hostile to such discussion but frequently even welcoming.

> *"Given the unprecedented collapse in earnings that many people face, conventional fiscal prudence is perhaps less important now than it was in the recent past. Now is the time for governments to help citizens and economies by spending more rather than less. The governments of developing countries may need to accept large budget deficits in order to finance a UUBI, at least in the short term. When countries begin to loosen their lockdowns and resume production, they will face extremely weak demand. Pledging that cash transfers will continue for some time in the future will allow people to go out and spend money when it becomes safe to do so. In turn, this will drive the revival of the economy."- The Guardian, Coronavirus is a crisis for the developing world, but here's why it needn't be a catastrophe; A radical new form of universal basic income could revitalise damaged economies Esther Duflo and Abhijit Banerjee won the 2019 Nobel prize in economics for their work on poverty alleviation"* (Duflo & Banerjee, 2020)

And:

> *"The "time has come" for universal basic income (UBI) in Scotland, Nicola Sturgeon has said.*
>
> *Speaking at the daily coronavirus briefing in Edinburgh, the first minister said there will be "constructive discussions" with the UK government on the matter.*
>
> *Under the scheme, residents would be given a universal payment from the government, with some benefits scrapped. When asked about the move at the briefing, the first minister said: "The experience of the virus and the economic consequences of that have actually made me much, much more strongly of the view that it is an idea that's time has come.*
>
> *"As one of the many things that we should rethink, this should be up there, quite close to the top of the list." – The Independent, "Time has come' for universal basic income, says Sturgeon; Coronavirus prompts Scotland's first minister to make UBI a policy priority"* (Paton, 2020)

Justification for this came in the form of arguing in basic incomes favour to protect both the currently vulnerable such as the self-employed, gig economy workers, graduates, and individuals financially trapped in abusive situations who would have benefited from the policy before the pandemic but were perhaps not considered enough to justify a revolutionary change in the pre-existing near two century-old welfare system, but also those who now,

perhaps for the first time considered themselves to be somebody who had either been made vulnerable or was at risk of becoming so, namely the rest of the population who either were made redundant when they never expected to be, those unallowed to go into work, those who could start showing symptoms and could be left without income for at least two weeks and those who were unable to continue to participate in all they had known because of medical vulnerabilities. All due to a black swan event that not only came by surprise but could potentially recur indefinitely, with each having the potential to be catastrophic for those living pay-cheque to pay-cheque, with little-to-no savings, basic costs of survival necessities to pay and fear of selling off all they have worked for in order to survive.

This new reality of economic insecurity redefined the narrative; instead of allowing people to view the welfare system from afar as almost a charity system that drained the product of their labour to for the first time understanding it for what it is, a safety net that can mean the difference between life or death, and with that observation came the revelation for many that the holes in the net were not only existent but were potentially large enough to let individuals slip through the net altogether, through either being excluded from coverage due to eligibility criteria or being excluded because of the bureaucratic related time constraints slowing down the time between application and payment disbursement to an agonising and potentially life-destroying length of time for many people who had spent their entire adult life paying into that system.

> *"UNIVERSAL Basic Income should be 'seriously considered' as a way of helping the economy recover once the coronavirus lockdown has lifted, according to Andy Burnham.*
>
> *The Greater Manchester mayor said it was wrong that people in higher-paid jobs can work from home while essential workers on 'insecure contracts' are putting themselves at risk."- Manchester Evening News, Page 10, "Mayor makes fresh call for 'basic income'"* (Griffiths, 2020)

From this, the thematic analysis indicates the positive discussion regarding basic income related policies grew significantly as the demand for provision for welfare shifted from a desire to be targeted demographically to a demand for provision to become genuinely universal as society pulled closer together. This lesson was, for a time, applied towards the future, as lessons were drawn from comparing the pre-existing targeted welfare system's exclusivity being critiqued against the universal provision of healthcare offered by the NHS that was now brought to the forefront of attention and zealous appreciation.

Many sources advocated that at this time of crisis, when we had come to realise that we could not isolate ourselves from one another and that we were as vulnerable as the most vulnerable in our society in terms of the spread of a virus that perhaps universal basic provision was necessary to prevent catastrophe during the crisis, and that just as universality had critically provided all with a basic level of healthcare during the pandemic, so could the welfare system provide basic means of survival in the form of reliable cash transfers, as so no crisis to any degree could ever damage society or the life of the individual to the extent that they could not survive and eventually recover.

> *"Getting and spending, we lay waste our powers," Wordsworth wrote, a little more than 200 years ago. Perhaps this will be the moment that we recognise that there is*

> *enough food, clothing, shelter, healthcare and education for all - and that access to these things should not depend on what job you do and whether you earn enough money. Perhaps the pandemic is also making the case, for those who were not already convinced, for universal healthcare and basic income. In the aftermath of disaster, a change of consciousness and priorities are powerful forces."- The Guardian, " The impossible has already happened': what coronavirus can teach us about hope; In the midst of fear and isolation, we are learning that profound, positive change is possible."* (Solnit, 2020)

This translated to many articles not only calling for a basic income style response to the immediate perils of the pandemic but calling for a basic income style response for the recovery from the pandemic; this was often labelled as the "build back better" campaign or the "recovery basic income" citing the fact that the disaster alleviation policy of furlough that came to provide a proportion of the wages of nearly half of the UK workforce during the pandemic trailblazed as proof that not only would a revolutionary cash transfer based welfare reform be possible but it would be crucial during a disaster and immensely popular.

> *"A call for a universal basic income or UBI: an idea once dismissed as absurd, but which seems positively mainstream now that the UK government is paying 80% of the wages of all those furloughed by the virus crisis."- The Guardian, "Rutger Bregman: the Dutch historian who rocked Davos and unearthed the real Lord of the Flies; The historian offers a hopeful view of human nature in his latest book, Humankind. It couldn't have come at a better time. The real Lord of the Flies: what happened when six boys were shipwrecked for 15 days"* (Freedland, 2020)

As well as:

> *"There has been much talk of building a better world as we move out of the coronavirus crisis. Talk of introducing, say, universal basic income and building a better, truly secure welfare state is one such priority. Surveys show unprecedented support for UBI."- The Herald, Page 15, "Reinventing how we travel must be part of our Covid recovery"* (Stewart, 2020)

And:

> *"Ten days ago, the left-inclined pressure group Compass organised a letter, signed by more than 100 MPs and peers from seven parties, calling for a "recovery basic income" that would be "sufficient to provide economic security". An accompanying paper sets out the case for these short-term measures being followed by a permanent basic income - set at a starting rate of £60 a week per working-age adult and £40 per child (or £10,400 per year for a family of four), with additional unemployment, housing and disability benefits maintained. Over time, this "income floor" could rise to £100 per adult." The Guardian- "Why universal basic income could help us fight the next wave of economic shocks; The coronavirus crisis has put insecurity at the heart of tens of millions of lives"* (Harris, 2020)

While on the other side of this emboldened side of the debate, arguments against a basic income style welfare system as a response to the pandemic did exist in small numbers but taking on an entirely new form. Now conceding that basic income welfare policies were

gaining ground in terms of popularity and becoming immensely successful in getting support to those who need it most, while attacking the long-term repercussions of reforming the welfare system into a basic income system as something that will end an era of "economic and political liberty", citing that universal welfare entitlement would be akin to government overreach or a command economy.

> *"And nor is the concern purely one of law and order. We have the state stepping in to pay workers' wages for the first time in peacetime history; we have state support of large sections of industry. This is vital to protect jobs-but we cannot allow it to remain unremarked such that it becomes the norm. The left will say "that was not so bad-let us go further", and calls for things like a Universal Basic Income will grow louder.*
>
> *"And we must not think that Conservatives are immune to such siren calls. The command economy established during the Second World War was not dismantled until the 1980s, such was the wide acceptance of the status quo among people who should have been seeking to restore economic liberty. The 1960s and 1970s saw the discredited doctrine of Butskellism-a consensus on the basic principles of state ownership-that it took Margaret Thatcher to dismantle. So painful a process was that, after years in which Conservative manifestos looked like Labour ones, it is still remembered.*
>
> *The danger is that state control becomes something that is seen as the norm-but we as Conservative MPs must be making the case that it is economic and political liberty that made this country one of the greatest places on earth in which to live. It was those liberal principles that put us in a good position to meet this crisis, and it is those that will get us out of it."- The Telegraph, "Creeping state control cannot become the new normal. Liberty must be restored"* (Courts, 2020)

While others warned of those capitalising on disaster to push a political agenda and countered that although the welfare state may be failing, incorporating aspects of a basic income was a better option than implementing a full UBI, stressing that although helpful during the pandemic over the long run undesirable issues persist.

> *"It is a pleasant fantasy, and taken seriously by many visionaries, including tech billionaires like Facebook's Mark Zuckerberg and Tesla's Elon Musk, who wonder what is going to be done with all the surplus people once everything is automated. Any UBI worth the name in a country like the UK would have to be set at something close to average wages. Otherwise, what is the point? I simply don't see the sense in offering people a UBI at the same poverty level as Universal Credit. And to give a living UBI to everyone, wealthy included, and then tax everyone massively to pay for it, seems to be a perverse form of redistribution.*
>
> *UBI is addressing a serious issue. Think tanks claim that automation will kill a third of all routine jobs. Capitalism doesn't need big workforces anymore because it has evolved beyond industrialisation. But UBI is not the way. The benefits of automation should be spread by taxation, shorter hours and higher pay, not by creating a society of serfs living on a miserable stipend."- The Herald, Page 13, "Universal Basic Income would just lead to increased poverty"* (Allan, 2020)

And:

> *"With supply chains broken, as factories close and workers are quarantined, and consumers prevented from travelling, shopping -other than for food -or engaging in social activities, there is no scope for a fiscal stimulus. Meanwhile monetary policy has been stymied as interest rates are already close to zero. Governments therefore should focus on providing all in need with a basic income, to ensure that no one starves as a result of the crisis. While the concept of basic income guarantees seemed utopian only a month ago, it now needs to be at the centre of every government's agenda."- The Independent, Page 43, "What the world will look like after global lockdown; To tackle the next threat, we must realise borders are only a geographical concept"* (Goldin & Muggah, 2020)

As well as:

> *"The idea of a basic income has gained traction across the world as people look for solutions to the economic shock of coronavirus. Every citizen would be given a fixed sum to cover basic costs, whether they are rich or poor, working or unemployed. "In the middle of a crisis, there's a great opportunity. On the back of World War II we had the NHS, which is universal, everyone benefits, and it's our most-loved institution. On the back of this crisis, the universal basic income can be our generation's NHS."" – South Wales Echo, Page 13, 'Free cash for two years if income trial is agreed'* (Seabrook, 2020)

In addition to:

> *"The coronavirus (Covid-19) pandemic has exposed the shortcomings of the UK social security system and strengthened calls to further explore how a universal basic income could provide support to people and reduce poverty. We now have the perfect opportunity to take that forward" – The Guardian, "UK coronavirus: Matt Hancock not ruling out compulsory cooperation with test and trace system - as it happened; UK death toll rises by 151 to 41,279; urgent cancer referrals in England fell by 60% in first month of lockdown NHS unable to trace contacts of 33% of people with coronavirus Who does coronavirus kill in England and Wales? How successful is test and trace? – Analysis Coronavirus* (Marsh, et al., 2020)

2.1.3.3.2.2 Theme 2: Open Call for Basic Income Policies

Within the 01.04.2020-01.04.2021 Basic Income Article set as a whole, there is a far greater volume of references within the code *Political Party, Politician or Figure Calling for Basic Income* of these calls for the implementation of a basic income many are from regional figures calling for basic income style policies to be implemented to alleviate conditions created by the pandemic within their specific geographical localities with support for a basic income often presented as a conscientious and decisive action in standing up for people struggling to survive the worst of the pandemic. Whereas the volume of references within the code *Political Party, Politician or Figure Calling Against Basic Income* was meagre, coming in at an even lower count than the 01.04.2018-01.04.2019 pre-Pandemic set, despite a

massive increase in article volume in the 01.04.2020-01.04.2021 Basic Income Articles set overall.

The discussion within the code *Political Party, Politician or Figure Calling Against Basic Income* remains flat mainly in terms of the original argument, with most statements typically coming from conservative politicians, stating they are either "not a fan of basic income" or "do not support basic income" and then listing either high cost, increased unemployment or the "irresponsibility" of those who proposed It as reasoning.

As such, the code set *Political Party, Politician or Figure Calling for Basic Income* counted a huge 246 references out of 1499, constituting as much as 16.410 (16%) of all references within the set. This was spread very widely across 195 out of the 585 total articles published, making up 33.333 (33%) or as much as a third of the total. Whereas the code *Political Party, Politician or Figure Calling Against Basic Income* remained significantly smaller at just 46 codes out of 1499 or just 3.002 (3%) of the total. Spread extremely thinly across only 41 articles of the total 585 or just 7.008 (7%) of the total 01.04.2020-01.04.2021 post-Pandemic Basic Income Article set[32].

Typically, within this set, not only is public advocacy for a basic income style policy presented more neutrally or less critically, but within the context of alleviating the negative effects of the pandemic, it is often even presented in a positive style, this is particularly true within discussion surrounding regional politicians, publicly expressing support for a basic income style policy implementation, typically now within regional and local press publications.

This was observed within the national governments and news of Scotland and Wales and within the cities/regions of Sheffield, Hull, Liverpool, Glasgow, Shetland and Norwich. Reasoning for this was often cited that within these areas' smaller percentages of the working population qualified for pandemic support in terms of either being able to work at home (i.e. computerised or telephone work) and, thus, if struck off sick with the virus at a moment's notice and forced to isolate no support was received during the immediate crucial fourteen-day window, as such leaving them with a greater policy preference for fewer exclusivity requirements, less bureaucracy and a faster acting response time in issuing support with regards to pandemic welfare, all benefits that a basic income style welfare system would be understood to possess over the existing system (EDP, 2020).

Additionally, within these regions, there was a focus on supporting individuals with less conventional forms of employment that excluded them from conventional welfare or pandemic relief funds or those within low-income or low-savings groups that would not benefit from the furlough scheme or would not be able to stay solvent as they waited for payments to begin. These groups were identified as students, workers within the gig economy and those devoted to necessary unpaid caring work.

> *"The SNP has repeatedly called for the introduction of a universal basic income, or other form of minimum income guarantee, to support everyone in society through the crisis and stop people, especially those in vulnerable and low-income groups such as*

[32] See Table 2.4 Data Set Two: Post-Pandemic- Total Code Volume, Total Code Volume as Percentage of Total, Codes by Article Recurrence, Codes by Article Recurrence as Percentage of Total Articles.

students, from falling through the cracks."- Evening Times (Glasgow), Page 9 , "Students fear 'ticking time bomb' as payments end (Ward, 2020)

And:

"Speaking at his weekly coronavirus press conference, Mr Burnham said: "Universal Basic Income is an idea that needs to be seriously considered. "All people should be paid enough at work so they have a decent amount to live on. If that is true anywhere then it's got to be true of the care system."- Manchester Evening News, Page 10, Mayor makes fresh call for 'basic income' (Griffiths, 2020)

As well as:

"Now that those things are clearer than ever, a few optimistic voices have predicted that the aftermath of the outbreak will provide the opportunity to remake things and create a new, fairer country. Some of them - including First Minister Nicola Sturgeon - are talking of a Universal Basic Income, a state pension payable to everyone whether they need it or not as a way of providing decency and security." – The Sun (England), Page 14, "Poor reality of the killer virus" (Boylan, 2020)

In addition to:

"Sheffield, Hull and Liverpool councils have all passed motions supporting a basic income pilot. Now campaigners at UBI Lab Cardiff have written to councillors urging them to do the same."- The Western Mail, Page 16, "Residents could get £100 a week free in basic income pilot" (Seabrook, 2020)

While within the code of *Political Party, Politician or Figure Calling Against Basic Income*, the argument remained relatively consistent throughout the corpus. The typical explicit advocacy against basic income style policies came from politicians favouring the current welfare system instead of implementing a perceived revolutionary reformation. Notably, politicians from the, at the time, ruling UK Conservative party and Kier Starmer, the labour opposition leader, among other more moderate labour politicians, in addition to several politicians from the United States of America. All of which typically express that they either "are not an advocate of" or "not in favour of a basic income", a less radical critique than labelling it "utopian or populist" as in the pre-Pandemic article set, then going on to criticise the cost as excessive or its implications upon the taxation system as unfavourable, going on to advocate then that the existing systems in place were either superior or better amended to solve current pandemic related issues rather than being replaced by a basic income style policy all to some degree.

Examples of this would include:

"But Tory chairman Brandon Lewis said: "This would cost hundreds of billions of pounds. "It is a kick in the teeth to hard-working taxpayers who would have to pay for it through huge tax rises and more borrowing. "Our welfare system should give people a hand up - not a handout."- The Sun, Page 2, "Labour's handout bid rage" (BBC Monitoring, 2020)

And:

> *"Minister rules out Universal Basic Income The debate around Universal Basic Income has reignited as politicians attempt to fathom a way out of the economic impact of coronavirus. But it just got short shrift in the Commons. Asked about its potential, Scotland Secretary Alister Jack told MPs "We don't believe it's the best way to deliver social security because it's not targeted at those who need it most."- The Telegraph, "Boris Johnson defends Government over 'lost week' before Leicester lockdown"* (Neilan, 2020)

As well as:

> *"Labour last week rejected the idea of a universal basic income during the Covid-19 crisis, with a spokesperson for Keir Starmer stating that "creating an entirely new social security system is unlikely to be possible during the crisis"." – The Independent, "Public support universal basic income, job guarantee and rent controls to respond to coronavirus pandemic, poll finds; Political terrain in UK seems to have opened up in wake of crisis"* (Stone, 2020)

In addition to:

> *"With the Government' unprecedented intervention during the coronavirus lockdown, the question of universal basic income (UBI) has resurfaced as a debating point. But Trade Secretary Liz Truss is not a fan. She has told MPs she "certainly" doesn't support the idea of UBI, noting that it has been trialled in other countries and "not been effective". Instead, she praises Universal Credit as "very effective"'- The Telegraph, "Politics latest news: Care homes will see 'high mortality rates', admits CMO"* (Neilan, 2020)

2.1.3.3.2.3 Theme 3: Positive Sentiment

Within the 01.04.2020-01.04.2021 Basic Income Article set, the discussion of the positives of basic income gains a significant lead over the discussion of the negatives. This positive sentiment not only includes the typical arguments cited in support of basic income, namely individual autonomy, fast application and distribution of support funds, comprehensive inclusivity, mental health benefits and the reduction of welfare-associated stigmas, to name a few, but this set typically cites these benefits within the context of emergent social problems associated with the global pandemic and cites the direct benefit basic income would be as a tool to alleviate lives during a crisis.

The code set *Negatives of Basic Income* within the 01.04.2020-01.04.2021 post-Pandemic Basic Income Article set is, as a whole, a much less invigorated argument, not only present in a far lower relative and absolute volume than the positives of basic income within the same article set but at a much lower relative and absolute volume relative to its own levels within the 01.04.2018-01.04.2019 Basic Income Article set. In contrast, the argument itself seems to be much less focused on criticising the implementation of a basic income style policy on practical policy concern grounds, such as high cost and better distribution of finite resources from existing welfare models, to instead relatively more focused on warning against the social perils that might result when implementing of a basic income, such as idleness, lack of

motivation and a fall in social mental health measures over the long term associated with making work a non-compulsory measure without forcing recipients to follow employment or social criterion for fund receipt.

By distribution, the code *Other Basic Income Positives* was relatively high in volume, constituting 166 out of the 1499 references to basic income within the 01.04.2020-01.04.2021 article set, translating to 11.074 (11%) of the total. These codes were spread across 110 articles within the 585 in the set, suggesting a relatively broad distribution being featured in 18.803 (18%) of the total.

While the code *Negatives of Basic Income* were present in a relatively lower volume, being counted in a total of 126 out of the total 1499 references or just 8.405 (8%) of the total. This was spread relatively thinly across just 88 of the 585 articles or 15.042 (15%) of the total data set. This manifested as a high level of concentrated basic income criticism from relatively few individual sources, in conjunction with the sources that focused on the positives of basic income now frequently failing to include any negative counterpoints[33].

Positive arguments for basic income policies within the context of the Pandemic typically presented arguments of support for individuals to partake in the many non-monetary but positive externalities associated with supporting their families, friends, and communities necessary during a crisis. Notably, it was argued as a necessity for enabling continued isolation and quarantine, in addition to stimulating aggregate demand through increasing the disposable income of policy recipients, discussed as a necessity in a time when brick-and-mortar commerce was struggling and relying heavily on government support. This was campaigned for by some under the name "caring revolution", by which society would rebuild from the pandemic with an emphasis on prioritising policies understood to have positive psychological and social externalities, of which a basic income style policy was a significant component.

Illustrated with the following key quotations:

> *"But if you are going to enable people to care for their family, friends and neighbours and involve themselves in their community, many of them will need the freedom to do the kind of work that currently brings no financial reward. Which brings us back to a basic income - and a question that, whatever people's doubts, needs to be asked with a real urgency. If unprecedented times demand drastic answers, isn't this where we should begin?"- The Guardian, "Why universal basic income could help us fight the next wave of economic shocks"* (Harris, 2020)

And:

> *"It's crucial that poor countries are able to guarantee people a secure livelihood in the months to come. In the absence of such a guarantee, people will grow tired of quarantine measures and lockdowns will be increasingly difficult to enforce. To protect their economies from a collapse in demand, governments must reassure people that financial support will be available for as long as it's needed."- The Guardian, "Coronavirus is a crisis for the developing world, but here's why it needn't be a catastrophe; A radical new form of universal basic income could revitalise damaged economies Esther Duflo and Abhijit Banerjee won the 2019 Nobel prize in*

[33] See Table 2.4 Data Set Two: Post-Pandemic- Total Code Volume, Total Code Volume as Percentage of Total, Codes by Article Recurrence, Codes by Article Recurrence as Percentage of Total Articles.

economics for their work on poverty alleviation" (Duflo & Banerjee, 2020)

As well as:

> *"The virtues of a UUBI are its simplicity, transparency, and its assurance that nobody will starve. It avoids the problems of many welfare systems that are designed to exclude the "non-deserving", even at a cost to the needy. During a pandemic, when governments need to help as many people as quickly as possible, the simplicity of a UUBI could be lifesaving. Reassuring people that nobody will be excluded from subsistence aid also limits the feeling of existential foreboding that so many individuals in poor (and not so poor) countries are currently experiencing"- The Guardian, "Coronavirus is a crisis for the developing world, but here's why it needn't be a catastrophe; A radical new form of universal basic income could revitalise damaged economies Esther Duflo and Abhijit Banerjee won the 2019 Nobel prize in economics for their work on poverty Alleviation & the Coronavirus"* (Duflo & Banerjee, 2020)

In addition to:

> *"To adequately address the needs of folk in a post-Pandemic society, it requires a new and radical approach. The time is right to introduce a Universal Basic Income - a progressive way to provide a safety net for all those in financial difficulties. This measure would cut out bureaucracy and provide for citizens in a dignified manner, rather than the humiliating way support is given to those in need presently. "A caring revolution starts by properly recognising the unpaid work so many do looking after loved ones -and a Citizens' Basic Income could do just that"- The Independent, "Ed Davey pledges citizen's basic income for carers as he launches Lib Dem leadership campaign* (Woodcock, 2020)

Additionally, there was a particularly strong focus on individual people and their stories; when the positives of basic income were discussed within the post-Pandemic article set, there was a particularly consistent effort to personify the individuals who might benefit from a basic income. This came in the form of published basic income related interviews, discussion of the positives of basic income within certain professions and even the beneficial effects a basic income style system would have upon specific communities.

Supportive examples of this would be:

> *"The groups have gathered hundreds of statements from people on what UBI means to them. One from the northeast lab reads: "I live in a former mining community. The work available before the pandemic was low-paid and precarious, much of it will now have gone. Folk are already depressed and without self-respect. Basic income would enable them to move on from feeling left behind, believe in their own worth and be more willing to train for new work."- The Guardian, "'Our generation's NHS': support grows for universal basic income; Insecurity caused by coronavirus has prompted more people to join UK groups calling for change"* (Murray, 2020)

As well as:

> *"The lockdown hurts everyone, but the poor suffer the most. We are all dependent on some of the lowest paid but crucial workers. They deserve better.*
> *A universal basic income is paid to all but recovered in taxes from higher earners. It sits alongside other benefits. It is not a new idea but the crisis has shown it may be an idea whose time has come. - The Aberdeen Press and Journal, Page 22 "Time has come for universal income"* (Banchory, 2020)

And:

> *"Unconditional Basic Income (UBI) "With UBI, an income sufficient to live above the poverty line would be paid to every citizen of Wales, of every age, without any conditions attached. An unconditional basic income set in this way would logically lead to an elimination of poverty and would also reduce both economic and social inequality. By providing such a strong safety net, UBI would shield citizens from the likely ravages of automation, would eliminate the risk associated with trying new ventures and could similarly help support the cooperative market economy."- The Western Mail, "Laying out a vision for an independent Wales; Llywelyn ap Gwilym, founder of the AUOB Cymru Welsh independence marches, has set out his vision for an independent Wales in a new book, writes Jenny White"* (White, 2021)

Discussion within the code *Negatives of Basic Income* focused particularly on convincing people against supporting basic income in the face of the pandemic, with many offering warnings regarding social impacts that might be a result of the policy, particularly painting bleak depictions of a society that promotes harmful worklessness, arguments over entitlements and inequality promoted by "leaving people behind" through simply providing them with a basic income as joblessness increases in the future.

> *"As with many radical ideas, the notion of a basic income is surrounded by tensions. Aside from the cost, in societies plagued by populism and arguments about who is entitled to what, UBI would be an obvious source of conflict. Even if many people are instinctively in favour, they also worry about the visions attached to the idea – of an imagined workless society in which we all somehow get the chance to be artists and coders, usually put forward by people with apparently no grasp of the damage that inactivity can do to people (as vividly proved by lockdown)."- The Guardian, "Why universal basic income could help us fight the next wave of economic shocks"* (Harris, 2020)

In addition to:

> *"Like picking a pretty flower from the ground and drawing out with it a long, ugly and mud-clodded root, embracing the benign-sounding prospect of universal basic income would open the way to an undesirable future, where large numbers are paid to simply exist, without work or any prospect of it. The creeping power of this idea could mean that ten or 20 years down the line it becomes acceptable to warehouse a large chunk of the population on a basic income, their material needs met but their spirits withering. It would lead to a new great divide, between the wealthy "working classes" who still enjoy the status, structure and interest that can come with work, and those who depend solely on UBI, lacking purpose, missing structure, feeling parasitical." – The Times, Page 23, "Money for nothing will not buy us happiness;*

The idea of a universal basic income is gaining traction in the current crisis but we should be wary of its easy appeal" (Foges, 2020)

2.1.3.3.2.4 Theme 4: Positivity Towards Basic Income Trials and Future Research at the Local Level

Within the 01.04.2020-01.04.2021 post-Pandemic article set, the discussion surrounding pilot studies is overall very positive, with inclusions of a wide range of basic income pilot projects, studies or plans from a vast array of areas being explored. Additionally, there is a large volume of discussion surrounding the desire to and prospects of piloting basic income schemes at local levels within the UK, largely from the local populace, councillors, and local politicians, most of which cite the impact of the pandemic and disparities within the existing welfare response as justification.

This follows that the code within the post-Pandemic set, *Basic Income Pilot Studies* occurred at a moderately large frequency, being coded for 113 out of a total 1499 codes or 7.538 (8%) of the total, being located in a relatively concentrated manner across 79 articles of the total 585 analysed or 13.504 (13%) of the total[34].

As a whole, the discussion of basic income studies and pilot results and potential during this period was hugely positive, with many headlining positive results found within many of the studies, with particular focus upon mental and physical health within discussion as well as the benefits towards easing labour market issues such as difficulties retraining, setting up businesses, change jobs and working variable hours as well as measures of positive social cohesion such as levels of trust in others, confidence in the future and general measures of overall happiness.

> *"Finland has just announced the results of its two-year Universal Basic Income study, where 2,000 unemployed people aged 25 to 57 were given an unconditional, non-means-tested 560 Euros per month. The study found people were happier, had greater trust in others and higher levels of confidence in the future. They also worked slightly more than those on unemployment benefits and reported better cognitive functioning. Head researcher, Minna Ylikännö, said UBI could help alleviate stress in a time of uncertainty and Scotland has explored a pilot of the scheme."- Wales on Sunday, Page 4, "New call for a Universal Basic Income"* (Wales on Sunday, 2020).

In addition to:

> *"The study, the most comprehensive carried out yet, saw 2,000 people chosen at random from among the unemployed paid a regular monthly income of 560 euros (£490) by the state for two years with no strings attached and no reduction in payments if they found work - in contrast to traditional unemployment benefits. "Survey respondents who received a basic income described their wellbeing more positively than respondents in the control group," the study's authors at the Social Insurance Institution of Finland said. "They were more satisfied with their lives and experienced less mental strain, depression, sadness and loneliness. They also had a*

[34] See Table 2.4 Data Set Two: Post-Pandemic- Total Code Volume, Total Code Volume as Percentage of Total, Codes by Article Recurrence, Codes by Article Recurrence as Percentage of Total Articles.

more positive perception of their cognitive abilities, i.e. memory, learning and ability to concentrate." The basic income also appears to have moderate effect on encouraging people to find jobs - an effect some had theorised would occur because recipients do not lose their support when they take one up. The study found that people paid the income were in employment on average six days more than people in a control group where people were not paid the income. "The employment rate for basic income recipients improved slightly more during this period than for the control group," the study said."

The latter finding is in contrast to arguments by opponents of the policy, such as former DWP secretary Iain Duncan Smith, who suggested the policy would be a "disincentive" to work because it did not include sanctions. Many developed western countries like the UK and US have in recent decades adjusted their welfare states to be more punitive, attaching strings and conditions to benefit payments with the stated aim of encouraging people back to work." – The Independent, "Universal basic income improves well-being and encourages work, Finland's pilot study finds; Those paid the income did better on jobs and mental health than control group in two-year study (Stone, 2020)

Basic Income pilots, studies, schemes and plans were reported on from a vast range of examples across the globe, specifically Finland, Germany, Austria, Netherlands, Catalonia, California, Canada, Brazil, and Kenya, with much of the reporting being positive and focusing upon the non-monetary benefits of the schemes to participants and wider society (Stone, 2020).

"As global UBI trials have shown, most people want to work, and in fact, the security of UBI gives the power to turn down exploitation. People have more freedom to return to education or start new businesses, and employers scramble to attract workers with good pay and conditions. Why wouldn't we want this"- Evening Times (Glasgow), Page 15, "Universal Basic Income could transform our city" (Sandler, 2022)

And:

"In UBI pilots elsewhere, employment has actually increased, along with people's health, confidence and motivation. "Psychologists will tell you that people want to work."- South Wales Echo, Page 15, "Council supports replacement of welfare system to address poverty and inequality" (Youle, 2020)

Despite the overall trend being largely positive reporting of basic income trialling, there was a minority of negative reporting, with most of the negative reporting sticking to the argument that basic income testing and piloting is largely futile as its philosophical policy design underpinnings are either unsustainable or undesirable.

For example, arguments made within the following illustrative quotation:

"Of all the distractions from achieving social justice, the idea of a universal basic income is the most persistent. It is a zombie policy, impossible to kill off, no matter how many studies or experiments are carried out, or how many economists point out that it won't work. It flared back to life at the beginning of the coronavirus crisis. A

> *large group of opposition MPs of various parties urged Rishi Sunak to bring in a temporary basic income as the solution to the economic shock of the lockdown. Fortunately, the Treasury ignored them and devised a furlough scheme to support the incomes and preserve the jobs of affected workers.*
>
> *The tragedy is that all the effort and cash put into lobbying for basic income schemes could be devoted to practical reforms of existing policies to support people who have lost their jobs through no fault of their own. As the (targeted) furlough scheme is unwound, it is much more important to devote our reserves of compassion to designing (targeted) schemes to help people into the jobs of the future."- The Independent, "A universal basic income just isn't workable - no matter how many times it's tried; A new experiment to test the benefits of paying all citizens (just) enough to live on is starting in Germany, but we already know what it will find"* (Rentoul, 2020)

Additionally, within this theme, there was a vast volume of calls for basic income pilot and trial schemes at the local level within the UK, primarily from local citizens, councillors, local politicians and think tanks. The calls for implementing basic income pilots at the local level largely came in from many areas, particularly in Scotland's central belt, the north of England, urban Northern Ireland, and the southeast of England, excluding London. Namely Cardiff, Swansea, South Wales, Edinburgh, Fife, Glasgow, North Ayrshire, Sheffield, Belfast, Hull, Liverpool, Berwick, Leeds, Norwich, Brighton, and Islington, all of which saw discussion expressing the desire for trialling a basic income style welfare system, while typically expressing its benefits to their area over the existing pandemic relief system which they believed to be worse suited to them as a whole. While also citing the potential shielding impacts of a basic income against other economic-related anxieties that affected them, such as automation, Brexit or the rise of AI (Seabrook, 2020).

For example, the representative extracts contained below:

> *"COUNCILLORS in Gwynedd have backed calls for the county to become a pilot area for universal basic income (UBI), offering residents a non-means-tested fixed sum paid by the government to cover the basic cost of living. Such a state financial support system, which would replace the traditional benefits system and is said to ensure "a level playing field for all", would see all residents be eligible - whatever their situation and whether they're employed or not. The Plaid Cymru member for Bangor's Glyder ward added her belief that such a system would tackle the impacts on employment prospects and household incomes post-Covid, as well as other factors, such as Brexit, future automation and artificial intelligence."- Daily Post (North Wales), Page 11- County backing for benefits trial* (Williams, 2021)

And:

> *"That's why we need Welsh government to commit to trialling a basic income (a new poll finds a trial is supported by 69 per cent of people in Wales)"- The Independent, "Wales could lead the 'green recovery' in the wake of Covid - but it has to be done the right way"* (Howe, 2021)

As well as:

"The two Hull City councillors have been vocal on the issue both locally and nationally since January when Hull City Council unanimously passed a motion that asked the Government to make Hull the first city in the UK to pilot Universal Basic Income. Now, amid the Covid-19 crisis the councillors are appealing to Hull residents to get involved in a grassroots group with the aim of pressuring the Government to implement a Universal Basic Income pilot in Hull."- Hull Daily Mail, Page 14, "Pilot basic income scheme in pioneering city" (Lovell, 2020)

2.1.3.3.2.5 Theme 5: Frequency of Factual Explanations Increases

Within the 01.04.2020-01.04.2021 Basic Income Article set, despite factual information remaining fairly low in relative terms, in absolute terms, there were substantial improvements in the overall volume of factual presentation of information regarding basic income. Within the code *Basic Income Costing*, there was a frequency of 51 out of the total 1499 references representing just 3.402 (3%) of all references, spread across 43 of the total 585 articles or 7.350 (7%) of the total. While much of this came from calculations of national costs, saving and tax alterations required across the UK for the implementation of a basic income style system, a significant volume of factual basic income costing did come from more local sources discussing cost estimates of schemes rolled out within smaller localities such as in estimates for Wales, Scotland and even California.

"During a debate on the motion, Finance Minister Rebecca Evans said rolling out basic income in full across Wales could cost £35bn a year. A pilot in Cardiff would also need funding from the government"- South Wales Echo, Page 23, "Council boss keen to trial the universal basic income" (Seabrook, 2020)

"In Reform Scotland's 2016 report we used the Scottish Greens' figure of £5,200 per adult and £2,600 per child to work out indicative costs, which would be about £20 billion for Scotland or £235 billion across the UK. We suggested that paying for a UBI would require tax rises, though as savings were made through simplification and an increase in the number of people working we would then expect the tax rates to decrease."- The Times (London), Page 24, " Now is the time to take universal basic income seriously" (Payne, 2020)

While the presentation of factual definitions of what precisely a basic income system was within the code *Factual Account of What a Basic Income Is* was counted at a frequency of 39 out of the total 1499 references observed within 38 of the total 585 articles or 6.495 or (7%) of the total[35]. Within these most factual accounts are explanations of the policy before reporting on it along the lines of "The idea of a universal basic income (UBI) - where every citizen is paid a fixed sum to cover basic costs, whether they are rich or poor, working or unemployed" (Seabrook, 2020) however significant within this article set the definition often appears amended to include some mention of the pandemic or crisis relief. Additionally, it is noted again that this was frequently done within smaller, more local publications.

[35] See Table 2.4 Data Set Two: Post-Pandemic- Total Code Volume, Total Code Volume as Percentage of Total, Codes by Article Recurrence, Codes by Article Recurrence as Percentage of Total Articles.

Examples of this include:

> *"As the minimum income would be means-tested and provided only to low-income households, it would fall short of the universal basic income, an idea which has also gained momentum in recent months as a salve for the pandemic. The idea is that an unconditional and regular cash payment is paid to everybody regardless of their income or situation."- The Western Mail, Page 22, "'Put money in pockets so our economy can survive'; As the coronavirus pandemic highlights the extent of inequalities in society, Cynon Valley MP Beth Winter here argues the case for a Universal Basic Income"* (Western Mail, 2020)

As well as:

> *"UBI is an unconditional, regular payment made to every citizen and is being considered by several European countries to offset the damage of the crisis."- Aberdeen Press and Journal, Page 6, "Chancellor in stark warning of more tough times for UK"* (O'Donoghue, 2020)

And:

> *"An income guarantee such as this - whether temporary or not - comes close to the idea of a universal basic income (UBI), increasingly debated since the global financial crisis. The difference overall is that a UBI is paid to all without conditions, even to the wealthy (which is clawed back though taxes), whereas an income guarantee is paid to those without paid work"- The Guardian, "'Time to click reset': coronavirus offers chance to end Australia's welfare wars; The doubling of jobseeker was the biggest change to social security in decades. Now experts want the government to push aside ideology and establish a permanent equitable safety net. This is the third in our series on Life after lockdown, which looks at how the Covid-19 pandemic could change Australia for good"* (Alcorn, 2020)

While reporting on polling on basic income being popular follows this trend of slightly increased volume while reporting on basic income being not popular sees the reverse and sees volume fall. With the code on *Basic Income Being Popular Polling*, representing a frequency of 21 out of 1499 references or 1.400 (1%) spread across just 14 articles or 2.393 (2%) of the 585 total included within the set. Whereas reporting on basic income polling poorly and being unpopular was observed only three times or just 0.2% of the total 1499 references within only 3 of the 585 articles reviewed via the code *Basic Income Not Popular Polling*. Typically, the code *Basic Income is Popular Polling* reported upon polling conducted across the UK and Europe, while there was additional reporting on Wales and Scotland. Within this more local polling, the pandemic is frequently stated as a contributing factor to the emergence of the newly identified popularity of basic income.

As demonstrated within the following excerpts:

> *"Basic income: a plan with near universal support: TWO-thirds of Scots support the introduction of universal basic income, according to a new poll.*
>
> *According to the study conducted in March with 1,041 people, more women agreed with the idea than men while more east coast residents supported it than those living in the west or north of the country. They were asked: "Since the outbreak of*

coronavirus, some people have repeated calls for what is known as a 'Universal Basic Income' to be introduced in Scotland. "This would mean that all individual adults in Scotland would receive a regular income to cover basic needs, paid regardless of their working status and income from other sources. To what extent do you support or oppose the principle of paying the 'Universal Basic Income'?" - Sunday Herald, "Basic income: a plan with near universal support" (Rodger, 2020)

As well as:

> *"There has been much talk of building a better world as we move out of the coronavirus crisis. Talk of introducing, say, universal basic income and building a better, truly secure welfare state is one such priority. Surveys show unprecedented support for UBI."- The Herald (Glasgow), "Reinventing how we travel must be part of our Covid recovery"* (Stewart, 2020)

And:

> *"Scotland's first minister Nicola Sturgeon this week suggested the policy's time had come, with new polling suggesting that post-coronavirus now enjoys the support of 71 per cent of Europeans, and growing support in parliament."- The Independent, "Universal basic income improves well-being and encourages work, Finland's pilot study finds; Those paid the income did better on jobs and mental health than control group in two-year study"* (Stone, 2020)

2.1.3.3.2.6 Theme 6: Basic Income Touted as a Solution to the Failure of the Existing System

Within the post-Pandemic 01.04.2020-01.04.2021 Basic Income Article set, there is a thematically significant discussion regarding comparing a basic income style welfare system to the existing welfare system. The discussion is largely positive and favourable towards implementing the basic income style system within this theme. Coming largely in the form of expressing considerable "discontent" with the existing system, with many sources frequently citing its ongoing "failure" while also advocating on the side of a basic income style systems superiority with regards to protecting all who need it from the effects of the ongoing global pandemic as well as the potential to provide pre-emptive protection for the most vulnerable from future unforeseeable *black swan* style shocks, whomever they might end up being. As such, being significantly sympathetic to a revolutionary approach to reforming welfare rather than the long outstanding evolutionary approach, they deem to have let them down during the crisis (Harris, 2020).

Within the post-Pandemic article set, the code for *Basic Income and the Existing Welfare System* has a fairly large frequency overall, seeing 106 codes out of a total of 1499 for the entire set, meaning 7.071 (7%) of the total. Distributed in a reasonably concentrated distribution across 77 articles out of the total set of 585, or 13.504 (14%) of the total. Much of this came from relatively smaller, more local publications, which were typically positive in

basic incomes favour, while the fewer negative discussions typically came from larger, more national papers[36].

Within this code, the depth of discussion was relatively comprehensive relative to some of the others; comparisons between the existing welfare system and a comparable basic income model often spanned a relatively large portion of the article while both sides were explained and balanced against each other. Typically, it was stated that the existing welfare system had not only let many down during the period of the covid crisis but that it retained the likelihood to fail again where either the crisis to see a second return or a similar "black swan" style shock were to return.

From this, many of the criticisms of basic income, namely the perceived excessive cost, necessary tax rises, and the uncertainty associated with overhauling the existing system, were justified on the basis that a full basic income style welfare system would be effective in protecting the vulnerable and thus preventing the broader knock-on effects to society as a whole from failure at such a critical time. It was also argued that as the pandemic had shown us that the distribution of new winners and losers is often unpredictable and asymmetric as a result of a crisis and that a basic income system would be effective in providing support to whoever the newly made losers were from the very moment they needed it, without excessive bureaucratic or accessibility requirements, preventing failure and allowing for eventual recovery, and thus that a basic income system effectively worked as a hedge against unrecoverable failure where an individual to find themselves at the adversely affected end of the next unforeseeable crisis.

As such, within the discussion, it can be inferred that those who feel most vulnerable to being wiped out by an unexpected shock likely already support a revolutionary change to the existing welfare system to become more pre-emptive in support and less exclusionary, while those who do not consider themselves at risk likely favour a more gradual evolutionary approach, wanting not to take the risk of an overhaul, high cost or tax rises as they see no current risk of black swan related failure.

However, individuals who had, prior to the crisis, seen themselves as distanced from the likelihood of needing welfare support to prevent failure became very suddenly and unexpectantly pushed into the category of being at risk of failure and in need of rapid life sustaining liquidity they now would be more sympathetic to a basic income style welfare system despite the perceived negatives of large cost, increased tax burden and welfare overhaul as they now value the security a reliable income stream presents in preventing failure during an unforeseen crisis so that they may go on to prosper (albeit with an increased tax burden) during the good times. Then finally that because of this effect desire for a revolutionary reform of the welfare system, in the form of a more universal, less exclusive basic income style system, has increased.

Discussed within the following key extracts:

> *"To adequately address the needs of folk in a post-Pandemic society, it requires a new and radical approach. The time is right to introduce a Universal Basic Income - a progressive way to provide a safety net for all those in financial difficulties. This*

[36] See Table 2.4 Data Set Two: Post-Pandemic- Total Code Volume, Total Code Volume as Percentage of Total, Codes by Article Recurrence, Codes by Article Recurrence as Percentage of Total Articles.

measure would cut out bureaucracy and provide for citizens in a dignified manner, rather than the humiliating way support is given to those in need presently."- Daily Mirror, Page 39, "Dignity for the needy" (Parker, 2020)

As well as:

"Last week, Stephen Davies, head of education at the Institute of Economic Affairs, the free-market think tank, said that the time had come for an open debate on the subject. Free marketeers had forgotten the "long tradition of classical liberal thinking on the welfare function of society". A focus on means-testing, rather than a guaranteed income floor, had been "a blind alley". Crises had a habit of forcing change and the case for a universal basic income needed to be heard. If nothing else, the crisis has proved that there is a role for a guaranteed minimum income. Recessions are always indiscriminate and means-testing is intrusive and dehumanising, not to mention expensive (£8billion of the Department for Work and Pensions' budget is spent on administration).

Now everyone has learnt how important it is to have an income floor, not merely the most unfortunate. Furlough also has reminded the left and the right that a universal basic income is a subject on which they have long agreed. For a universal basic income to be adopted, a middle ground would need to be found, one that accepts higher taxes and greater cash transfers in return for a less meddlesome state. The left and the right may agree, but for different reasons. Could Covid-19 be the bridge that has eluded them?"- The Times, Page 37, "Coronavirus has united left and right on value of universal basic income" (Aldrick, 2020)

And:

"Glasgow Labour leader Frank McAveety said: "Given the extraordinary and unprecedented circumstances we now find ourselves in, ideas such as a universal basic income have found new purchase and renewed vigour. "It is clear that our social security system in the UK is not sufficient to provide the dignity and security that we want to see for all citizens. "Universal basic income is an idea that, if it works, has the potential to deliver and it is an idea we should explore fully"- Evening Times (Glasgow), Page 6, "Should everyone receive a Basic Income?" (Sandelands, 2020)

Further:

"An emergency basic income, paid to everybody without conditions, would save lives, help revive the economy and strengthen community in the unprecedented crisis caused by Covid-19. It would do so more effectively and efficiently than the current patchwork of emergency income support measures that are proving unsustainable."- The Telegraph, "Rishi Sunak should replace furlough with a basic income" (Standing, 2020)

In addition to:

"The crisis will "bring to a head discontent with the existing system that has been growing for some time and will bring certain ideas for reform from academia and think tanks to the centre of the policy debate", he predicted. Universal credit has

proved problematic since it was launched under the coalition government. Full implementation has been delayed and reforms have been needed to protect claimants. The chancellor made changes to welfare at the start of the Covid-19 pandemic that will cost £7 billion this year. The institute is a free-market think tank that has criticised the universal credit system in the past. Mr Davies said that the crisis "will lay bare [the welfare system's] weaknesses" and may pave the way for a "guaranteed minimum income and, in particular, one version of that: a universal basic income". The government's furlough scheme is a version of such an idea, he added, saying it could be seen "as an illustration of the state's responsibility to support incomes in a universal way".''- The Times (London), Page 33, ''Furlough 'strengthens case for universal basic income" (Aldrick, 2020)

2.1.3.3.3 Thematic Analysis Three: Comparative Thematic Analysis Pre-To-Post Pandemic

By identifying common patterns and themes within the coded data, it becomes possible to distil complex information spread across large text data sets, such as our two corpora of interest, into meaningful categories that provide a comprehensive quantitative overview of the narratives present at the time.

Creating themes from qualitative coded data facilitated the interpretation and synthesis of findings. The themes determined serve as analytical constructs that capture the essence of the data, enabling empirical conclusions to be determined from the text data and representative understandings to be constructed. Further, by identifying recurring patterns, trends, deviations and differences, we can better understand how themes emerge and compete. This process enhances the rigour and validity of the research by providing a systematic framework for data interpretation.

In addition to creating themes, delving into the specifics of the articles using illustrative key quotes is of significant benefit. This approach adds richness and depth to the analysis by providing illustrative evidence from the data. Key quotes are representative excerpts that exemplify the themes identified, offering contextualized insights into the perspectives, opinions, stories and experiences contained within the articles. Including these illustrative quotes enhances the credibility of the research and allows readers to engage with the data and better understand the nuances of the findings.

Furthermore, carrying out a comparative thematic analysis enables us to quantifiably gauge differences in national media discussion between the two periods of time. By comparing themes across both datasets of text corpora extracted from distinct time periods, namely, a year prior to the Pandemic and the year during the Pandemic, we can identify similarities, differences, and trends in the data. This comparative analysis allows for a deeper exploration and insight and enables us to draw meaningful comparisons and contrasts between media narratives of basic income in the two periods. Further helping to uncover variations in perspectives, attitudes, or experiences over time or in different contexts, contributing to a more comprehensive understanding of the narratives that emerged across the national media.

2.1.3.3.3.1 Emergent Theme 1: Emergence of Basic Income as a Pandemic Response

The novel theme that emerged entirely in the 01.04.2020-01.04.2021 post-Pandemic Basic Income Article set, *Emergence of Basic Income as a Pandemic Response*, was immediately a hugely significant theme that likely came to influence all theme evolutions that proceeded it. The Discussion of basic income as a policy response as a result of the crisis was overwhelmingly positive in the discussion of the potential for a basic income to alleviate many of the issues created by the crisis presented with a huge frequency across a large number of sources at the time.

The emergence of justifying the implementation of a basic income style welfare system as a response to the ongoing pandemic vastly changed the narrative of how basic income was presented to the public, explicitly taking it from being understood to be an obscure, populist,

utopian fantasy policy to instead being presented as fast-acting, universally inclusive and practical in preventing financial crisis for individuals like themselves. With the added invaluable non-monetary benefits of enhanced mental and physical health, social cohesion and increasing aggregate disposable incomes, which could stimulate local communities when they were in an economic slowdown, all pertinent points for any individual during a crisis.

In addition, the emergence of advocating for a basic income style welfare system to alleviate issues caused by the pandemic crisis also changed the discussion surrounding the merits of the existing welfare system, which within the pre-Pandemic baseline set was widely discussed as being long-established, reliable and gradually being mended for relatively small failings, to instead within the post-Pandemic set being discussed as having mainly failed for millions of people. Failing in its ability to provide support quickly when needed, being burdened with large volumes of bureaucratic barriers and many ever-changing exclusion requirements, all of which resulted in a system letting millions fail, creating additional stress and future difficulties all while ballooning in cost, while providing little benefit to many who had paid into the system their entire lives and only now in their time of need required support only to be let down.

These two discussion changes contributed to an implicit and, in many changes, explicit change in tone within articles, where advocacy moved from supporting a gradual evolutionary progression of the existing and largely adequate welfare system to one where the desire for a revolutionary overhaul was rapidly needed to replace an undisguisedly failing system with one that was worth the calculated risk in its potential to better provide people with what they so desperately needed at the time.

Ultimately this shifting focus from a desire for a slowly reformed evolutionary change within the welfare system to a demand for rapid revolutionary overhaul boosted and emboldened the positive arguments for basic income while reducing resistance to the negatives against it. At the same time, leaving the typical arguments against basic income appearing cruel or lacking compassion as they attacked basic income on philosophical grounds arguing against rapid universal support In a time of crisis on the grounds of longer-term theoretical repercussions while conceding that the current welfare system now had similarly large levels of cost as a basic income was calculated to require but delivering to substantially fewer people and operating at a colossal bureaucratic overhead.

2.1.3.3.3.2 Emergent Theme 2: Mixed Sentiment to Positive Sentiment

Initially, within the pre-Pandemic baseline, the sentiment towards basic income is evenly mixed as both negative and positive sentiment is expressed at an equally large volume across a wide range of articles. Concerning negative sentiment, there is a particular focus on arguing against perceived practical policy issues such as the perceived high costs and required government debt incurred to sustain the policy, the impossibility of gaining political consensus to implement a basic income and the adverse effects upon redistribution and other forms of welfare from the establishment of a basic income in addition to philosophical objections such as objections to providing universal welfare to those other than the perceived “deserving poor”, the expansion of the budget and the encouragement of a lesser reliance on

full-time employment for subsistence culminating in labelling basic income with terms such as “utopian”, “populist” or “unrealistically idealistic” (Bourne, 2018).

While those in the pre-Pandemic baseline set contributing positive sentiment towards basic income within the discussion focused upon arguing in favour of basic income’s potential to protect standards of living in the face of future threats such as automation, the rise of AI and the prospects of periods of sustained unemployment in addition to advocating for its benefits in providing less dependency upon employment for subsistence, lesser levels of bureaucracy as well as improved mental health, physical health and societal metrics observed within recent basic income pilot schemes.

However, immediately after the beginning of the crisis, as we begin to analyse the post-Pandemic set, sentiment alters to a massive degree as the volume and intensity of positive sentiment dramatically grows, and the volume and intensity of negative sentiment diminishes. This is mainly in the form of advocacy for basic income as a means to better meet the needs of society than the existing system, while as positive sentiment quickly evolves to argue their case in the face of the pandemic, those advocating for negative sentiment essentially do not, instead finding much of their pre-Pandemic negative case invalidated instead.

Post-Pandemic positive sentiment argues that in addition to benefits and possibilities prevented previously, basic income is, very pertinently, precisely what is needed to replace the widely felt failings in the existing system, advocating that where the existing system has left people without crisis support basic income would have them universally covered, that where people could not take time off work to provide emergency care for a sick loved one, isolate from the virus or work on their mental health a basic income would not discriminate on employment grounds and would help maintain basic maintenance in the face of unemployment that at the time could occur at a moment’s notice and leave any of the millions who had prior to the pandemic got by on a pay cheque to paycheque basis without emergency savings.

While at the same time post-Pandemic points that were made negatively decreased in both quantity and volume as many of the practical policy objections were no longer argued for due to changing conditions, such as high cost, as the cost of the existing welfare budget had now ballooned to a similar size as estimates of the cost of a basic income style system. While providing to substantially fewer people at a less responsive rate to negative income shocks, while arguments that basic income was politically impossible as not only were the opposition MPs publicly advocating for passing it but so were many of the governing party, including the Prime Minister, who was “seriously considering it” among other options obliterating notions that the policy was too “utopian”, “populist” or “idealistic” to be seriously considered within the decision making circles of mainstream politics, while arguments that basic income was to “utopian”, “populist” or “idealistic” for the voting population were equally invalidated as the populace embraced new radical emergency reforms of the welfare system that promised to patch existing holes, expand coverage and increase state support (Foges, 2020).

Thus the only negative sentiments to arguments from the left were the philosophical objections to implementing a basic income style welfare system, which was also weakened as a result of the crisis as sentiment towards the universality of welfare being immoral decreased, positive sentiment towards the expansion of the state in safeguarding living conditions increased and the understanding of the importance to have the basic freedom to be

able to take time off work to provide emergency care for a loved one or to prioritise personal health became pertinent for the masses.

2.1.3.3.3.3 Emergent Theme 3: Basic Income Less Desirable than Present System to Basic Income Being Touted as a Solution to the Failure of the Existing System

Within the discussion of direct comparison of the existing welfare system to a basic income style system with regards to which would better suit the needs of society within the pre-Pandemic 01.04.2018-01.04.2019 Basic Income Article set, favour largely falls within preserving and perhaps reforming the existing system. The implementation of a basic income style system is generally criticised as, despite presenting the possibility of positive merits overall posing an excessive risk to implement, concluding that replacing the long-standing existing welfare system in such a revolutionary manner involves the prospect of creating uncertainty-related issues that perhaps are excessive and undesirable when compared to the benefits it proposes to solve and that perhaps an evolutionary approach to welfare reform is a more cautious choice.

This attitude of general conservative consensus with regards to the preservation and evolutionary reform of the welfare state radically shifts within the post-Pandemic 01.04.2020-01.04.2021 Basic Income Article set as the existing system of welfare encounters large volumes of expressions of discontent, with sources frequently reflecting its "failure" to meet the current needs of society during the ongoing crisis, in addition to its failure to instil confidence that the needs of the population are protected from an unpredictable but ultimately likely future crisis (Harris, 2020).

Resultantly many of the previously observed criticisms of basic income became discussed as less undesirable and even presented as level-headed for the future, such as required tax rises or increasing the national welfare budget, as discussion surrounding the benefits of basic income over the existing welfare system advocated the importance of its potential to act pre-emptively in preventing those that may find themselves without income as a result of the unpredictable nature of a future crisis from experiencing the negative ramifications of unexpected periods of illiquidity, preventing financial waves of contagion that may occur and better-enabling post-crisis recovery. This view was discussed with particular urgency surrounding the panic of those who, prior to the crisis, had seen themselves as unlikely to suffer a loss of work-related income shock but now, due to stay-at-home orders, found themselves on the receiving end of the welfare system instead, as stories and statements were presented from individuals from diverse employment areas and income brackets describing their unexpected newfound state of income insecurity.

2.1.3.3.3.4 Emergent Theme 4: Basic Income a Toxic Association to Open Call for Basic Income Policies

Initially, within the pre-Pandemic 01/04/2018 to 01/04/2019 article set, the discussion and depiction of public support and advocacy for basic income are presented in a highly critical

manner. Despite what may be presumed, this was not mainly manifested within the code Political party, politician or figure calling against basic income, which overall remained relatively infrequent and relatively narrowly covered, but instead within the code *Political Party, Politician or Figure Calling for Basic Income* whereby advocacy for basic income would be presented as a mark against the character of the advocate and thus the code despite being both a highly frequent point spread across a huge range of articles the code was, in reality, a significant force acting against positive perceptions of basic income style policies.

This is explained as during the 01/04/2018 to 01/04/2019 pre-Pandemic period, basic income scepticism among those reporting upon public advocacy for basic income style policies was high, leading to many reporters using it as a means to "tar and feather" those that would speak out in its favour with terms that undermined their credibility with the public such as "utopian", "populist", "fiscally irresponsible" and "reckless idea" (Foges, 2020). This barrier to open discussion of merits sheds light on the high level of criticism of basic income and any public figure that advocated taking it from a theory to the reality experienced at the time in attempting to gain initial acceptance for basic income style policies to be discussed openly within the political media mainstream.

Notably however at the time this fiercely critical opposition to basic income advocacy existed largely for political parties, politicians and public figures with the exception of those vocalising support from a position of influence within either policy research organisations or positions of power within globally significant multinational firms such as Elon Musk, Mark Zuckerberg, Chris Hughes, Ray Kurzweil and Richard Branson, who were able to express some form of interest or advocacy for basic income style policies without significant degrees of ridicule within the presentation of the story, but instead their advocacy was presented favourably as "forward thinking", "open to new ideas" or even "philanthropic towards the whole of society" as some ways just to name a few with instead criticism typically manifesting in the form of presenting basic income as a policy with potential merits for the distant future of which was so far off only those gifted in creative innovative vision could imagine it (Pyke, 2020; Harris, 2020).

While within the 01.04.2020-01.04.2021 post-Pandemic article set, this theme shifted significantly, while the code *Political Party, Politician or Figure Calling for Basic Income* remains highly frequent and widely distributed the discussion surrounding the implications of supporting basic income shifts from having largely negative implications to presenting largely positive implications. Specifically, rather than support for basic income being used as a means to undermine the advocate's credibility through association with traits such as "populism", "utopianism", and "fiscally irresponsible", changing instead to "conscientious of the needs of the many", "taking strong action" and "innovative in response to the crisis" (Bourne, 2018).

At the same time, code *Political Party, Politician or Figure Calling Against Basic Income* did decrease in frequency relative to the pre-Pandemic set despite the total number of basic income articles increasing while at the same time keeping the presentation of the argument relatively unchanged, discussing advocacy against a basic income as the "safe", "prudent" and "resistance to the populist sentiment" which occurred as a number of articles did argue that those advocating for a basic income in response to the pandemic where "capitalising

upon disaster and desperation" in presenting a basic income policy as a needed welfare measure during the crisis of the pandemic (Murphy, 2020).

Additionally a significantly increased volume of advocacy for the implementation of some form of basic income style system originated from publications that specialised in coverage of more locally focused issues rather than national press, of these locally focused issues there was a significant coverage of advocacy for the implementation of a basic income style policy within their locality, this kind of call came largely from local councils, local politicians and local residents, with much of the coverage presenting direct statement quotation in addition to presenting to advocacy for a basic income on a more personal level to the reader, such as with locals discussing personal struggles within the existing pandemic welfare response provided and how a basic income may be more beneficial, as well as local politicians discussing how the constituents of their locality may be demographically better supported by a basic income rather than the existing welfare system, for example due to high volume of non-computerised employment increasing the volume of those unable to work from home and thus not qualifying for furlough despite the reality that they could be made to isolate or become a career for a sick family member at a moment's notice, leaving them with no substitute form of income for at least some time (Murray, 2020).

While local councils advocated for basic income on the grounds that it may uplift their entire district, particularly if they had a large volume of individuals generating their incomes via less conventional forms of employment that would be excluded from the receipt of pandemic relief funds or those with low incomes or low savings that may find themselves entirely without the funds needed to survive as they were forced to cease earning and had to wait to qualify and receive pandemic relief funds, and thus suffered negative quality of life changes themselves and for the wider area in the form of the negative externalities associated. This was identified as areas with high volumes of students, gig-economy workers and those undertaking necessary unpaid caring work (Neilan, 2020).

2.1.3.3.3.5 Emergent Theme 5: Infrequent Factual Policy Explanations to Frequency of Factual Explanations Increases

Initially, the 01.04.2018-01.04.2019 pre-Pandemic Basic Income Article set presentation of factual information on basic income is fairly low and infrequent. This was primarily determined through the observation of low volumes of references within the codes *Basic Income Polling*, *Basic Income Costing*, and *Factual Account of What a Basic Income Is*, constituting only 22, 34 and 41 references or, in percentage terms, 1.898 (2%), 2.933% (3%) and 3.537 (4%) of total references within the pre-Pandemic set respectively while only being featured within 5.295 (5%), 9.03 (9%) and 11.838 (12%) of all articles. Especially low when considering that claims of basic incomes cost, popularity, and policy specifics were made extremely frequently to great effect within the most prevalent codes, specifically *Negatives of Basic Income, Other Basic Income Positives, Political Party, Politician or Figure Calling for Basic Income* and *Basic Income and Existing Welfare System* which featured 16.997 (17%), 16.220 (16%), 15.444 (15%) and 7.075 (7%) of all references across 27.102 (27%), 33.021

(33%), 39.252 (39%) and 15.887 (16%) of all articles respectively[37]. Indicating that the relationship between basic income related points stated and facts presented was very unbalanced, as basic income related arguments were hugely prevalent and widespread, while concrete facts and calculations were relatively low and infrequent.

In the 01.04.2020-01.04.2021 post-Pandemic article set, despite factual content remaining low in relative volume when compared to other codes, the frequency of factual references did increase in absolute volume suggesting an improvement in the capacity for the discussion to inform readers. Empirically this was determined within the codes *Basic Income Polling*, *Basic Income Costing*, and *Factual Account of What a Basic Income Is*, which represented 24, 51, 39 total references or 1.60 (2%), 3.40 (3%), 2.60 (3%) of the total within the set. Although low in percentage terms, indicating the lack of balance between statements and facts within the discussion, increasing in absolute volume, excluding *Factual Accounts of What Basic Income Is*, which remained closely similar, decreasing by 2 references and remaining thinly spread across just 38 of the total 585 articles or 6.495% (7%). While the code *Basic Income Costing* was identified 51 times within the total 1499 references representing 3.402 (3%) of the references, spread through 43 of the total 585 articles or 7.350 (7%) and *Basic Income Polling* was given a total of 24 times in the 1499 references identified or 1.601% (2%) of all discussion, across 17 articles or 2.906% (3%) of all articles to feature discussion of Basic Income.

2.1.3.3.3.6 Emergent Theme 6: Negative Attitude Towards Basic Income Pilot Study Research to Positivity Towards Basic Income Trials and Future Research at the Local Level

Within the pre-Pandemic baseline set of articles, discussion of basic income studies is fairly high in frequency across a relatively wider distribution, with the discussion of the trial constituting as many as 157 basic income related references constituting as much as 13.546% (14%) of all basic income related references for the period discussed across 74 of the 321 articles considered suggesting 23.052 (23%) of all articles featured the topic as such a fairly broad number of sources[38]. These basic income studies are typically discussed with an overall negative sentiment in combination with a neutral presentation of results, with a discussion of positive aspects occurring rarely.

A large portion of this came in the form of the interpretation of the high-profile Finnish basic income pilot results as being a disendorsement of basic income as a beneficial concept. This occurred largely as typical arguments cited against basic income were seen as verified by the results of the trial, these mainly being that a basic income policy would have negligible or negative effects on unemployment, which it did within the study, mainly upon those who

[37] See Table 2.3 Data Set One: Pre-Pandemic- Total Code Volume, Total Code Volume as Percentage of Total, Codes by Article Recurrence, Codes by Article Recurrence as Percentage of Total Articles & Table 2.4 Data Set Two: Post-Pandemic- Total Code Volume, Total Code Volume as Percentage of Total, Codes by Article Recurrence, Codes by Article Recurrence as Percentage of Total Articles.
[38] See Table 2.3 Data Set One: Pre-Pandemic- Total Code Volume, Total Code Volume as Percentage of Total, Codes by Article Recurrence, Codes by Article Recurrence as Percentage of Total Articles.

worked as single parents, worked while sick or took the opportunity to reskill when presented with the basic income (McRae, 2019).

This provided easy empirical ammunition for those that would present the usual criticisms of basic income while findings that could have worked more in basic incomes favour were largely ignored as they were more challenging to effectively communicate and perhaps were less of a priority at the time, these being the equally present but less easily quantified intangible benefits determined by the researchers that fell under the umbrella term of overall life "happiness indicators" such as "wellbeing", "life satisfaction", levels of "mental strain, depression, sadness and loneliness", "perception of cognitive abilities specifically memory, learning and ability to concentrate" in addition to "physical wellbeing" as well community wide intangible benefits such as feelings of "social cohesion" measured as perceived "trust in others confidence in the future and even trust in the state and welfare providers", all of which requires a degree of empathy and thought to fully comprehend and believe when attributed to an economic tool which is thus ultimately far more challenging to communicate efficiently than the standard numerical metrics of success we usually judge our welfare policies by, namely cost and employment effects (Muraja, 2018).

However, within the post-Pandemic set this changes, total references regarding basic income pilot discussion decreases overall within this set; this can be attributed to a substantial decrease in the negative presentation of basic income pilots and a decomposition towards the positive presentation of results within the code. This considerable increase in positivity came predominantly from the discussion and appreciation of the "intangible" mental, physical and societal positive findings within a number of basic income studies, which are praised and clamoured for with great priority within the overarching discussion context of the pandemic. While additionally, a broad range of new pilots, basic income studies and basic income style policy plans were reported on and discussed with a particular focus on the imperative of exploring alternatives to the existing welfare system, which was widely considered lacking in many vital ways (Stone, 2020).

An additional novel observation was that of frequent discussion of the creation of basic income trials at a local level, with reasoning typically being cited that it was hypothesised that a basic income style provision of welfare would better suit the needs of those less well suited to the existent governmental covid response support, such as areas populated mainly by individuals who would consider themselves more vulnerable to the existent "holes" within the current welfare system, both in the current crisis, the return to a "new normality" and in the circumstance of a new yet unknowable future shock. This discussion emerged directly at the local level and was almost exclusively prevalent in relatively more minor locally focused publications, with the discussion led by the local individuals, local groups, local councillors and local politicians while additionally taking an entirely human presentation of their ideas, presenting their points through illustrating the needs of the local community and explaining the stories of local individuals within the context of the pandemic as well as other community held economic anxieties they are likely familiar with such as local business closures, lack of local government investment, lack of local opportunity in addition to wider perceived future economic anxieties such as Brexit, the rise of AI-based human redundancy and further machine automation of human labour as well as future covid waves and further unpredictable crisis with the potential to distribute cost asymmetrically across their community (Seabrook, 2020; Sandler, 2022).

2.1.3.4 The National Media Narrative of Basic Income: The Pre-To-Post Pandemic Shift

A narrative refers to a wider story or a shared framework of interpretation that individuals and society may use to understand and make sense of economic events, trends, and behaviours. Narratives shape people's perceptions, beliefs, and decision-making processes, influencing everything from economic outcomes and market dynamics to social policy and political preferences.

Qualitatively identifying themes of discussion within news media is crucial for understanding narratives in narrative economics. Narratives should be considered as more than their component themes, instead better described as the overarching story one might use to label and holistically understand the collection of themes[39,40].

Narratives can be understood as news media serves as a primary channel through which themes and, therefore, wider narratives are disseminated and constructed. By analysing news articles, opinion pieces, and other nationally published media sources, we can identify recurring themes, patterns, and discourses that shape economic narratives.

By quantitatively coding and then identifying, analysing, and comparing theme changes between our two data sets of differing periods of time, the pre-Pandemic (baseline) year and the post-Pandemic (treatment) year, we can form an empirically justified understanding of the broader national narratives that may have developed surrounding basic income within the new context of the emergent crisis.

Aggregating and evaluating the identified themes enables us to understand narratives in several ways. Firstly, it enables us to discern the most dominant narrative potentially shaping economic discourse and public opinion. By identifying frequently recurring themes, we can identify the overarching stories and explanations that drive the aggregated economic narratives, such as narratives of optimism, fear, or scepticism.

Secondly, in aggregating themes into an overall narrative, we can quickly view nuances, contradictions, and divergent viewpoints within the narratives. By identifying different themes and their variations, we can gain insights into the diversity of thought that contributed to emergent narratives in the media landscape. This understanding contributes to a more comprehensive assessment of how narratives evolve, compete, or intersect.

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[39] For instance, narrating the era post-1929 financial crisis as "The Great Depression" rather than thematically considering it merely an era of unemployment, negative return on equities, laissez-faire fiscal attitudes and reduced national productive output. Vital as it is widely accepted that enabling positive economic expectations to return efforts required more than simply reversing these contemporary themes; to truly end the era of "The Great Depression" from the national conscience, a competing narrative would have to emerge and replace the old, in the case of the example provided a new narrative known as "The New Deal", which pitted themes of Keynesian Intervention presented as "relief, recovery and reform" against the incumbent Narrative of "Rugged Individualism" made of themes of libertarian market self-correction, reduced corporate taxation and domestic market protectionism". A narrative which had once granted President Herbert Hoover an election landslide victory but likely now left him considered out of touch and cruel as a pro-fiscal-intervention Narrative emerged. The Great Depression is examined through a Narrative economic lens within Shiller (2017) & Shiller (2021).

[40] Further on this topic Shiller R. J., (2020) in exploring "The longest U.S. expansion" (2009–2019) uses historical news article data to "seek to find changes in narratives that might have been part of the cause of the expansion, or that hindered it", for example quantifying and plotting Narrative prevalence over time of "three phrases that stand for narratives: "housing bubble," "strong economy" and "save more," from 1989–2019".

Furthermore, qualitatively identifying themes within news media enables us to understand the framing of economic events and phenomena that were pertinent at the time. Different themes may reflect distinct frames or perspectives through which economic issues are portrayed and understood. Analysing these frames provides insights into the underlying values, ideologies, and biases that shape the emergent overall economic narrative that results within the media.

2.1.3.4.1 The Pre-Pandemic Narrative of Basic Income

Generally, within the 01.04.2018-01.04.2019 pre-Pandemic Basic Income Article set, negative and positive arguments for or against basic income are frequently tied. Arguments supporting basic income often come from the perspective of protecting against the automation of jobs and boosting incomes, all to prevent the predicted gradual erosion of future living standards. While typically, negativity is levelled in the form of expecting a basic income style welfare system to have undesirable costs that leave it an inferior option to the existing welfare system, the specific high cost to operate, tax rises required to fund it, redistribution from other public services, debt incurred to fund it as well as negative expectations on basic incomes effect upon aggregate employment.

Additionally, there is a large volume of negative interpretations of basic income case studies, with many sources emphasising the lack of change in employment while negating the value of reported increases in financial autonomy, social well-being and physical and mental health.

Reporting on basic income implementation is focused mainly on small-scale pilots, which are reported on mostly negatively, as well as considerations and campaigns for basic income abroad, which are discussed mainly as utopian or populist with no consideration that it may one day be a policy that could be seriously considered and advocated for in the UK.

While those that publicly advocate for the implementation of basic income style policies are often discredited, having the policy is frequently discussed as “utopian”, “free money”, “fiscally irresponsible”, or “populist” (Foges, 2020).

While direct comparisons between the implementation of a basic income style welfare system and the existing welfare system usually conclude that any benefits offered in the implementation of a basic income would be outweighed by the risks associated with bringing a revolutionary overhaul to the existing system and thus the better option would be to gradually alter the existing system evolutionarily as so it could come to protect against some of the concerns highlighted by those desiring a basic income. While factual descriptions of the definition of a basic income policy and other objective informational reports such as accurate polling and policy pricing and tax requirement calculations remain relatively scarce.

2.1.3.4.2 The Post-Pandemic Narrative of Basic Income

Firstly, the basic income related article volume increased massively in the early months of the pandemic, particularly in April, as the question of potential government intervention to ensure the millions of people affected by covid-related lockdown remain financially solvent becomes exceptionally pertinent to public consideration. As this new context emerges and details of new national welfare interventions emerge, the discussion of basic income style policies deepens and presents itself with novel positivity.

Furthermore, there is a significant new volume of discussion that basic income is not only uniquely beneficial in response to the crisis but that its implementation by politicians and acceptance among the population is both logical and potentially inevitable both abroad and, in the UK, as a result of the challenges posed to existing welfare systems by the global

pandemic. A number of sources even speculate that some form of "department of guaranteed income" may need to emerge to protect individuals from bankruptcy as successive indefinite waves of crisis wash over the country and that this department will likely provide permanent universal basic income beyond the crisis to protect into the next, with speculation that this will become a future treasured institution forged during the crisis to protect the vulnerable during their time of need, with comparisons drawn to the universality of the National Health Services' guarantee of basic treatment to all after the horror of the second world war (Alcorn, 2020; Murray, 2020; Goldin & Muggah, 2020).

At this point, support for basic income among politicians, political parties and public figures shows a substantial volume increase. Not only is their credibility no longer diminished for advocating for a basic income for all, but their message is popularly presented within the articles. As arguments are made for the immediate need for the implementation of a basic income to firstly protect those who were most vulnerable in society as the disaster unfolded, secondly, to those who had now found themselves without any income and depleting savings for perhaps for the first time in their lives as jobs were lost on a colossal scale and many could return to work for health fears and thirdly to the remainder of society as to encourage aggregate expenditure to stimulate the broader economy as many feared a crunch in aggregate demand (Paton, 2020).

Factual reporting on the specifics of basic income does increase in volume; despite remaining low in absolute proportion overall, it spikes over the pandemic period. Cost calculations and tax rise estimates, which are usually considered a negative in the discussion of basic income, are discussed more favourably as an attitude of moral impetus to be willing to spend to save society is adopted, particularly when compared to the cost of the furlough scheme, which is discussed as not only hugely expensive but also leaving many to fall through the cracks as they miss application criteria, inclusion requirements and get delayed by massive amounts of bureaucracy. At the same time, discussion of policy specifics and pricing is now taken seriously and discussed productively among both the political left and political right. During this period, the key terms "Basic Income" and UBI were also featured more frequently within article titles as the policy became more widely known and advocated for[41].

Focus upon the unique benefits of basic income are frequently discussed and advocated for, those being universality in preventing every member of society from falling through the cracks of the welfare system, the flexible ability to allow for recipients to work as much as they are able without penalisation as well as the mental and physical health benefits observed in many of the basic income pilots in addition to increased levels of social cohesion and life satisfaction reported, all sorely needed not only during this crisis but better to be in place in preparation for the next (Goldin & Muggah, 2020).

While discussion of the negative aspects of basic income was generally no longer arguing against basic incomes appeal, as it was frequently discussed to alleviate the issues of the pandemic, instead sticking to typical lines of criticism that generally came off as less sensitive to the real issues most people faced, as arguments against the high cost of basic income came off as uncaring during a crisis and largely pointless considering the ever-increasing cost of furlough. In contrast, discussion of the more nuanced longer-term

[41] See Table 2.4 Data Set Two: Post-Pandemic- Total Code Volume, Total Code Volume as Percentage of Total, Codes by Article Recurrence, Codes by Article Recurrence as Percentage of Total Articles.

philosophical objections or state debt to GDP ratio projections under a basic income style welfare support system came off as out of touch and unimportant during a time of unprecedented uncertainty and growing crisis.

After this, the volume of negative articles did come to increase, as many claimed the government's welfare response was "adequate" in handling the crisis and that the expansion to a long-term basic income was too far as the crisis would subside and the welfare system could be returned to normal.

However, advocacy for basic income increases again as the return of a second lockdown, viral wave, and resultant crisis begins to enter the discussion. Presenting basic income as a "logical" progression of the rushed patchwork furlough scheme, which had created significant distortions of winners and looser as eligibility requirements and the bureaucratic delay had prevented many who should be entitled from accessing it in addition to those who were excluded entirely yet still contributing to its upkeep. This advocacy for a basic income comes in the form of recognising that basic income would prevent many from "falling through the cracks" as they did during the first crisis while also establishing a system that could ensure both protection against future unforeseeable crises as well as long term benefits to mental and physical health to name a few examples (Jon, 2020b).

While additionally, many argued that as unconditional cash transfers from the furlough scheme were widely considered to have helped during the crisis, not only would a basic income have prepared us better should it have previously been in place, but it would also prepare us for future economic shocks. As many such articles discussed the "build back better" concept, arguing for a step up in universal, unconditional state support to prevent those harmed by the pandemic from falling further and to protect against future unforeseeable shocks which distribute new winners and losers asymmetrically and can impede long term growth substantially (Walker, 2020).

Again, the retort was disagreements with perceived and rarely calculated "excessive cost", predictions of mass "idleness", undesirable tax increases to cover the cost and that welfare should always and only focus on those who need it presently accusing those who would advocate otherwise of "seizing on the crisis" and selling "utopian ideals" during a time of mass desperation (Foges, 2020).

Essentially, those who would advocate for basic income increased in number and volume[42], adapting their argument quickly to suit current events and essential needs of those they aimed to sway. While those against kept their argument mostly unchanged, instead coming off as uncaring and unappealing to the new needs of those they spoke to.

Proceeding this discussion of polls exploring attitudes towards basic incomes become more prevalent, with the vast majority expressing newfound popularity and discussing basic income as a potential hot idea for the future. Additionally, the volume of politicians, political parties and public figures advocating for basic income remains high as now association with

[42] See Table 2.3 Data Set One: Pre-Pandemic- Total Code Volume, Total Code Volume as Percentage of Total, Codes by Article Recurrence, Codes by Article Recurrence as Percentage of Total Articles & Table 2.4 Data Set Two: Post-Pandemic- Total Code Volume, Total Code Volume as Percentage of Total, Codes by Article Recurrence, Codes by Article Recurrence as Percentage of Total Articles.

the policy is perceived more favourably, further the terms "Basic Income" and "UBI" feature more frequently in the headline of the articles, which are often positive and supportive[43].

Discussion surrounding basic income pilots from across the world becomes more frequent and favourable, while considerable discussion surrounding the success of "near" basic income policies in large countries such as Spain or the United States leads to speculation of many states switching to a full basic income system in the future.

Significantly a high frequency of articles within smaller, more local publications featuring local councils, politicians and residents calling for local basic income pilots or schemes in their area enters the discussion, many of which express how the existing welfare system failed them and feel the time has come to explore if a basic income system would be more beneficial. Beyond that, there is a considerable discussion on the national level comparing a basic income style system to the existing welfare system, with many expressing sentiment along the lines that "we cannot return to the previous welfare system" and need to embrace more aspects of universality and unconditionality as lessons from the pandemic to protect society in the future, as many were excluded during their time of need despite contributing to the upkeep of the state for their entire working lives, they felt abandoned by the welfare system.

Some of these individuals identified as self-employed, gig economy workers, graduates, women trapped in abusive situations, and those with rapid onset medical conditions or immediate need to become a carer. Many of these personal explorations not only expressed how they had been let down monetarily by the existing system but also how they could see themselves benefiting intangibly from a basic income, expressing their desire for psychological security, stability, protection from failure when striving to re-train or start a business venture or the relief in the ability to becoming a carer for those in need and to pursue the physical health benefits when they are not dependent upon full-time work for solvency.

Overall, the pandemic brought a massive boom in positive discussion of basic income, both of foreign schemes, pilot studies, implementation at the national level and implementation at the local level, leading to a surge in expressed support from politicians, political parties and public figures as well as basic income policy popularity polling and the successes found within pilots. Eventually, leading to the discussion of how life may have been different entering the pandemic with a basic income system in place rather than the existing welfare system, with a new discussion surrounding how a basic income could help "build back better" (Stone, 2021).

The narratives that generally supported basic income evolved rapidly to suit the context of the pandemic, increasing in article volume and breadth of distribution. At the same time, more critical negative arguments remained generally stagnant in the adaptation of new discussion and lesser in volume; as these narratives failed to adapt to the new crisis context, their relevancy faded. All at a time when many individuals were now coming to fully appreciate the benefits of an emergency guaranteed basic income level, as they were forced into significantly reduced take-home-pay in combination with feeling the human need to reduce

[43] See Table 2.3 Data Set One: Pre-Pandemic- Total Code Volume, Total Code Volume as Percentage of Total, Codes by Article Recurrence, Codes by Article Recurrence as Percentage of Total Articles & Table 2.4 Data Set Two: Post-Pandemic- Total Code Volume, Total Code Volume as Percentage of Total, Codes by Article Recurrence, Codes by Article Recurrence as Percentage of Total Articles.

labour hours, perhaps to care of their loved ones or to help alleviate their own pandemic-related physical or mental health issues.

2.1.3.4.3 Pre-Pandemic to Post-Pandemic Narrative Shift: A Comparative Analysis

During the initial stages of the crisis and onset of lockdown-related disruption, the total number of basic income articles increased dramatically[44], spiking from a relatively stable range that remained confined within the narrow band of a 19 monthly article low to 80 article high over the previous two years to an unprecedented all-time high of 150 monthly basic income related article publications in April 2020 followed immediately by a new second place all-time high in May 2020 when 110 basic income related articles were published.

This is observed in absolute volume and when examined relative to the changing level of all other non-basic income-related articles published nationally. As seen when examining the total monthly publications of articles containing the key terms *("Basic Income" or UBI")* as a percentage of total monthly articles documented on Lexis Nexis Academic UK[45], where a significant spike in articles featuring the terms "Basic Income" or "UBI" can equally be observed reaching an unprecedented all-time high in April 2020 representing over 0.09% of all articles published within the UK and stored within the comprehensive Lexis Nexis Archive, followed again by a second place all-time high in May 2020, whereby basic income related articles came to represent as many as 0.065% of all articles published within the UK press, escaping the previous relatively narrow band of a 0.01% low and 0.04% high over the previous two years.

A significant volume of this growth came from additional publications from national news sources, as the volume of national basic income related articles published grew from 374 between April 1st 2019, to April 1st 2020, by an additional 154 articles or by an incredible 41.176% (41%), almost entirely driven while basic income related articles from more localised news publications grew from a

Additionally, when examining this increase in basic income related publications more closely, we observe that intriguingly publication volume of basic income related articles remained fairly consistent in the national news over the onset of the global pandemic crisis, actually dropping and that instead, this significant increase in basic income related publications rather came almost entirely from regional publications[46], indicating a shift towards more localised discussion of basic income as the crisis struck communities[47].

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[44] See Appendix A: Figure 2.15 Total Number of Written News Articles Featuring terms "Basic Income" or "UBI", April 2018 to February 2021

[45] See Appendix A: Figure 2.16 Total Number of Written News Articles Featuring terms "Basic Income" or "UBI" as a Percentage of All Published News Articles, April 2018 to February 2021

[46] See Appendix A: Figure 2.17 Number of Written News Articles Featuring the Term "Basic Income" or "UBI" Regional & National News April 1st, 2019, to April 1st.

[47] See Figures: Appendix A: Appendix A: Figure 2.18 Number of Written News Articles Featuring the Term "Basic Income" or "UBI" Regional & National News April 1st, 2018, to April 1st, 2019; Appendix A: Figure 2.19 Number of Written News Articles Featuring the Term "Basic Income" or "UBI" Regional & National News April 1st, 2019, to April 1st, 2020 & Appendix A: Figure 2.20 Number of Written News Articles Featuring the Term "Basic Income" or "UBI" Regional & National News April 1st, 2020, to April 1st, 2021

2.1.3.4.4 A New Crisis Narrative of Basic Income

> *Overall, the thematic analysis indicates a significant narrative shift surrounding basic income in the UK media over the period, shifting from a narrative of obscurity, infeasibility and ridicule to one of a robust, well-measured and practical intervention when confronted with the new crisis-imposed social and economic conditions.*

Discussion of Basic Income as a pandemic response policy became hugely significant; basic income was no longer discussed as an obscure, populist, utopian fantasy and instead as an efficient, inclusive, and rational policy. With the additional benefits of supporting mental/physical health, social cohesion and increasing disposable incomes. All issues with greater emphasis and implied importance within the media, which now carried a narrative of a society that was pulling together to prioritise health as a socially united struggle.

Conversely, this narrative change soured the incumbent narrative surrounding the pre-existing targeted welfare system, which, rather than being viewed as a time-tested reliable system that fulfilled the needs of the deserving instead, was now coming to be viewed as an outdated, inflexible, overly bureaucratic, unacceptably slow system whereby millions were excluded at the one point in their lives where they had needed to draw from it. Resulting in a narrative shift away from an evolutionary change of the existing welfare system to one of a more revolutionary overhaul.

This narrative shift of new criticism towards the existing welfare system, coupled with a new narrative of basic income being a disaster relief policy, evolved alongside additional novel themes that contributed to the overall supportive re-calibration in the perception of basic income narrative change. Specifically, the emergence of an overall predominant positive sentiment towards basic income as negativity directed towards basic income waned. Allowing for a new narrative by which individuals that advocated in favour of a basic income implementation were discussed as "forward thinking", “open to new ideas", and even "philanthropic to the whole of society" at a time when this was needed most, in contrast to the previous narrative whereby advocates where largely ridiculed and discredited for similar endorsements (Murray, 2020).

Leading to a narrative shift whereby discussion of further basic income research shifted from being considered a largely closed issue, as the overwhelming media narrative surrounding future studies revolved around the early ending of the Finish basic income pilot and the perceived "underwhelming" results upon employment levels that had resulted in a narrative of basic income as a policy having been explored and found at a dead end. Instead, a narrative of massively renewed interest, with significant support for trialling basic income policies at local levels, particularly among those who considered themselves poorly served by the existing welfare system during the crisis and many of which now re-evaluated basic income and valued the mental, physical and bureaucratic streamlining effects observed in the results but not prioritised at the time.

2.1.4 Conclusion

All data was collected from the LexisNexis Academic UK article database. The data collected can be regarded as comprehensive as LexisNexis Academic UK is largely considered to be among the most rigorous in collecting and storing all existing news articles (Tamil & Martínez-Carrillo, 2017), featuring over 66.9 million articles as of April 22nd 2022 (Lexis Library News, 2022). Of these Articles, the *key-word-search* function, in combination with the *filter-by-date* and *hide-duplicates* search commands, enables us to identify all relevant articles from the exhaustive main pool accurately and to extract them for further analysis, providing an entirely comprehensive data set as to deploy within this study (Tamil & Martínez-Carrillo, 2017).

The data cleaning process was conducted by hand and carried out twice on the pre- and post-Pandemic data sets to ensure only the articles needed were included. In addition to removing articles that had been inevitably added to the set through featuring the term "basic income" but not the conceptual form of basic income this study focuses on, such as the handful of articles that (perhaps mistakenly) referred to the "personal income tax allowance", the minimum income for which income tax must start being played in the UK, as the "basic income tax allowance", in addition to articles that had been included in the count and that were, in fact, a duplicate of an earlier article, despite the *hide-duplicates* search option having been selected, as a whole the data set can be considered of high quality.

Employing the thematic analysis methodology through article coding remains among the most prominent and widely utilised methodologies in quantifying and analysing large volumes of qualitative data (Kiger & Varpio, 2020). By utilising *practice coding* sessions throughout the corpora twice until data saturation had allowed us to develop a comprehensive list of codes, we were then able to begin again, coding the corpora consistently throughout. All coding was conducted by the author, and the coding of both corpora was done consecutively to prevent any discrepancy in coding methodology that may potentially have occurred were too much time to pass between sessions. In addition, all codes were revised frequently to keep the coder cognizant of each category, while an effort was made to prevent the continuation of coding if the coder experienced a drop in coding quality due to mental or ocular fatigue.

The thematic analytical methodology allows us to not only quantify a vast range of qualitative sources and points from a wide range of sources in the form of empirical visualisation of codes identified but also allows us to understand how each code formed part of a greater whole, that is an evolving narrative that existed at a particular period of time in response to other narratives that evolved and impacted each other in parallel (Clarke & Braun, 2013). Therefore, within this Chapter, the goal was to provide a holistic insight into the evolution of narratives within their historical context, emphasizing their interplay with and response to other concurrent ideas.

Within this Chapter, a number of findings were identified; these can be effectively expressed by stating the themes found throughout the data. These themes illustrate a picture of rapid change in discussion and perception between the pre-Pandemic to the post-Pandemic period articles featuring basic income, with change being observed in the quantity of discussion, the variety of sources discussing, the quality of factuality, the locality and size of those interested

and active in the basic income debate as well as the titanic entrance of an entirely new basic income related topic which came to dominate the discussion surrounding basic income as a direct result of the global pandemic[48] all culminating into what could be termed a New Crisis Narrative of Basic Income.

Many themes saw a direct reversal between the pre- and post-Pandemic article sets, such as the consistently mixed sentiment when discussing basic income observed in the pre-Pandemic set-shifting to largely positive sentiment, as much of the criticisms failed to evolve to suit the new context of the pandemic. In contrast, many of the arguments in favour of basic income adapted with ease, in addition to incorporating significant new angles such as responding to the new needs of those who had for the first time found themselves in desperate need of welfare support but unable to access it as a direct result of the stringent existing targeted system.

This factor largely contributed to much of the new supportive discussion emerging from smaller, more personably relatable news publications and individuals advocating for and expressing the positives of a basic income at the level of their localities. In comparison, much of the criticism and ridicule which had typically come from more prominent national publications directed at those that had advocated for basic income policies prior to the crisis came off as out of touch or cruel and deluded and thus rapidly declined in volume—coinciding with an increase in factual reporting on the specifics of what a basic income policy entails in addition to reasoned numerical estimates of policy cost estimates.

This discussion furthered as individuals became less subject to widespread criticism from national publications for advocacy for basic income policies or further research, leading to increased positive discussion of future basic income research and pilot trials, with particular advocacy for trials to be held by politicians desiring to lead studies within their own localities, in addition to many directly comparing basic income to the existing welfare system and discussing their increasing favourability towards a "rapid acting", "universally inclusive" basic income style welfare system over a stringent, slower acting targeted system (Harris, 2020); as discussion of the benefits of basic income as a direct pandemic response exploded to become the dominant code and prevalent theme in the post-Pandemic article sets, many discussed their new found affinity for a larger more ever present safety net for all, as the understanding set in that unavoidable black swan event income shocks were in fact not only a hypothetical but a very real recurrent possibility, and in now considering the post 2008 pre-Pandemic era as an atypical period of general stability rather than a reliable long term state, that it may perhaps be well measured to consider a revolutionary approach to reform the welfare safety net, rather than continuing to implement a gradual evolutionary change.

2.1.4.1 Limitations

Although LexisNexis is widely considered highly reliable in exhaustively collecting and archiving all published News articles, the possibility that some articles may, for whatever reason, be omitted from the collection is impossible to disprove. While additionally a

[48] See Table 2.4 Data Set Two: Post-Pandemic- Total Code Volume, Total Code Volume as Percentage of Total, Codes by Article Recurrence, Codes by Article Recurrence as Percentage of Total Articles.

significant number of measures were stringently adhered to in maintaining the accuracy of the dataset cleaning to ensure a fully representative data set, it could be possible that human error may have occurred during the process, perhaps in falsely removing an article when it should have otherwise been included in the set.

Generally, the qualitative analysis relies on a degree of subjectivity more so than purely quantitative methodologies, depending upon the researcher's judgement, presenting a potential risk of error along the lines of overlooking nuances within the data, failure to identify themes present, or false positive observations that are in reality not present or incorporated either unknowingly or knowingly through bias.

2.1.4.2 Implications and Research Impact

Over the course of the Covid-19 pandemic crisis, we observed a fundamental shift in narrative and, thus, perception of a basic income style welfare system. This was demonstrated via utilising a quantified coding and thematic analysis methodology, exploring narratives around the existing welfare system and its adequacy during times of crisis concerning basic income. Helping us explain the findings of Nettle, et al., (2021), providing insight into the vast challenges that policymakers possess in the aim to best provide for all equitably and providing an impact on the pool of existing research in identifying and quantifying the specifics of how national narratives of welfare systems shifted during the period of the global SARS-Cov-2 crisis.

The Welfare system is of extreme importance; it is the only defence against destitution for many within society. It is imperative that it works adequately during the hard times rather than just the good; thus, the understanding of how needs and perceptions alter under narratives of normality and narratives of times of crisis is critical for ensuring the design of a system that is optimal at ensuring a reliable safety net for all. This chapter has attempted to provide the beginnings of insight into this.

3 Chapter Three: Quantifying National Crisis Narratives and Lived Crisis Experience upon Alternative Welfare System Perceptions: A Randomized Control Trial Approach Using UK Residents

3.1 Universal Basic Income, Targeted Welfare & The Pandemic: Previous Work & New Research

The unfortunate event of the SARS-CoV-2 (Covid or COVID-19) pandemic has presented a unique opportunity to study the role of narratives in shaping public perception of welfare policies during times of crisis. Applying the lens of narrative economics to the policy of Universal Basic Income (UBI or Basic Income) as well as a Targeted Welfare Cash Transfer System (TW) during the crisis can reveal insights into how the framing of UBI, cash-based welfare and crisis in media and political discourse influenced public perceptions and support for the policy. These lessons can provide valuable insights into how future crises may influence welfare perceptions and what is beneficial going forward.

The analytical lens of narrative economics has demonstrated that narratives and stories can profoundly impact the shaping of public perception of policies (Shiller, 2017). Chapter Two implemented a thematic analysis to identify and quantify national narrative change and evolution regarding basic income over the pandemic.

Identifying six thematic narrative changes:

1: Emergence of Basic Income as a Pandemic Response

2: Mixed Sentiment to Positive Sentiment

3: Basic Income Less Desirable than Present System to Basic Income Being Touted as a Solution to the Failure of the Existing System

4: Basic Income a Toxic Association to Open Call for Basic Income Policies

5: Infrequent Factual Policy Explanations to Frequency of Factual Explanations Increases

6: Negative Attitude Towards Basic Income Pilot Study Research to Positivity Towards Basic Income Trials and Future Research at the Local Level

The narratives surrounding UBI during the COVID-19 crisis focused on the policy's potential benefits, such as providing a safety net for individuals and families facing new issues directly from the crisis. Additionally, the framing of UBI as a policy that could promote economic recovery and reduce economic inequality emerged with prevalence to resonate with the public potentially, culminating in what was termed the *"New Crisis Narrative of Basic Income"*.

The narrative changes identified emerged very quickly, coinciding directly with the onset of the pandemic. It was identified that a boost in public opinions regarding the favourability of

both UBI and TW systems was observed, while additionally, it was found that this boost came directly as a result of the pandemic (Nettle, et al., 2021).

This study seeks to explain this link by connecting the emergent pandemic themes that developed in the media at the time and the resultant national narrative that was created as a result, quantifying the identified narrative effects, as an explanatory factor, for the observed shift in preference toward cash-based welfare.

Seeking to explore the causality and effect size of the emergent crisis narratives identified within Chapter 2 in their ability to rapidly and sustainably shift UBI and TW preferences to the degree that may replicate the effect determined at the time.

This study also seeks to quantify and contrast these Macro-level aggregate *National Crisis Narratives* effects in influencing policy preference alongside a number of Micro-level *Lived Crisis Experiences*, which this study posits will have significance when quantified among the effects observed, a factor which has not been explored previously.

The lessons learned from applying the lens of narrative economics to UBI and TW during the crisis can provide insights into how future crises may influence welfare perceptions. Economic insecurity can increase during a crisis, such as a recession or a natural disaster, leading to a greater receptiveness to narratives that offer potential solutions to new economic concerns.

Policymakers can use these insights to understand better how the narratives surrounding welfare policies during crises shape perceptions and needs in ways that require welfare system deviation from the norm of regular periods of growth, aiding in assessing the durability of existent systems and allowing for adaptation as to better meet the differing needs of individuals during times of hardship.

3.1.1 Basic Income & Targeted Welfare: Perceptions During the Pandemic

In their examination of social attitudes related to a UBI (Nettle, et al., 2021) conducted, three studies on samples of the UK and US population to quantifiably explore potential changes. Study 1 comprised of 802 participants and conducted during April 2020 and determined "significantly stronger support for implementing a UBI policy during the pandemic and its aftermath compared to normal circumstances". This heightened support was largely attributed to the perceived value placed on a system that is both "simple and efficient to administer" and "capable of mitigating stress and anxiety within society", potentially pertinent considering the social issues posed by the pandemic that was ongoing at the time.

In Study 2, involving 400 participants in May 2020, UBI was contrasted with a conditional targeted social transfer system. Notably, "preferences for UBI were measurably stronger during the pandemic compared to non-crisis times". This preference shift was partially explained by various perceived advantages associated with UBI, such as its "administrative simplicity" and "suitability for navigating an ever-changing world" (Nettle, et al., 2021).

Study 3, encompassing 397 participants in September 2020, demonstrated that the trends observed in Studies 1 and 2 persisted six months after the initial onset of the pandemic, albeit with diminished effect sizes. These findings underscore how crisis-related circumstances may

markedly influence policy preferences, as citizens' perceptions of salient priorities adapt over time, particularly in relation to alternative welfare systems such as UBI in absolute terms and in relation to a comparable targeted system.

In an analysis of these findings Nettle, et al., (2021) notes that “the onset of the 2020 global COVID-19 pandemic led to a marked increase in positive discussion of Universal Basic Income (UBI) in political and media circles; however, we do not know whether there was a corresponding increase in support for the policy among the public at large, or why”. Highlighting that despite changes in UBI preferences being observed in relation to the Pandemics impact, the “the extent to which this increased (positive media) discourse translated into widespread public support for UBI remains unclear” as well as “the underlying reasons for any observed changes”.

3.1.2 Quantifying Narrative Effects

Causal relationships between narratives and their impact on economic opinion maintains widespread acceptance within the prevailing academic discourse in narrative economics. Furthermore, there is consensus regarding the dominant role played by the national media in shaping these narratives while also acknowledging the pronounced significance of national crises in this intricate mechanism (Shiller, 2017).

Robert Shiller defines the effect of narratives on economic phenomena as follows[49];

> *"Narrative economics, the study of the spread and dynamics of popular narratives, the stories, particularly those of human interest and emotion, and how these change through time, to understand economic fluctuations"* (Shiller, 2017).

Elaborating that in identifying and observing narrative change, we can better understand and predict the interaction between the populace and economic policy:

> *"This address considers the epidemiology of narratives relevant to economic fluctuations. The human brain has always been highly tuned toward narratives, whether factual or not, to justify ongoing actions, even such basic actions as spending and investing. Stories motivate and connect activities to deeply felt values and needs. Narratives "go viral" and spread far, even worldwide, with economic impact.*
>
> *The 1920–1921 Depression, the Great Depression of the 1930s, the so-called Great Recession of 2007–2009, and the contentious political-economic situation of today are considered as the results of the popular narratives of their respective times. Though these narratives are deeply human phenomena that are difficult to study in a scientific manner, quantitative analysis may help us gain a better understanding of these epidemics in the future"* (Shiller, 2017)

The quantification of the impact of narrative change upon economic phenomena has been investigated a handful of times within recent research. After the deployment of open-ended questionnaires distributed daily to US investors Borup, Liengaard, & Schütte (2020) asked investors to describe their subjective "stories of the impact of COVID-19 on the real economy and financial markets", from which they would then apply "textual analysis" to the survey responses "to identify the most salient COVID-19 narratives and quantify their prevalence over time". Resultantly Borup, Liengaard, & Schütte (2020) were able to identify the "real-time development of narratives related to the economic impact of COVID-19" (Roos & Reccius, 2021), quantifying 13 exactly.

[49] Robert Shiller is a highly influential figure in the research field of narrative economics. As a Nobel laureate in economics (2013) and a renowned economist, Shiller has made significant contributions to the understanding of how narratives shape economic behaviour and outcomes. His work has shed light on the role of narratives in driving economic fluctuations, market bubbles, and financial crises. By emphasizing the importance of narratives in shaping economic behaviour, Shiller justified expanding beyond the traditional economic framework that primarily focuses on rationality and market fundamentals. He argues that stories and narratives can have a profound impact on economic outcomes, even in the absence of fundamental changes in economic fundamentals (Shiller, 2017).

Furthermore, taking these 13 identified narratives and testing whether "there is an effect of narratives on macroeconomic and financial fluctuations and vice versa". Applying a "large, regularised VAR" system with their 13 identified narratives and "17 macro-financial variables", they "consider cumulative effects spanning from daily to monthly horizons and estimate directional effects between a narrative group of variables and a macro-finance group".

Finding that "depending on the horizon, between 12% and 20% of the total unexpected fluctuations in the macro-finance group is attributable to narratives, while the effect on the other direction is between 17% and 32%". Identifying a "bi-directional nature in the relationship" between identified Covid-19 narratives and economic variables, a result which "supports Shiller (2017) hypothesis that narratives shape individuals' economic actions, but that the economic environment also shapes individuals' narratives" (Borup, et al., 2020).

Concluding:

> *"The COVID-19 pandemic and the global economic recession that resulted provide an ideal testing ground to examine narratives. The rarity of global pandemics implies that there is a large degree of uncertainty associated with COVID-19, particularly during its early stages.*
>
> *This uncertainty led to a plethora of distinct narratives as people tried to comprehend the impact of the event. It is exactly during these periods of incomplete information that individuals strongly rely on narratives to guide their behaviour.*
>
> *This period also experienced the largest economic shock since the Great Depression of the 1930s and it was accompanied by huge volatility swings in financial markets. Such large shocks make it easier to measure and isolate any links between narratives and economic fluctuations"* (Borup, et al., 2020)

3.1.3 Research Gaps & Literature Contribution

This study aims to investigate and quantify the causal relationship between the pandemic narratives presented in the UK print media during 2020 and individuals' perceptions of the performance of a UBI and a TW-based welfare system. The randomised controlled trial will be conducted using a number of participants sampled of UK residents with sufficient statistical power, as determined via the A Priori Sample Size Power analysis[50]. This allows for the determination of the influence of the media narratives during the crisis on the perception of both a UBI and a TW social security system, measured across 21 outcome variables, composed of beneficial aspects of a welfare system.

In general, existing literature has explored the effect of narratives on public perception and policy support, connecting narratives of financier irresponsibility and greater financial regulation post-Great Depression, for example. While additionally, "historical accounts of how societies change, particularly concerning the expansion of social assistance and universal

[50] See Appendix B: Figure 3.2 A Priori Sample Size & Power Analysis

services, often stress the role of large exogenous events; for example, expanded welfare provision has been linked historically to the experience of war" (Nettle, et al., 2021). There is a lack of research on how national narratives, in combination with lived crisis experiences, interact to influence policy preference, specifically in the context of welfare policies during a crisis; furthermore, this potential link is yet to be quantified.

Additionally, while there is evidence that the Covid-19 pandemic has led to a shift in public opinion towards UBI and TW systems, there is a need to explore the specific narratives and themes that contributed to this shift and the potential durability of this shift. Thus, this study contributes to the literature by examining the interaction between national narratives and lived crisis experiences in shaping welfare policy preference during a crisis. Specifically, the study uses the lens of narrative economics to analyse the emergent pandemic themes that shaped the narratives surrounding UBI and TW policies during the Covid-19 crisis and how these narratives interacted with individual crisis experiences to shift policy preferences. The study also explores the durability of this shift in policy preference and the potential for future crisis events to shape welfare perceptions using an RCT and DiD methodology.

This study will contribute to the narrative economics literature by providing experimental evidence on the impact of collective media narratives on economic system perceptions. Precisely quantifying the degree of impact as well as differentiating the specifics of how this shift may or may not be distributed by the four pandemic narratives and eight lived crisis experiences across twenty-one outcome variables selected to represent welfare system performance.

Additionally, this study will contribute to the literature on basic income and cash transfer systems by examining perceptions of both policies' potential as tools for policymakers during times of crisis. Our research will explore how individuals perceive basic income against a targeted system, on 21 distinct aspects of welfare, both in ordinary circumstances and within the context of the recent crisis, providing insight into the representative perceptions of the policy's performance.

3.2 Study Schematics: Method, Process, Measured Variables and Treatment Interventions

3.2.1 Methodology & Survey Design

This study uses an online survey methodology to carry out the RCT experiment. Surveys will be distributed using the online recruitment platform Prolific.co, which enables us to issue surveys to a balanced and representative sample across gender to participants within the UK. Surveys will be hosted by typeform.com as type form proves a clean and intuitive format to allow participants to efficiently and accurately fill in surveys in the data format required.

Prior to data collection, all ethical concerns were reviewed and approved by the College of Social Science Research Ethics Committee of the University of Glasgow, and all ethical commitments, including those relating to participants' rights, privacy and data handling, were protected throughout the study[51].

Within this experiment, 956 participants were surveyed in the main study and 50 in the pilot study. This number is calculated to ensure validity through adequate statistical significance when using the Difference-in-Differences econometric methodology, utilising the statistical power analysis calculator tool GPower version 3.1.9.4[52].

The participants were co-ordinated and recruited by Prolific.co surveying website, prolific.co pay participants a fair wage to fill in surveys anonymously. Further, the surveys distributed via Prolific.co, were given to a representative sample of the UK population balanced by sex and above the age of 18[53]. The survey structure was organised into nine distinct sections to ensure clarity and ease for participants[54].

Firstly, respondents were asked to answer questions about themselves; this is not included within the main body of the survey itself but is carried out by the participant co-ordinating platform to ensure eligibility for the representative sample. This data did not enable participants to be identified, ensuring anonymity could be maintained.

Upon acceptance to the survey, after agreeing to answer questions truthfully and accurately with the participant co-ordinator, participants were then linked to the survey hosted on Typeform.com. From there, participants were presented with all required pre-survey materials agreed upon between the research conductors and the University of Glasgow Ethics Committee[55].

Upon fully understanding and agreeing to all ethical standards and obligations, participants could then choose to proceed onto *Section 1* of the Study; this section consisted of a number

[51] See Appendix B: Item 3.1 Study Ethical Approval Form
[52] See Appendix B: Figure 3.2 A Priori Sample Size & Power Analysis
[53] Information on how participant eligibility for sample inclusion is structured as well as the sample allocation algorithm of Prolific.co is available at: https://researcher-help.prolific.co/hc/en-gb/articles/360019238413-Representative-Samples-FAQ
[54] See Figure 3.1 Study Process, for full study design.
[55] Participants were presented with, I – A Participant Information Disclosure, II – A Data Privacy Disclosure, III – A Clear Notice of Request for Participant Consent, that presented the options of (A) "I Consent", which resulted in the studies commencement, or (B) "I Do Not Consent", which resulted in the participants ejection from the study, guided by GDPR and University of Glasgow Ethical Guidelines available at: https://www.gla.ac.uk/colleges/socialsciences/students/ethics/forms/staffandpostgraduateresearchstudents/

of specific questions inquiring as to what negative outcomes related to the 2020 Covid-19 Pandemic applied to the participants' life, Within the Section participants were asked to answer “To what degree were you impacted by the Covid-19 Pandemic?”, were individual questions were presented a statement and participants were asked to answer using a binary choice of option (A) “This applies to me” or option (B) “This does not apply to me”. An example of this would be, “I was admitted to intensive care due to the Covid-19 Pandemic”[56].

Then, after proceeding to *Section 2*, participants were presented with information explaining the factual definition of a Universal Basic Income and the factual definition of a Targeted Transfer System, as defined in Nettle, et al., (2021)[57].

After carefully reading and understanding the information presented in *Section 2* of the survey, participants proceeded to *Section 3*, they were then asked about their confidence in the degree to which a welfare system modelled on a Universal Basic Income would ensure various particular conditions. These conditions were individual positive outcomes that a welfare system could generate, allowing for nuance in the data provided by participants when considering perceptions of either of the welfare models in question.

Additionally, rather than providing perception data in a binary and inflexible “yes or no” format, participants were asked to submit their considered answers using a ranked progressive numerical scale. Specifically on a progressive numerical scale, ranging from the lowest score of “0”, defined as “I’m confident it would not”, to a maximum score of “10”, defined as “I’m confident it would”, while additionally allowing for a middle score of “5” to be defined as “I’m unsure either way” to capture the opinions of those who perhaps think the specific question to be unanswerable with sufficient certainty. Within this section, there was 21 questions in total[58].

Proceeding on respondents were then asked in the same fashion to answer their perception as to what degree a welfare system modelled on a Targeted Transfer System would ensure a particular social welfare-related condition using the same progressive numerical scale, ranging from the lowest score of “0”, defined as “I’m confident it would not” to a maximum score of “10” defined as “I’m confident it would” with an included middle score of “5” to be defined as “I’m unsure either way” that they have become familiar with in the previous section. This continued by using the same set of 21 questions used in the previous section but instead focussing on participant confidence regarding the potential of a Targeted Transfer system rather than a Universal Basic Income.

After all questions within this section had been completed, as part of *Section 5*, participants, before proceeding to the next section, were randomly distributed into one of five groups; the participants were not informed of this fact. Each group was effectively equal size and consisted of the required 190 participants per group, as calculated sufficient within the power analysis[59].

At this stage, each group then received a unique treatment and did not experience the unique treatment of any other groups. Treatments were presented as a short news article; each

[56] For a Full List of Questions See Appendix B: Table 3.44 Study Question Set.
[57] For Full Informational Prompt Definitions Used within this study please see Appendix B: Table 3.43 Factual Definitions of Universal Basic Income and Targeted Transfer Systems
[58] All 21 Questions are contained in their entirety within Appendix B: Table 3.44 Study Question Set.
[59] See Appendix B: Figure 3.2 A Priori Sample Size & Power Analysis

participant was asked to take their time and ensure they read and considered their treatment article carefully before proceeding.

The articles were selected from the corpus of written news articles published within the year preceding the onset of the first mandated lockdown in response to the onset of the global SARS-CoV-2 Pandemic in the UK. Each treatment article was carefully selected to represent a typical article that would represent the prevalent emergent narratives related to UBI, TW & the Pandemic of 2020[60] that were published nationally within the UK print media over the year 2020; furthermore, a placebo article was also included to establish a controlled baseline participant response.

The article selected as the placebo article was presented to Group A; the article itself was selected to be entirely unrelated to either of the welfare systems or the global pandemic as well as to be thought-provoking and engaging to prevent participants from disengaging interest with the study or feeling like their time was being wasted. As such, the article selected was both educational, informing the reader of various techniques to survive lost in the wilderness as well as engaging, through providing this knowledge via recounting a true story of grit and determination of two individuals lost in the Amazon rainforest, who survived to be rescued eventually going on to make a full recovery, after a treacherous three full weeks alone in the wilderness.

The article selected for Group B represented a typical article discussing the pandemic in general, citing the concerning negative economic indicators of the time and containing statements from various economists, the Office for National Statistics, and the Bank of England. The article typified the narrative of the time, factually stating data surrounding the economic downturn observed during the time while speculating that further stimulus is likely required to alleviate the trend going forward.

The article selected as the treatment for Group C contained the typical depictions of many of the most prominent themes identified within the Post-Pandemic Narrative presented surrounding basic income identified within Chapter Two. Specifically, the article openly discussed basic income as a pandemic response and advocated for implementing a basic income with a degree of positive sentiment while calling for a more rapid overhaul of the existing welfare system that may act better to protect the complex needs of those vulnerable against the crisis.

The article that was selected for Group D represented many of the themes associated with the discussion surrounding the existing targeted-based welfare system at the time, specifically the discussion of the hardship unexpectedly incurred by many as a result of the pandemic. Specifically the consequent issue of illiquidity for many households, as incomes disappeared and the strain on various social welfare institutions grew when attempting to provide support to those that qualified, while additionally covering the new strain placed upon charitable institutions and funds to make up the shortfall.

Group E received the treatments of both Group C and Group D to allow for them to fully absorb the typical thematic discussion associated with both the policies of basic income and

[60] As identified within Chapter 2; (2.1.3.4.2 The Post-Pandemic Narrative of Basic Income & 2.1.3.4.4 A New Crisis Narrative of Basic Income). Further specifics regarding the treatment articles used is discussed further within 3.2.4 Treatment Intervention: 4 Representative Media Narratives of The Pandemic

targeted transfers, enabling balance to be drawn and resolution between potentially conflicting or coordinating treatment effects to be explored.

After carefully reading and considering the treatment article, participants then proceed to *Section 6*. This section resembled *Section 3* insofar that they were presented with the same set of questions asking to what degree of confidence they believe that a basic income would result in a particular social welfare-related condition, answered again with the same progressive numerical scale ranging from "0" representing "I'm confident it would not" progressing incrementally in positive certainty to "10" indicating participants would state "I'm confident it would" with a score middle way score of "5" to indicate that participants would state "I'm unsure either way" in answering the question.

After carefully answering every question within *Section 6,* participants then progressed on to *Section 7*. In *Section 7,* participants were presented with the set of questions from *Section 4,* questioning their confidence in a Targeted Transfer-based welfare system to provide the 21 attributes of a welfare system on the same progressive numerical scale they have previously used.

After completing all questions in *Section 7,* participants were then thanked for their time and participation and provided with links to two leading sources of support for Covid-19 related anxieties and distress[61] and present with the study completion code to receive fair compensation for their time and considered opinions given during the study.

After 15 Days had passed from the completion of *Section 7,* participants were invited to complete the "Follow-Up" Second Part of the study, which is similarly hosted on TypeForm.com. This Part 2 follow-up study would remain open for an additional 6 days to measure treatment effects 15-21 days post-treatment and determine any potential transitory features of the intervention. After entering the Second Part of the Study, participants encounter all ethical disclosure documentation similarly presented within *Section 1* of Part 1[62].

After proceeding, participants were again instructed to carefully read the informative prompts clearly defining a Universal Basic Income, as well as a Targeted Transfer based welfare system, as previously presented within *Section 2* of Part 1[63]. After carefully considering the two informational prompts, participants then proceeded onto *Section* 8, which similarly to Section *3 & 6*, consisted of being presented with the previous set of questions asking to what degree of confidence they believe that a basic income would result in a particular social welfare related condition.

After completion participants then moved on to *Section 9*, which resembled *Sections 7 & 4*, as participants were presented with the same set of questions asking about their confidence in a targeted transfer-based welfare system to be effective in providing the same 21 attributes of

[61] Specifically, The Anxiety and Depression Association of Americas information page on methods to reduce Covid-19 related anxieties, https://adaa.org/learn-from-us/from-the-experts/blog-posts/consumer/top-ten-covid-19-anxiety-reduction-strategies, and the NHS mental health support page on additional methods to reduce covid-19 related anxieties and distress, https://www.nhs.uk/every-mind-matters/coronavirus/covid-19-anxiety-tips

[62] Participants were presented with, I – A Participant Information Disclosure, II – A Data Privacy Disclosure, III – A Clear Notice of Request for Participant Consent, that presented the options of (A) "I Consent", which resulted in the studies commencement, or (B) "I Do Not Consent", which resulted in the participants ejection from the study.

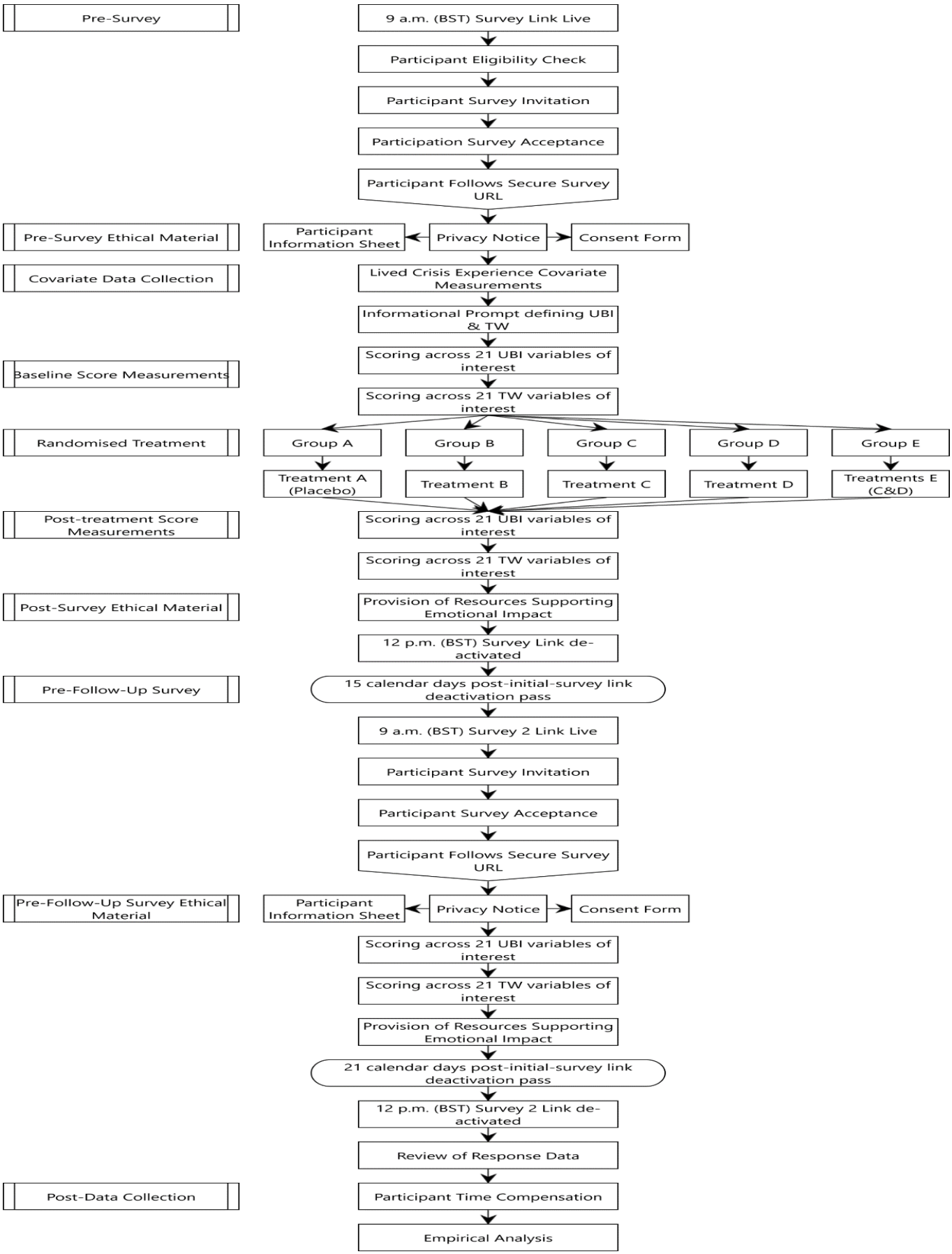
[63] See Appendix B: Table 3.43 Factual Definitions of Universal Basic Income and Targeted Transfer Systems

a welfare system on the same progressive numerical scale they have become familiar with throughout the study.

After completion of *Section 9*, participants were again thanked for their time and thoughtfulness in participation and provided with links to two leading sources of support for Covid-19 related anxieties and distress[64] and presented with a study completion code to receive fair compensation for their time and considered opinions carefully provided during the study.

[64] Specifically, the same resources as were shown during Section 7, The Anxiety and Depression Association of Americas information page on methods to reduce covid-19 related anxieties, available at: https://adaa.org/learn-from-us/from-the-experts/blog-posts/consumer/top-ten-covid-19-anxiety-reduction-strategies, and the NHS mental health support page on additional methods to reduce covid-19 related anxieties and distress, https://www.nhs.uk/every-mind-matters/coronavirus/covid-19-anxiety-tips

Figure 3.1 Study Process



3.2.2 Outcome Variables: 21 Desirable Aspects of a National Welfare System

The outcome variables in this study aimed to measure the impact of pandemic narratives in print media on individuals' perceptions of the welfare system's performance. Specifically, the study seeks to quantify the degree to which these narratives influence the perceived effectiveness of a Universal Basic Income (UBI) and a targeted welfare system across 21 distinct, desirable aspects of a welfare system. The aspects were selected to attempt to capture a comprehensive range of features that could be considered important for both normal and crisis times, as well as for individuals, families, groups, areas and wider society as a whole.

Additionally, several outcome variables related to more intangible benefits that could be derived from a welfare system were included, such as perceptions if either system would be *'fair'*, a *'good thing for society'*, '*the best model for their country to implement'* and *'make every individual feel valued'*. As well as a number from the UBI and TW-related 2020 national narratives derived in *'Chapter 2'* were included, for example, *'provide protection in times of need'*, as well as *'effective at distributing resources to those in need'* and good for *'those with unreliable incomes'*.

The outcome variables will be measured using a system-quantified Likert Scale score[65], which will be collected for each respondent based on their answers to the 21 questions. The score will reflect the confidence by which the respondent perceives either a UBI or TW as being effective in delivering the specified welfare aspects.

The hypothesized outcome variable is the difference in the score between the treatment group, exposed to pandemic narratives in print media, and the control group, not exposed to these narratives. The core hypothesis posits that the treatments will have a greater positive effect on the outcome variables than the control as determined via the Difference-in-Differences analysis, with extension expecting this effect to be generally larger regarding UBI than TW.

The outcome variables selected are important in contributing to the literature on welfare economics research. By quantifying the impact of pandemic narratives on individuals' perceptions of the welfare system, the study can provide insights into the confidence of the effectiveness of different welfare systems during times of crisis as well as the effect a simple crisis narrative can have upon shifting this confidence. The study's contribution to the field of basic income research lies in its ability to shed light on the representative perceptions of a universal system's potential as a tool for policymakers during crises as well as the literature on targeted systems through quantifying and determining the same.

Table 3.1 List of Measured Study Outcome Variables: 'Desirable Attributes of a Welfare System'

Variable Number	Outcome Variable Description
1	Reduce Stress/Life Anxieties
2	Simple & Easy to Understand
3	Get Resources to Needy
4	Security in an Unpredictable World
5	Not Discourage Work

[65] Whereby 0 indicates *"I'm confident it would not"* and 10 indicates *"I'm confident it would"* with 5 representing *"I'm unsure either way"*.

6	Make Every Individual Feel Valued
7	Reduce Poverty
8	Difficult to Cheat
9	Good for Economy
10	Reduce Crime
11	Personal Benefit
12	Fair System
13	Protection in Times of Need
14	Benefit Your Community
15	Good for Parents & Children
16	Good for Unreliable Incomes
17	Prevent Going into Debt
18	Help Start New Business
19	Feelings of Financial Security
20	Good for Society
21	Best Model for Your Country

3.2.3 Covariate Variables: 8 Individual Level Pandemic Experiences Increasing in Severity

While the aim of this randomized control trial (RCT) is to explore the impact of the shared national pandemic narratives upon perception scores of both UBI and TW systems, to ensure further robustness of our analysis, this study has selected a range of covariates to control for the potential confounding effect of individual lived pandemic experiences. Allowing our analysis to control for the individual's experience so we can determine a more robust conclusion overall when quantifying the effects while additionally allowing us to determine in these *Lived Crisis Experience* covariates act in complimentary or opposing effect to the treatments.

The first covariate, "I was not personally impacted by the Covid-19 Pandemic," will identify participants who did not experience any direct impact of the pandemic. The second *Lived Crisis Experience* covariate, *'I had a negative emotional impact due to the Covid-19 Pandemic',* will capture participants who consider themselves to have experienced psychological distress due to the pandemic. The third covariate, '*I had a negative financial impact due to the Covid-19 Pandemic'*, will capture participants who experienced financial hardships due to the pandemic.

The fourth and fifth covariates, *'I had a short term (< 6- weeks) negative health impact due to the Covid-19 Pandemic'* and *'I had a long term (> 6-weeks) negative health impact due to the Covid-19 Pandemic'*, respectively, will capture participants who experienced health issues due to the pandemic while allowing us to compare their influence over the pandemic narrative treatment effects by severity. The sixth covariate, *'I was admitted to intensive care due to the Covid-19 Pandemic'*, will identify participants who were severely affected by the pandemic, undoubtedly having a profound impact on them.

The seventh covariate, *'A family member was negatively impacted by the Covid-19 Pandemic'*, will identify participants who had close family members impacted by the pandemic and the eighth covariate, *'My community was negatively impacted by Covid-19 Pandemic'*, will capture participants who experienced the pandemic's impact on their

community, both attempting to capture the individuals who perceived negative social ramifications within their personal lives but beyond their individual selves.

By measuring these eight covariates, we can control for the potential confounding effect of pandemic experiences on participants' perception scores of UBI and TW. This will enable the Difference-in-Differences analytical approach to isolate the effect of different pandemic narratives on participants' perceptions of these two welfare systems. Doing so will allow for the quantification of the identified macro-level national pandemic narratives in effecting perceptions of UBI and TW welfare systems in isolation due to the statistical control of the micro-level individual experience variables.

Table 3.2 List of Measured Study Covariates: 'Varied Lived Crisis Experiences'

Number	Covariate Description
1	No Personal Impact
2	Negative Emotion
3	Negative Financial
4	<6-week Negative Health
5	>6-week Negative Health
6	Intensive Care Admission
7	Family Member Impacted
8	Community Impacted

3.2.4 Treatment Intervention: 4 Representative Media Narratives of The Pandemic

The intervention consisted of four unique news articles deployed across the five treatment groups[66]. The articles were determined to be generally representative of those present in the UK media publications at the time of the pandemic, excluding the placebo article, which of course, was not, and instead was selected with the criteria of being similar in length as the other articles as well as engaging to retain participant attention and somewhat educational as to leave those in the placebo group with something of value to retain for their time and attention spent carefully reading the treatment.

Each of the pandemic articles were selected due to being relatively easily digestible in terms of language and content, average written length taking between 3 and 3.5 minutes to carefully read while also originating from an established news organisation which focused on facilitating regional and national discussion rather than international stories. Further, each article was selected because it contained emergent narratives determined as prevalent during the onset of the crisis, with regards to either pandemic reporting, discussing UBI within the

[66] See Appendix B: Figure 3.4 Treatment Article Overview, or for the full treatment articles deployed please see: Appendix B: Item 3.2 Full Treatment Articles: Groups A, B, C, D & E

context of the pandemic or discussing Targeted Transfer welfare systems again, excluding the placebo treatment.

The treatment articles were all brought to national publication from April to August 2020, during the peak of novel narrative formation and emergence[67], while the placebo article was brought to publication in April 2007, written prior to not only the 2020 crisis but also the beginning of the 2008 crisis.

The placebo article, presented to Group A, in an effort to remain entirely unrelated to any narratives surrounding the UK, government welfare systems and national crisis, instead situates the story on the other side of the world in French Guiana, deep in the Amazon rainforest on the border of Brazil and Venezuela, far removed is any notion that may remind a participant of life back in the UK. Additionally, rather than national concerns, the article focuses on the story of just two individuals deep in the untouched rainforest, extensively discussing natural phenomena such as bird-eating spiders, giant millipedes and Amazonian frogs, to name a few.

The treatment article presented to Group B was selected to effectively present typical emergent narratives surrounding the Pandemic that became prevalent within the UK media at the time. Specifically, the article discusses the UK's potential entry into recession due to the Covid-19 pandemic, citing statistics prognosing the economy shrinking by around 20%, describing it as “the deepest recession since records began”. The article also discusses the impact of recessions as a form of national crisis more generally, presenting historically derived arguments suggesting the likelihood of higher unemployment, lower wages and incomes, increased inequality and higher government borrowing.

More generally, the article highlights the challenges and complexities of addressing the impact of a recession on society and the economy while also presenting informational definitions and economic arguments both for and against recovery that were made at the time. Further, the article raises questions that were highly relevant at the time regarding the effect of the end of furlough schemes upon household incomes as well as what form resultant future government stimulus efforts may take.

The treatment article presented to Group C featured emergent narratives surrounding UBI within the new context of the Covid crisis, featuring the discussion of pressing concerns of the time, such as the recognition and appreciation of frontline workers, the new inequalities within society, the inadequacies found within the existing welfare system, as well as the potential benefits of a universal basic income within the context of the crisis.

The author begins by acknowledging the importance of frontline workers deemed “essential” during the pandemic, including NHS workers, police, and fire brigade, among others, continuing to perform their duties during the spread of the virus. However, also highlighting the fact that despite their selfless efforts for society, many of these workers are “amongst the poorest paid”, precariously employed on “zero-hour contracts”, and have limited workers' rights with regard to individual choice.

[67] As identified within Chapter 2; (2.1.3.4.2 The Post-Pandemic Narrative of Basic Income & 2.1.3.4.4 A New Crisis Narrative of Basic Income).

The author goes on to criticize the UK government's response to the pandemic, arguing that despite an ever-growing list of packages of protections, they do not go far enough to support those affected, still leaving many uncovered and excluded. Presenting the point that "although these (protection packages) will have helped, they do not go far enough - the Health Secretary Matt Hancock MP admitted himself he could not live on the £92-a-week Statutory Sick Pay - nor do they cover everyone affected" while furthering that "the new measures introduced have also brought many complications, from long waiting lists to delayed payments".

The treatment article suggests that a universal basic income could provide a solution to this problem, as it would ensure that everyone in society has enough money to meet basic requirements and would be protected in a crisis, arguing that "Coronavirus has shown what many have been saying for a long time, that the current welfare system is seriously out of touch with modern day work-life practices".

The article continues and reports that Spain has recently proposed a universal basic income but argues that it is not genuinely universal or unconditional and therefore falls short of what is needed. The author suggests that an effectively delivered UBI would provide opportunities for people to study, achieve a better work-life balance, and even start their own businesses. Additionally, workers would feel more empowered to reject minimum wage and zero-hour contracts.

The author acknowledges that a UBI is not a silver bullet solution to economic inequality but argues that it would be a significant step forward and would provide a more comprehensive cover to those impacted by Covid-19 than the UK government's current measures. Finally, the author notes that there is a growing movement in Scotland and the wider UK in support of a universal basic income and that a report exploring the feasibility of a UBI is due later this year.

The article selected as the treatment for Group D was selected to represent the discussion surrounding Targeted Welfare measures within the context of the Pandemic. The article discusses issues that were prevalent at the time, such as the new financial difficulties families face due to the Covid-19 pandemic, the delays in processing welfare claims, and the role of the Targeted Welfare funds in providing extra support to families in need.

The article highlights how families who have seen losses to their sources of income due to the pandemic are struggling to make ends meet, even when they are receiving Universal Credit and other welfare benefits, describing how these generic welfare measures are failing to support the asymmetrically distributed additional needs of those now most severely affected by the "acute pressures of the lockdown"—citing individual cases where families are unable to afford necessities such as food, utilities, and household appliances like washing machines and fridges due to compounding negative strains such as disabilities, weakened immune systems, or additional living expenses.

One of the key issues that the article raises is the long wait times for processing welfare claims. This can leave families in a vulnerable position, unable to access the support they need in time. The article also shows how Targeted Welfare Funds can fill in the gaps where the existing welfare system falls short, providing families and the most vulnerable with support for food and other case-specific requirements, such as a particular family who could not wash their clothes due to the government locking down the laundrettes and not owning a

washing machine or a mother with a weakened immune system whose' freezer broke-down while isolating and could not afford to have food delivered.

On the other hand, Group E was treated with both the UBI and TW articles, allowing for a balance between the effects to be measured.

3.3 Data Collection: Selected Sample Summary, Statistics & Interest Variable Descriptive Data

Participants were screened to produce a gender-balanced sample of adult-age residents of the UK; participants are contractually obliged to provide high quality in all studies they choose to participate this while Prolific.co provides stringent tests and reviews of all participants to ensure they meet these standards and thus are retained within the participant pool of the platform.

Additional measures were used to ensure a robust data collection, such as implementing additional "Screening Parameters" for participants to receive an invitation to participate in the survey. These additional screeners were: participants must have a "Minimum approval rate of 100%", meaning they had never been rejected from participation for providing "low-quality data" previously while ensuring that the participant's "Minimum number of approved submissions" was at least "20-submission", a figure suggested as putting participants in the highest-quartiles of consistently high-quality, data submission[68]. While a maximum time limit was set to prevent inactive participants and complete inclusive accessibility formatting was ensured for those with vision-related difficulties[69].

In conjunction, all unique participant IDs were recorded and used to exclude participants who had either participated in the Pre-Pilot practice collection or who had begun the survey and had not finished it. Additionally, questions regarding if they had ever taken a survey of the same name to prevent any chance of spillovers, as well as a question if they currently reside within the UK, also included ejecting any participant who did not meet criteria as a second level of insurance to make sure of sample comparability within the UK population. Sampling and Group distribution were randomised at the individual level and balanced by sex to prevent any biases between the groups.

Monetary compensation was competitive by both platform guidelines and in relation to other studies being conducted on the day, aiming to ensure that if a participant required more time to consider their choice of answers, they would not be disincentivised to do so[70].

Additionally, the data collector was present throughout the entire collection and available over Prolific.co' inbuilt messaging system to ensure all studies were running as planned and any questions that arose were answered at the time. Thankfully, this is how the data collection proceeded, with both platforms, Prolific.co as the participant recruitment fulfilment and Typeform.com as the data collecting survey host, were subject to no issues and integrated seamlessly. In contrast, data provided by participants arrived in a manner of high quality, as there were no studies completed unrealistically quickly. Further, many participants messaged to offer qualitative feedback on how they appreciated the "thought-provoking" design of the study and to provide insight as to their thought processes when making and changing decisions, pre-and post-treatment, and in some cases, how they thought the narratives introduced affected this from their perspective. The data collector thanked them for their time and remained careful not to reveal any aspects of the explorations that may influence their answers presented within the follow-up section.

[68] For Platform-specific guidelines on maximising data collection quality see:https://researcher-help.prolific.co/hc/en-gb/articles/360009223173-Data-collection
[69] See Appendix B: Figure 3.3 Survey Accessibility Assessment
[70] For Platform-specific guidelines on study pricing see: https://researcher-help.prolific.co/hc/en-gb/articles/360014553674-Study-cost

Overall excluding the pre-pilot collection, data collection consisted post-clean of N=956, where Groups A through to Group E; N= 194,190,191,192,189 while all studies within the main study (Part 1) were conducted on the same day and went live from 9 am GMT[71]. While the Part 2 Follow-up data collection went live[72] precisely 15 days from the day of initial data collection of the Main Study Part 1 and remained accessible for a further six days, allowing to measure if any treatment effects determined within the main study remained present if/at all from 15-21 days post initial treatment, post data cleaning Part 2 Follow-up comprised N= 886, where Groups A through E: N= 181,177,175,180,173.

[71] On the day of January 28th, 2023 (28/01/2023)
[72] During the dates of 14/02/2023 to 20/02/2023, Tuesday February 14 to Monday, February 20, (15-21 days post main study data collection)

3.3.1 The Sample: Summary Statistics

In general, sample demography was relatively close to capturing the actual makeup of existing population attributes within the UK residential population[73]. Due to compliance with GDPR and ethical consent rules, some individual data points have been marked as either *"DATA_EXPIRED"* or *"CONSENT_REVOKED",* in addition to a number of blank data points labelled *"NO DATA",* therefore the following summary statistics should be viewed as being listed in the interests of ensuring study transparency and accuracy record keeping rather than for use in empirical analysis.

The study methodology[74] specifies that the scope of the study's aims required a sample of current UK residents over the age of 18 balanced by gender. Tables 3.3 through Table 3.8, presented below, provide further information on the specifics of participant data collected and available to be presented.

Table 3.8 provides a record of UK region of residence; in addition, to all participants currently having residence in the UK, roughly 86% resided in England, 8% in Scotland, 4% in Wales and 1.6% in Northern Ireland, while as of 2021 actual figures measured; England 84%, Scotland: 8%, Wales: 5% and Northern Ireland: 3% suggesting an even distribution of participants across the population geographically.

When reviewing age-related data from our sample contained within Table 3.4, we find that the mean age is 39.8, very close to the UK average of 40.4 years. Additionally, we observe a good range of 60 years, with the youngest participant being 18 and the eldest being 78, with a standard deviation of 12.9 years.

As a study 'hard-coded' screening parameter was the gathering of a gender-balanced participant pool, this has been established, with 50% of participants being male and 49.8% female. Furthermore, 0.2% of participants later revoked consent to process their gender data. as presented in Table 3.3.

Additional data related to simplified ethnicity, employment, and active educational status can be seen in Tables 3.5, 3.6 & 3.7, respectively. We again observed a close match of sample ethnic makeup relative to recent census ethnicity data, while significant proportions of the employment and active educational data had unfortunately expired, due to the expiration of personal information provision consent, between participants and the platform.

Table 3.3 Baseline Participation by Gender

Gender	N	Total (%)
Male	477	49.895
Female	475	49.686
CONSENT_REVOKED	2	0.209
NO DATA	2	0.209

[73] Despite this being out with the specifics of the scope of this study, this aids the reliability and representativeness of results obtained.
[74] Outlined in Section 3.2.1

Table 3.4 Baseline Participant by Age (Descriptive Statistics)

Participant Age	Descriptive Statistics
Mean	39.851
Standard Error	0.420
Median	37
Mode	34
Standard Deviation	12.903
Sample Variance	166.487
Kurtosis	-0.554
Skewness	0.550
Range	60
Minimum	18
Maximum	78
Count (N)	945
CONSENT_REVOKED	N=2 (0.209%)
DATA_EXPIRED	N=5 (0.523%)
NO DATA	N=4 (0.418%)

Table 3.5 Baseline Participation by Ethnicity vs National Census Data

Ethnicity Simplified	N	% Total	Total (%), Census 2011 (England & Wales)[75]
White	833	87.134	80.5
Asian	49	9.837	6.8
Mixed	30	2.913	2.3
Black	22	1.959	3.3
DATA_EXPIRED	9	0.422	N/A
CONSENT_REVOKED	2	0.062	N/A
Other	N/A	N/A	7.1
NO DATA	11	0.205	N/A

Table 3.6 Baseline Participation by Employment Status

Employment Status	N	Total (%)
Full-Time	410	42.887
DATA_EXPIRED	217	22.699
Part-Time	128	13.389
Not in paid work (e.g., ‘homemaker’, ‘retired’ or ‘disabled’)	121	12.657
CONSENT_REVOKED	2	0.209
NO DATA	78	8.159

[75] See: https://www.ons.gov.uk/peoplepopulationandcommunity/culturalidentity/ethnicity/articles/ethnicityandnationalidentityinenglandandwales/2012-12-11

Table 3.7 Baseline Participation by Active Student Status

Student Status	N	Total (%)
No	700	73.222
DATA_EXPIRED	159	16.632
Yes	92	9.623
CONSENT_REVOKED	2	0.209
NO DATA	3	0.314

Table 3.8 Baseline Participation by Current Area of Residence

Current UK Area of Residence	N	Total (%)
Southeast, England (Berkshire, Buckinghamshire, Oxfordshire, Surrey, Sussex, Kent, Hampshire and Isle of Wight)	146	15.272
London, England	109	11.402
Northwest, England (Cumbria, Greater Manchester, Lancashire, Merseyside)	101	10.565
East of England (East Anglia, Bedfordshire and Hertfordshire, Essex)	90	9.414
Yorkshire and the Humber, England (East Riding, North Lincolnshire, and Yorkshire)	90	9.414
West Midlands, England (Herefordshire, Worcestershire and Warwickshire, Shropshire and Staffordshire, West Midlands)	87	9.100
East Midlands, England (Derbyshire and Nottinghamshire, Leicestershire, Rutland and Northamptonshire, Lincolnshire)	80	8.368
Scotland	78	8.159
Southwest, England (Gloucestershire, Wiltshire and Bristol/Bath area, Dorset and Somerset, Cornwall and Isles of Scilly, Devon)	75	7.845
Northeast, England (Tees Valley, Durham, Northumberland and Tyne and Wear)	40	4.184
Wales	39	4.079
Northern Ireland	16	1.674
CONSENT_REVOKED	2	0.209
NO DATA	3	0.314

3.3.2 The Sample: Descriptive Statistics

In this section, descriptive statistics for all data collections are presented, broken down into five sections:

Firstly, 3.3.2.1 Surveys 1,2 & 3: Placebo Treatment Data
Presents and explores summary statistics of the studies non-experimental Group, Group A, which received the treatment article absent of any UBI, TW or National Pandemic Narratives.

Secondly, 3.3.2.2 Survey 1: Pre-Treatment Baseline Data
Presents the data obtained during the pre-treatment surveys for the 21 outcome variables related to UBI first and then to TW.

Thirdly, 3.3.2.3 Survey 2: Post-Treatment Impact Data
presents the data obtained regarding the 21 outcome variables from the post-treatment measurements aggregated across treatment groups A through E concerning both UBI and TW.

Fourthly, 3.3.2.4 Survey 3: 15-21 Day Follow-up Endline Data
Presents the broad descriptive statistics regarding score measurements for the 21 outcome variables during the period 15 to 21 days immediately after deployment of the treatment and completion of the post-treatment study, again aggregated across treatment Groups A through E for both UBI and TW.

Fifth and finally, 3.3.2.5 Surveys 1,2 & 3: Covariate Data
Presents the data collected regarding the 8 *Lived Crisis Experience* covariates measured and explored during the Baseline and Post-Treatment studies while additionally tabulating and presenting the descriptive statistics of the covariates used within the endline study analysis of which differ due to being adjusted for participant attrition.

Data is reported where *'N'* represents the number of participants and *'Variable Description'* represents a short descriptive name of the respective outcome variable, numbered in column 1.

The variables were measured using a progressive numerical scale from '0 to 10', where participants were asked to quantify their confidence for either a UBI or TW-based welfare system to deliver the outcome variable measured (i.e., Variable Description), whereby *'0'* indicates *"I'm confident it would not"* and *'10'* indicates *"I'm confident it would"* with *'5'* representing *"I'm unsure either way"*.

For each variable, the mean, standard error, median, mode, standard deviation, sample variance, kurtosis, skewness, and the maximum and minimum values observed in the sample are reported with an additional column titled "Baseline N*Mean" uniquely calculated to normalise total score as to allow for better comparison as a result of the reduced number of participants within endline data as a result of natural study completion attrition.

This is also the case within the covariate descriptives, the shortened description of the *Lived Crisis Experience* covariate is similarly columned with the title *'Variable Description'.* Further the addition of the column titled *'Sum(% of N)'* has been added to display the prevalence of positive attribution of each of the crisis covariates among all participants as

well as the column titled *'Attrition'* to display attrition in the number of participants identifying with the respective covariate (calculated as '*Endline Sum – Baseline Sum'*).

The covariates were measured during the Baseline data collection, allowing those subject to attrition to be removed from analysis within the endline study. Each of the eight covariates were quantified using an assigned dummy variable of a binary score of *0 = "This does not apply to me"* and *1 = "This applies to me"*.

3.3.2.1 Surveys 1,2 & 3: Placebo Treatment Data

In this section, we will provide a summary of the descriptive statistics for Group A, the placebo group, for both the Universal Basic Income (UBI) and Targeted Welfare (TW) systems. Examining the pre-treatment, post-treatment, and follow-up data collection time periods for each demonstrating the overall stability of the scores collected throughout all time periods in the absence of meaningful treatment.

Table 3.9 presents the descriptive statistics for the UBI pre-treatment data in Group A. The table shows the number of observations (N), the mean, standard error, median, mode, standard deviation, sample variance, kurtosis, skewness, maximum (Max), minimum (Min), and the sum of each variable. The 21 outcome variables related to desirable attributes of a welfare system are measured on a scale from 0 to 10. The mean scores for the outcome variables range from 5.08 to 8.09. For example, the mean score for "Reduce Stress/life anxieties" is 7.05, indicating that, on average, participants rated this variable at 7.05 on the scale from 0 to 10. The variables with the highest mean scores are "Good for unreliable incomes" at 8.09, "Get resources to needy" at 7.96, and "Good for parents & children" averaging 7.53. On the other hand, the variables with the lowest mean scores are "Help start new business" at 5.10, "Reduce Crime" at 5.43, and "Not Discourage work", measuring 5.08.

Table 3.10 presents the descriptive statistics for the UBI post-treatment data in the Placebo Group A. The format is the same as Table 3.9, but it represents the data collected after the Placebo article treatment. The mean scores for the outcome variables range from 4.94 to 8.09. Comparing the post-treatment scores to the pre-treatment scores, we can observe some small changes in the means. For example, the mean score for "Reduce Stress/life anxieties" decreased from 7.05 to 6.63, indicating a slight reduction in stress levels after the treatment. While overall, the average of the mean scores remained very similar, being 6.44 in the pre-treatment to 6.36 in the post-treatment.

Table 3.11 presents the descriptive statistics for the UBI follow-up data in Group A. Similarly, it includes the same statistics as the previous tables. The mean scores for the outcome variables range from 4.43 to 8.16. Comparing the follow-up scores to the pre-treatment scores, we can observe that the mean scores for most variables remained relatively stable or showed only very slight changes; the pre-treatment average of the means was 6.44, while the follow-up average of the means of the 21 outcome variables was 6.59.

Moving on to the Targeted Welfare (TW) data, Table 3.12 provides the descriptive statistics for the TW pre-treatment data in Placebo Group A. Again, the variables are measured on a scale from 0 to 10. The mean scores for the outcome variables range from 2.01 to 5.38. The variables with the highest mean scores are "Good for parents & children" at 5.38, "Get resources to needy" at 5.37, and "Reduce Poverty" averaging 4.21. Conversely, the variables

with the lowest mean scores are “Help start new business” measuring just 2.01, “Personal benefit” at 2.73, and “Simple & easy to understand” scoring 3.62.

Table 3.13 presents the descriptive statistics for the TW post-treatment data in Placebo Group A. The mean scores for the outcome variables range from 2.14 to 5.19. Comparing the post-treatment scores to the pre-treatment scores, we can observe that the mean scores for most variables again only showed slight changes, as the average of means for the 21 outcome variables changed from 4.16 to 4.02.

Lastly, Table 3.14 presents the descriptive statistics for the TW follow-up data in Placebo Group A. The mean scores for the outcome variables range from 3.31 to 5.25. Comparing the follow-up scores to the pre-treatment scores, we can again observe that the mean scores for most variables remained relatively stable or only showed minor changes, as the pre-treatment to follow-up average of means among the 21 variables only shifts by -0.01, from 4.16 to 4.15.

These descriptive statistics summarise the baseline characteristics of the study's Placebo Treatment data (Group A) regarding the outcome variables for both UBI and TW systems. The results demonstrate closely consistent scores for both UBI and TW throughout the three time periods measured in the absence of effective treatment, serving as a foundation for further analysis and comparison of the treatment groups via the Difference-in-Differences methodology utilised.

3.3.2.2 Survey 1: Pre-Treatment Baseline Data

The sample consisted of sufficient participants, as determined during the A Priori power analysis[76], with an N= 956 participants. The mean confidence score for UBI was 6.41 across all the 21 positive welfare system attribute outcome variables, while for TW, it was lower at 5.43.

The standard error of the mean for UBI was 0.08, and for TW, it was 0.08, indicating that the mean scores are relatively stable and precise. The average median score for both policies was 6, indicating that half of the participants scored 6 or higher. The mode for UBI was 8, while for TW, it was 5, indicating that the most frequently occurring score for UBI was, on average, very high within the baseline data collection at 8/10. At the same time, for TW, it was much lower at 5, suggesting that, on average, participants felt confident in a UBIs ability to ensure the 21 positive welfare variables, whereas they primarily began ‘on the fence’, in a position of “I’m unsure either way” on average for the same when considering a TW system.

Considering the individual outcome variables, the results show that participants had the highest confidence in UBI regarding the attribute of "Good for those with unreliable incomes" (mean score of 8.07). In contrast, for TW, the attribute with the highest confidence was “Prevent people going into debt” (mean score of 6.25). On the other hand, the attribute with the lowest confidence for both policies was “Difficult to cheat”, with a mean score of little confidence at 6.18 for UBI and marginal confidence against TW at 4.90.

The data also revealed insights into the distribution of scores for each of the outcome variables measured. For instance, the “Simple and easy to understand” attribute had the

[76] See Appendix B: Figure 3.2 A Priori Sample Size & Power Analysis

lowest standard deviation for both policies, indicating that participants had relatively similar scores and thus close consensus for this attribute.

In contrast, the outcome variable of “Good for the economy” had the highest standard deviation for both policies, indicating that participants had widely varying opinions regarding this attribute and demonstrating extremes of opinion in their disagreement when assessing it. Moreover, the attribute of “Make every individual feel valued” had the highest positive skewness for both policies, indicating that a higher proportion of participants had scores towards the higher end of the scale with some extreme values that are far away from the majority of the observations pulling the mean up in value.

3.3.2.3 Survey 2: Post-Treatment Impact Data

Tables 3.15 & 3.16 present the descriptive statistics for the 21 outcome variables measured within the post-Treatment data for UBI and TW, respectively. The sample size for both UBI and TW is 956**,** and the mean confidence scores for each variable are presented in the table as well as the standard error, median, mode, standard deviation, sample variance, kurtosis, skewness, and maximum and minimum scores.

The mean scores for the two welfare policies vary across the 21 attributes. For UBI, the highest mean score is still variable 16, “Good for unreliable incomes”, with a score of 7.86, while the lowest mean score was now variable 5, “Not discourage work”, with a score of 5.15. For TW, the highest mean score was now for variable 2, “Simple & easy to understand”, with a score of 7.61, while the lowest mean score shifted to variable 10, “Reduce crime”, with a score of 5.33.

The standard deviations for UBI and TW are similar, ranging from 2.17 to 3.12, respectively, matching closely to the observations in the baseline data. The post-treatment data is also generally positively skewed, with most variables having scores clustered towards the higher end of the scale, suggesting the carrying over of the observation of some participants with extreme positive outlier scores.

Despite participants having the highest confidence in the ability of both policies to deliver on the variable “Good for unreliable incomes” after the Pandemic Narrative treatments, UBI had a significantly higher mean score of 7.86 than a TW of 4.48. Suggesting a potential significantly greater perception of a UBI-based welfare system to act as an effective safety net for individuals with unstable incomes, who may be more vulnerable to economic shocks.

Another interesting observation is that the participants had a higher mean score for the attribute of "Simple and easy to understand" for UBI of 7.61 compared to TW at 6.99 post-crisis narrative treatment.

When comparing the post-treatment data set to the pre-treatment data set, it is observed that the mean scores for most variables have increased for UBI but not TW, suggesting that the treatments potentially positively impacted the participant's confidence in the welfare policies to deliver on the positive attributes of a welfare system. However, at this stage, it is worth remembering that (A)The descriptive statistics contain the Placebo data, and (B) treatment effect causality will be determined via the Difference-in-Differences analysis carried out within Section 3.6.2 Characterising Treatment Effects: Prevalent Crisis Narratives.

The increase in mean scores for each of the outcome variables ranged from 0.05 for “Security in an unpredictable world” to 0.89 for “Good for unreliable incomes”. For UBI, the mean scores for variables 1,3 through 9, 12 through 14 and 17 through 21 have increased. While for TW, the mean scores for variables 6,11,18 and 19 increased.

Thus, the brief overview of the descriptive statistics suggests that UBI and TW have different perceived strengths and weaknesses in delivering positive attributes of a welfare system. However, confidence in a UBI is measured to be better quantitatively larger overall, particularly for providing security in unpredictable times and for individuals with unreliable incomes while also remaining simple and easy to understand. While considering our study objectives in the context of our stated hypothesis at the most basic of analytical levels, the changes in mean scores between pre-and post-treatment data may suggest that the treatments could have had some effect on participants' perceptions of the welfare policies.

3.3.2.4 Survey 3: 15-21 Day Follow-up Endline Data

The follow-up data was collected during a period of 15-21 days after treatment as well as the post-treatment data collection. For each variable, Tables 3.19 & 3.20 display the number of observations (N), mean, standard error (SE), median, mode, standard deviation (SD), sample variance, kurtosis, skewness, and maximum and minimum values for both UBI and TW respectively.

Despite participant attrition being a largely unavoidable aspect of longitudinal data collection, the endline descriptive data within this study is likely of sufficient statistical power, as the sample size remains high[77], N = 886 for both UBI and TW.

The mean scores for UBI were higher than those for TW for all 21 variables, indicating that UBI was perceived more positively overall by the standards of confidence to ensure the desirable welfare system attributes measured. Specifically, even after 15-21 days had passed post-treatment, UBI again scored higher than TW on variables such as “simple and easy to understand”, “reduce stress/life anxieties”, and “protection in times of need”.

UBI mean score for most variables is between 5 and 7. For example, the mean score for “reduce stress/life anxieties” is 7.26, while for “not discourage work”, it is 5.18. The variables with the highest mean score were “simple and easy to understand” at 8.23, while the lowest was "not discourage work” averaging 5.18. The standard deviation is also lowest for "simple and easy to understand" being just 1.89, indicating that responses were more clustered together when compared to the other variables.

The skewness values for most variable scores were negative, indicating that the distribution of responses is still skewed towards higher extreme scores after the 15–21-day period. The attribute with the lowest skewness is “difficult to cheat” at -0.52, suggesting that the responses are relatively evenly distributed compared to the other variables.

Interestingly, the mean scores for both UBI and TW increased by a minor degree in the follow-up data set compared to the post-treatment data set. This suggests that the positive effects of the policies on participants' confidence in the welfare system may have increased over time. This finding would counter the idea that the initial positive treatment effect may

[77] See Appendix B: Figure 3.2 A Priori Sample Size & Power Analysis

wear off over time if not sustained, in direct contrast, suggesting participants may continue utilising the pandemic crisis narratives effect when assessing the policies. However, this can only be answered within the Difference-in-Differences approach utilised within section 3.6.2.

Another insight from the follow-up data is that the mean score for "personal benefit" increased from 6.48 in the post-treatment data to 6.94 in the follow-up endline data for the UBI. Suggesting that participants' confidence in the personal benefits of UBI may have increased over time.

Comparing the follow-up data set to the original baseline data set, both UBI and TW showed improvements in the mean scores for most attributes. However, the mean scores for UBI were consistently higher than those for TW in both the baseline and follow-up data sets. This suggests that UBI may be both a more effective policy from the perspective of the participant's confidence in the welfare system than TW as well as more responsive to any potential effects from the pandemic narratives deployed.

3.3.2.5 Surveys 1,2 & 3: Covariate Data

Table 3.21 presents the descriptive statistics for the covariates measured during the baseline data collection. The sample size (N) was 956, and the mean values for the eight covariates ranged from 0.003 to 0.747.

The standard errors ranged from 0.012 to 0.025, indicating a high level of precision in the measurements. The median values ranged from 0 to 1, with the mode being the same as the median for all covariates except for intensive care admission, which had a mode of 0. The standard deviations ranged from 0.346 to 0.485, indicating that the data points were clustered closely around the mean for each covariate.

The sample variances ranged from 0.012 to 0.060, with the highest variance observed for *Covariate 6 'intensive care admission'*. The kurtosis values ranged from -2.002 to 315.323, indicating that the distributions were either platykurtic or leptokurtic. The skewness values ranged from -1.137 to 2.369, indicating that the distributions were either negatively or positively skewed for all the Covariates.

The maximum values were all 1, indicating that all respondents answered, *"This applies to me"* to at least one of the dummy variables, and the minimum values were all 0, indicating that all respondents answered, *"This does not apply to me"* to at least one of the dummy variables suggesting that the Pandemic Crisis likely impacted all participants in some form.

The total sum for each covariate ranged from 3 to 714, with the percentage of total sum relative to the sample size ranging from 0.314% to 74.686%, demonstrating that the covariates measured captured the varied range of *Lived Crisis Experience*, from both the extremely niche and severe to the extremely prevalent and socially shared.

Table 3.22 contains the descriptive statistics for the covariates at the End-line study with attrition included. The sample size (N) was 886, and the mean values for the eight covariates ranged from 0.003 to 0.696. The standard errors ranged from 0.012 to 0.025, indicating a keeping of the high level of precision in the measurements.

Again, median values ranged from 0 to 1, with the mode being the same as the median for all covariates except for the intensive care admission, which had a mode of 0. The standard deviations ranged from 0.350 to 0.483, indicating that the data points were clustered closely around the mean for each covariate.

The sample variances ranged from 0.012 to 0.059, with the highest variance observed for intensive care admission.

Similarly, the kurtosis values ranged from -2.004 to 291.989, indicating that the distributions were either platykurtic or leptokurtic. The skewness values ranged from -0.856 to 2.163, indicating that the distributions were either negatively or positively skewed.

The maximum values were all 10, indicating that all respondents answered, *"This applies to me"* to at least one of the dummy variables, and the minimum values were all 0, implying that all participants within the baseline survey answered, *"This does not apply to me"* to at least one of the dummy variables.

The total sum for each covariate ranged from 3 to 617, and attrition rates ranged from -52 to 0, indicating that some respondents dropped out of the study, resulting in the percentage of total sum relative to the sample size ranging from 0.339% to 69.639% and overall, very little relative change in covariate data between the baseline/post treatment analysis and the endline studies overall.

Table 3.9 Group A Baseline UBI Data: Placebo Pre-Treatment

Outcome Variable	Variable Description	N	Mean	Standard Error	Median	Mode	Std. Dev.	Sample Variance	Kurtosis	Skewness	Max(Min)	Sum
1	Reduce Stress/Life Anxieties	194	7.052	0.188	8	10	2.625	6.889	-0.148	-0.785	10(0)	1368
2	Simple & Easy to Understand	194	7.969	0.157	8	10	2.193	4.807	3.295	-1.763	10(0)	1546
3	Get Resources to Needy	194	5.809	0.215	6	5	2.996	8.974	-0.894	-0.348	10(0)	1127
4	Security in an Unpredictable World	194	7.175	0.179	8	10	2.487	6.187	0.129	-0.847	10(0)	1392
5	Not Discourage Work	194	5.082	0.195	5	5	2.713	7.361	-0.715	0.050	10(0)	986
6	Make Every Individual Feel Valued	194	6.170	0.187	7	5	2.605	6.784	-0.338	-0.482	10(0)	1197
7	Reduce Poverty	194	6.412	0.206	7	10	2.875	8.264	-0.385	-0.620	10(0)	1244
8	Difficult to Cheat	194	6.201	0.215	7	5	2.995	8.970	-0.717	-0.476	10(0)	1203
9	Good for Economy	194	5.629	0.209	5	5	2.907	8.452	-0.846	-0.190	10(0)	1092
10	Reduce Crime	194	5.433	0.214	5	5	2.987	8.920	-0.820	-0.239	10(0)	1054
11	Personal Benefit	194	6.423	0.231	7	10	3.217	10.349	-0.731	-0.637	10(0)	1246
12	Fair System	194	6.103	0.221	6	10	3.081	9.492	-0.849	-0.407	10(0)	1184
13	Protection in Times of Need	194	7.227	0.176	8	10	2.452	6.010	0.690	-0.956	10(0)	1402
14	Benefit Your Community	194	6.985	0.173	7	10	2.412	5.818	0.171	-0.644	10(0)	1355
15	Good for Parents & Children	194	7.536	0.168	8	10	2.342	5.483	0.097	-0.789	10(0)	1462
16	Good for Unreliable Incomes	194	8.098	0.157	9	10	2.180	4.752	2.377	-1.434	10(0)	1571
17	Prevent Going into Debt	194	6.088	0.220	7	10	3.065	9.396	-0.726	-0.495	10(0)	1181
18	Help Start New Business	194	5.108	0.209	5	5	2.914	8.491	-0.824	0.020	10(0)	991
19	Feelings of Financial Security	194	6.366	0.205	7	7	2.862	8.192	-0.252	-0.710	10(0)	1235
20	Good for Society	194	6.732	0.186	7	10	2.589	6.705	-0.126	-0.640	10(0)	1306
21	Best Model for Your Country	194	5.737	0.212	6	5	2.959	8.754	-0.629	-0.388	10(0)	1113
22	Mean	194	6.445	0.196	6.810	7.952	2.736	7.574	-0.107	-0.608	10(0)	1250.238

Table 3.10 Group A Post Treatment UBI Data: Placebo Treatment

Outcome Variable	Variable Description	N	Mean	Standard Error	Median	Mode	Std. Dev.	Sample Variance	Kurtosis	Skewness	Max(Min)	Sum
1	Reduce Stress/Life Anxieties	194	6.639	0.200	7	10	2.785	7.755	-0.164	-0.704	10(0)	1288
2	Simple & Easy to Understand	194	7.438	0.185	8	10	2.581	6.662	1.315	-1.303	10(0)	1443
3	Get Resources to Needy	194	6.335	0.200	7	10	2.780	7.727	-0.485	-0.539	10(0)	1229
4	Security in an Unpredictable World	194	7.000	0.182	7	10	2.535	6.425	0.255	-0.806	10(0)	1358
5	Not Discourage Work	194	4.943	0.205	5	5	2.851	8.126	-0.596	0.166	10(0)	959
6	Make Every Individual Feel Valued	194	6.371	0.204	7	10	2.835	8.038	-0.278	-0.643	10(0)	1236
7	Reduce Poverty	194	6.294	0.214	7	10	2.975	8.851	-0.536	-0.598	10(0)	1221
8	Difficult to Cheat	194	6.381	0.210	7	10	2.931	8.589	-0.775	-0.479	10(0)	1238
9	Good for Economy	194	5.938	0.199	6	5	2.772	7.685	-0.583	-0.310	10(0)	1152
10	Reduce Crime	194	5.103	0.222	5	5	3.091	9.554	-1.038	-0.098	10(0)	990
11	Personal Benefit	194	6.253	0.237	7	10	3.296	10.863	-0.781	-0.614	10(0)	1213
12	Fair System	194	6.077	0.221	7	10	3.076	9.460	-0.814	-0.468	10(0)	1179
13	Protection in Times of Need	194	6.938	0.184	7	10	2.564	6.576	-0.135	-0.670	10(0)	1346
14	Benefit Your Community	194	6.830	0.185	7	10	2.583	6.670	0.069	-0.698	10(0)	1325
15	Good for Parents & Children	194	7.180	0.181	7.5	10	2.519	6.346	0.127	-0.778	10(0)	1393
16	Good for Unreliable Incomes	194	7.613	0.172	8	10	2.403	5.772	0.832	-1.068	10(0)	1477
17	Prevent Going into Debt	194	6.052	0.208	6	8	2.895	8.381	-0.590	-0.448	10(0)	1174
18	Help Start New Business	194	5.098	0.222	5	5	3.085	9.519	-0.892	-0.014	10(0)	989
19	Feelings of Financial Security	194	6.515	0.193	7	10	2.682	7.194	-0.375	-0.546	10(0)	1264
20	Good for Society	194	6.644	0.199	7	10	2.766	7.650	-0.415	-0.563	10(0)	1289
21	Best Model for Your Country	194	5.928	0.217	6	5	3.024	9.145	-0.802	-0.315	10(0)	1150
22	Mean	194	6.361	0.202	6.690	8.714	2.811	7.952	-0.317	-0.547	10(0)	1233.952

Table 3.11 Group A Follow-Up UBI Data: Placebo Treatment

Outcome Variable	Variable Description	N	Mean	Standard Error	Median	Mode	Std. Dev.	Sample Variance	Kurtosis	Skewness	Max(Min)	Sum	Baseline N*Mean
1	Reduce Stress/Life Anxieties	181	7.210	0.182	8	8	2.454	6.022	0.285	-0.919	10(0)	1305	1398.729
2	Simple & Easy to Understand	181	8.166	0.147	9	10	1.973	3.895	2.371	-1.453	10(0)	1478	1584.155
3	Get Resources to Needy	181	5.840	0.224	6	5	3.011	9.069	-0.995	-0.348	10(0)	1057	1132.917
4	Security in an Unpredictable World	181	7.376	0.187	8	8	2.522	6.358	0.247	-1.029	10(0)	1335	1430.884
5	Not Discourage Work	181	5.105	0.203	5	5	2.725	7.428	-0.793	-0.080	10(0)	924	990.3646
6	Make Every Individual Feel Valued	181	6.453	0.192	7	8	2.581	6.660	-0.253	-0.535	10(0)	1168	1251.89
7	Reduce Poverty	181	6.497	0.216	7	10	2.903	8.429	-0.417	-0.651	10(0)	1176	1260.464
8	Difficult to Cheat	181	6.823	0.221	8	10	2.972	8.835	-0.569	-0.757	10(0)	1235	1323.702
9	Good for Economy	181	5.917	0.214	6	5	2.875	8.265	-0.788	-0.337	10(0)	1071	1147.923
10	Reduce Crime	181	5.580	0.209	6	5	2.815	7.923	-0.709	-0.378	10(0)	1010	1082.541
11	Personal Benefit	181	6.840	0.223	8	10	3.000	9.002	-0.309	-0.807	10(0)	1238	1326.917
12	Fair System	181	6.083	0.242	7	10	3.254	10.588	-1.032	-0.495	10(0)	1101	1180.077
13	Protection in Times of Need	181	7.331	0.183	8	10	2.468	6.090	0.057	-0.861	10(0)	1327	1422.309
14	Benefit Your Community	181	6.939	0.194	7	8	2.610	6.813	0.462	-0.954	10(0)	1256	1346.21
15	Good for Parents & Children	181	7.398	0.185	8	10	2.487	6.185	0.612	-1.042	10(0)	1339	1435.171
16	Good for Unreliable Incomes	181	8.039	0.164	9	10	2.202	4.848	1.606	-1.354	10(0)	1455	1559.503
17	Prevent Going into Debt	181	6.326	0.212	7	8	2.852	8.132	-0.382	-0.629	10(0)	1145	1227.238
18	Help Start New Business	181	5.552	0.215	5	5	2.889	8.349	-0.805	-0.164	10(0)	1005	1077.182
19	Feelings of Financial Security	181	6.602	0.201	7	8	2.703	7.308	-0.033	-0.745	10(0)	1195	1280.829
20	Good for Society	181	6.696	0.207	7	10	2.789	7.779	-0.132	-0.723	10(0)	1212	1299.05
21	Best Model for Your Country	181	5.807	0.238	6	10	3.204	10.268	-0.929	-0.366	10(0)	1051	1126.486
22	Mean	181	6.599	0.203	7.100	8.240	2.728	7.535	-0.119	-0.696	10(0)	1194.429	1280.216

Table 3.12 Group A Baseline TW Data: Placebo Pre-Treatment

Outcome Variable	Variable Description	N	Mean	Standard Error	Median	Mode	Std. Dev.	Sample Variance	Kurtosis	Skewness	Max(Min)	Sum
1	Reduce Stress/Life Anxieties	194	5.227	0.188	5.5	6	2.623	6.881	-0.625	-0.240	10(0)	1014
2	Simple & Easy to Understand	194	3.629	0.187	3	3	2.599	6.753	-0.128	0.661	10(0)	704
3	Get Resources to Needy	194	5.376	0.208	6	6	2.897	8.391	-0.900	-0.217	10(0)	1043
4	Security in an Unpredictable World	194	4.902	0.184	5	5	2.564	6.576	-0.647	-0.119	10(0)	951
5	Not Discourage Work	194	4.892	0.186	5	5	2.592	6.719	-0.455	0.072	10(0)	949
6	Make Every Individual Feel Valued	194	3.485	0.171	3.5	5	2.375	5.640	-0.500	0.282	10(0)	676
7	Reduce Poverty	194	4.216	0.187	4	4	2.608	6.803	-0.706	0.095	10(0)	818
8	Difficult to Cheat	194	3.902	0.183	3.5	3	2.550	6.503	-0.421	0.446	10(0)	757
9	Good for Economy	194	4.582	0.152	5	5	2.120	4.493	0.023	-0.192	10(0)	889
10	Reduce Crime	194	3.340	0.157	3	5	2.190	4.796	-0.799	0.106	8(0)	648
11	Personal Benefit	194	2.737	0.201	2	0	2.795	7.811	-0.407	0.803	10(0)	531
12	Fair System	194	4.418	0.187	5	5	2.608	6.804	-0.816	-0.042	10(0)	857
13	Protection in Times of Need	194	4.361	0.204	4.5	6	2.842	8.076	-1.003	0.077	10(0)	846
14	Benefit Your Community	194	4.804	0.179	5	5	2.490	6.200	-0.433	-0.175	10(0)	932
15	Good for Parents & Children	194	5.381	0.182	5	5	2.541	6.455	-0.563	-0.261	10(0)	1044
16	Good for Unreliable Incomes	194	4.376	0.210	4	0	2.922	8.536	-0.918	0.159	10(0)	849
17	Prevent Going into Debt	194	3.495	0.184	3	5	2.566	6.583	-0.484	0.407	10(0)	678
18	Help Start New Business	194	2.010	0.144	2	0	2.000	4.000	0.314	0.916	9(0)	390
19	Feelings of Financial Security	194	3.345	0.183	3	0	2.543	6.466	-0.798	0.316	10(0)	649
20	Good for Society	194	4.758	0.181	5	5	2.524	6.371	-0.541	-0.202	10(0)	923
21	Best Model for Your Country	194	4.253	0.205	5	5	2.858	8.169	-0.925	0.088	10(0)	825
22	Mean	194	4.166	0.184	4.143	3.952	2.562	6.620	-0.559	0.142	9.86(0)	808.238

Table 3.13 Group A TW Data: Placebo Treatment

Outcome Variable	Variable Description	N	Mean	Standard Error	Median	Mode	Std. Dev.	Sample Variance	Kurtosis	Skewness	Max(Min)	Sum
1	Reduce Stress/Life Anxieties	194	4.438	0.188	4	3	2.613	6.828	-0.711	0.010	10(0)	861
2	Simple & Easy to Understand	194	3.768	0.186	3	3	2.594	6.728	-0.512	0.409	10(0)	731
3	Get Resources to Needy	194	4.825	0.206	5	8	2.865	8.207	-1.116	-0.097	10(0)	936
4	Security in an Unpredictable World	194	4.469	0.186	4	3	2.586	6.686	-0.752	0.064	10(0)	867
5	Not Discourage Work	194	4.546	0.184	5	5	2.563	6.570	-0.464	0.179	10(0)	882
6	Make Every Individual Feel Valued	194	3.485	0.168	3	3	2.335	5.453	0.068	0.506	10(0)	676
7	Reduce Poverty	194	4.144	0.188	4	3	2.617	6.850	-0.976	0.028	10(0)	804
8	Difficult to Cheat	194	3.706	0.189	3	2	2.631	6.924	-0.254	0.689	10(0)	719
9	Good for Economy	194	4.474	0.160	5	5	2.226	4.955	-0.195	-0.219	10(0)	868
10	Reduce Crime	194	3.314	0.158	3	5	2.204	4.859	-0.417	0.307	10(0)	643
11	Personal Benefit	194	2.835	0.203	2	0	2.831	8.014	-0.325	0.791	10(0)	550
12	Fair System	194	4.289	0.193	4	5	2.689	7.232	-0.877	0.074	10(0)	832
13	Protection in Times of Need	194	4.242	0.200	4	0	2.784	7.749	-0.933	0.080	10(0)	823
14	Benefit Your Community	194	4.680	0.188	5	5	2.619	6.861	-0.592	-0.190	10(0)	908
15	Good for Parents & Children	194	5.196	0.197	5	5	2.743	7.526	-0.779	-0.253	10(0)	1008
16	Good for Unreliable Incomes	194	4.278	0.211	4	3	2.942	8.658	-0.909	0.257	10(0)	830
17	Prevent Going into Debt	194	3.423	0.172	3	2	2.402	5.769	-0.601	0.315	10(0)	664
18	Help Start New Business	194	2.144	0.152	2	0	2.116	4.476	0.095	0.823	9(0)	416
19	Feelings of Financial Security	194	3.521	0.180	3.5	0	2.506	6.282	-0.894	0.219	10(0)	683
20	Good for Society	194	4.515	0.191	5	5	2.667	7.111	-0.876	-0.152	10(0)	876
21	Best Model for Your Country	194	4.186	0.202	5	5	2.811	7.903	-0.992	0.013	10(0)	812
22	Mean	194	4.023	0.186	3.880	3.333	2.588	6.745	-0.620	0.184	9.95(0)	780.429

Table 3.14 Group A Follow-Up TW Data: Placebo Treatment

Outcome Variable	Variable Description	N	Mean	Standard Error	Median	Mode	Std. Dev.	Sample Variance	Kurtosis	Skewness	Max(Min)	Sum	Baseline N*Mean
1	Reduce Stress/Life Anxieties	181	5.254	0.196	6	6	2.638	6.957	-0.685	-0.207	10(0)	951	1019.304
2	Simple & Easy to Understand	181	3.652	0.192	3	3	2.590	6.706	-0.104	0.650	10(0)	661	708.475
3	Get Resources to Needy	181	5.414	0.216	6	6	2.910	8.466	-0.931	-0.202	10(0)	980	1050.387
4	Security in an Unpredictable World	181	4.906	0.191	5	5	2.568	6.597	-0.670	-0.080	10(0)	888	951.779
5	Not Discourage Work	181	4.856	0.191	5	5	2.576	6.635	-0.443	0.076	10(0)	879	942.133
6	Make Every Individual Feel Valued	181	3.464	0.177	3	5	2.384	5.683	-0.453	0.327	10(0)	627	672.033
7	Reduce Poverty	181	4.232	0.196	4	4	2.631	6.924	-0.721	0.115	10(0)	766	821.017
8	Difficult to Cheat	181	3.873	0.187	4	5	2.519	6.345	-0.400	0.438	10(0)	701	751.348
9	Good for Economy	181	4.597	0.160	5	5	2.152	4.631	-0.070	-0.169	10(0)	832	891.757
10	Reduce Crime	181	3.381	0.164	3	5	2.209	4.882	-0.826	0.107	8(0)	612	655.956
11	Personal Benefit	181	2.685	0.208	2	0	2.798	7.828	-0.314	0.845	10(0)	486	520.906
12	Fair System	181	4.420	0.192	5	5	2.586	6.689	-0.832	-0.049	10(0)	800	857.459
13	Protection in Times of Need	181	4.337	0.213	4	6	2.862	8.191	-1.012	0.119	10(0)	785	841.381
14	Benefit Your Community	181	4.751	0.187	5	5	2.510	6.299	-0.468	-0.120	10(0)	860	921.768
15	Good for Parents & Children	181	5.365	0.191	5	5	2.567	6.589	-0.625	-0.213	10(0)	971	1040.740
16	Good for Unreliable Incomes	181	4.315	0.217	4	0	2.918	8.517	-0.907	0.205	10(0)	781	837.094
17	Prevent Going into Debt	181	3.481	0.192	3	5	2.579	6.651	-0.462	0.427	10(0)	630	675.249
18	Help Start New Business	181	1.956	0.147	1	0	1.980	3.920	0.492	0.965	9(0)	354	379.425
19	Feelings of Financial Security	181	3.315	0.188	3	0	2.529	6.395	-0.769	0.320	10(0)	600	643.094
20	Good for Society	181	4.729	0.188	5	5	2.523	6.365	-0.575	-0.207	10(0)	856	917.481
21	Best Model for Your Country	181	4.227	0.215	5	5	2.896	8.387	-0.946	0.120	10(0)	765	819.945
22	Mean	181	4.153	0.191	4.095	4.048	2.568	6.650	-0.558	0.165	9.86(0)	751.667	805.654

Table 3.15 UBI Baseline Data

Outcome Variable	Variable Description	N	Mean	Standard Error	Median	Mode	Std. Dev.	Sample Variance	Kurtosis	Skewness	Max(Min)	Sum
1	Reduce Stress/Life Anxieties	956	7.044	0.084	8	10	2.605	6.788	0.116	-0.842	10(0)	6734
2	Simple & Easy to Understand	956	7.963	0.068	8	10	2.098	4.402	2.105	-1.388	10(0)	7613
3	Get Resources to Needy	956	5.610	0.097	6	7	2.986	8.917	-0.893	-0.299	10(0)	5367
4	Security in an Unpredictable World	956	7.160	0.080	8	10	2.479	6.147	0.358	-0.899	10(0)	6848
5	Not Discourage Work	956	5.131	0.088	5	5	2.715	7.372	-0.772	0.016	10(0)	4903
6	Make Every Individual Feel Valued	956	6.206	0.088	7	5	2.735	7.478	-0.496	-0.464	10(0)	5934
7	Reduce Poverty	956	6.399	0.092	7	10	2.832	8.022	-0.493	-0.566	10(0)	6120
8	Difficult to Cheat	956	6.181	0.098	6	10	3.032	9.190	-0.830	-0.419	10(0)	5905
9	Good for Economy	956	5.638	0.096	5	5	2.970	8.818	-0.821	-0.237	10(0)	5389
10	Reduce Crime	956	5.352	0.094	5	5	2.908	8.459	-0.822	-0.172	10(0)	5120
11	Personal Benefit	956	6.647	0.096	7	10	2.972	8.834	-0.366	-0.713	10(0)	6348
12	Fair System	956	5.873	0.100	6	10	3.088	9.536	-0.844	-0.407	10(0)	5614
13	Protection in Times of Need	956	7.268	0.077	8	10	2.368	5.609	0.653	-0.935	10(0)	6951
14	Benefit Your Community	956	6.974	0.079	7	10	2.436	5.935	0.249	-0.701	10(0)	6670
15	Good for Parents & Children	956	7.447	0.074	8	10	2.291	5.250	0.590	-0.867	10(0)	7122
16	Good for Unreliable Incomes	956	8.072	0.068	8	10	2.102	4.417	2.535	-1.425	10(0)	7719
17	Prevent Going into Debt	956	5.997	0.095	6	10	2.951	8.708	-0.752	-0.397	10(0)	5737
18	Help Start New Business	956	5.178	0.095	5	5	2.921	8.530	-0.847	-0.037	10(0)	4952
19	Feelings of Financial Security	956	6.442	0.086	7	6	2.643	6.987	-0.120	-0.634	10(0)	6159
20	Good for Society	956	6.639	0.089	7	10	2.751	7.569	-0.256	-0.647	10(0)	6345
21	Best Model for Your Country	956	5.691	0.097	5	5	3.005	9.027	-0.781	-0.294	10(0)	5443
22	Mean	956	6.424	0.088	6.619	8.24	2.709	7.428	-0.118	-0.587	10(0)	6142.524

Table 3.16 TW Baseline Data

Outcome Variable	Variable Description	N	Mean	Standard Error	Median	Mode	Std. Dev.	Sample Variance	Kurtosis	Skewness	Max(Min)	Sum
1	Reduce Stress/Life Anxieties	956	5.241	0.083	5	6	2.563	6.571	-0.610	-0.221	10(0)	5012
2	Simple & Easy to Understand	956	3.628	0.083	3	2	2.558	6.544	-0.333	0.564	10(0)	3473
3	Get Resources to Needy	956	5.614	0.087	6	7	2.679	7.179	-0.677	-0.357	10(0)	5371
4	Security in an Unpredictable World	956	5.015	0.081	5	5	2.505	6.274	-0.583	-0.199	10(0)	4796
5	Not Discourage Work	956	4.950	0.084	5	5	2.584	6.679	-0.521	-0.019	10(0)	4737
6	Make Every Individual Feel Valued	956	3.413	0.077	3	5	2.388	5.704	-0.594	0.284	10(0)	3259
7	Reduce Poverty	956	4.375	0.084	4	6	2.583	6.671	-0.827	-0.025	10(0)	4180
8	Difficult to Cheat	956	3.935	0.085	4	5	2.619	6.857	-0.557	0.390	10(0)	3761
9	Good for Economy	956	4.839	0.071	5	5	2.196	4.823	-0.089	-0.299	10(0)	4623
10	Reduce Crime	956	3.613	0.078	3	5	2.403	5.776	-0.478	0.280	10(0)	3450
11	Personal Benefit	956	2.779	0.087	2	0	2.688	7.227	-0.354	0.758	10(0)	2654
12	Fair System	956	4.452	0.084	5	5	2.594	6.728	-0.712	-0.045	10(0)	4254
13	Protection in Times of Need	956	4.485	0.088	5	5	2.722	7.409	-0.954	-0.095	10(0)	4283
14	Benefit Your Community	956	4.960	0.076	5	5	2.344	5.493	-0.223	-0.229	10(0)	4737
15	Good for Parents & Children	956	5.509	0.079	6	5	2.432	5.913	-0.210	-0.416	10(0)	5267
16	Good for Unreliable Incomes	956	4.663	0.092	5	5	2.842	8.079	-0.994	-0.032	10(0)	4453
17	Prevent Going into Debt	956	3.630	0.083	3	5	2.573	6.619	-0.668	0.304	10(0)	3467
18	Help Start New Business	956	2.401	0.071	2	0	2.205	4.863	-0.077	0.720	10(0)	2293
19	Feelings of Financial Security	956	3.513	0.080	3	0	2.482	6.160	-0.725	0.289	10(0)	3357
20	Good for Society	956	5.020	0.080	5	5	2.473	6.118	-0.462	-0.291	10(0)	4796
21	Best Model for Your Country	956	4.466	0.088	5	5	2.731	7.459	-0.719	-0.008	10(0)	4265
22	Mean	956	4.309	0.082	4.238	4.33	2.532	6.436	-0.541	0.064	10(0)	4118.476

Table 3.17 UBI Post-Treatment Data

Outcome Variable	Variable Description	N	Mean	Standard Error	Median	Mode	Std. Dev.	Sample Variance	Kurtosis	Skewness	Max(Min)	Sum
1	Reduce Stress/Life Anxieties	956	7.083	0.084	8	10	2.584	6.676	0.241	-0.870	10(0)	6772
2	Simple & Easy to Understand	956	7.609	0.076	8	10	2.345	5.500	0.970	-1.100	10(0)	7277
3	Get Resources to Needy	956	6.486	0.088	7	8	2.717	7.380	-0.300	-0.636	10(0)	6204
4	Security in an Unpredictable World	956	7.342	0.078	8	10	2.399	5.754	0.593	-0.981	10(0)	7018
5	Not Discourage Work	956	5.149	0.091	5	5	2.820	7.955	-0.729	-0.036	10(0)	4927
6	Make Every Individual Feel Valued	956	6.587	0.088	7	10	2.714	7.366	-0.250	-0.638	10(0)	6300
7	Reduce Poverty	956	6.458	0.090	7	10	2.774	7.693	-0.382	-0.588	10(0)	6177
8	Difficult to Cheat	956	6.282	0.096	7	10	2.968	8.808	-0.845	-0.430	10(0)	6000
9	Good for Economy	956	6.176	0.091	6	5	2.808	7.887	-0.555	-0.422	10(0)	5903
10	Reduce Crime	956	5.329	0.095	5	5	2.939	8.638	-0.858	-0.175	10(0)	5097
11	Personal Benefit	956	6.532	0.101	7	10	3.125	9.763	-0.624	-0.653	10(0)	6238
12	Fair System	956	6.399	0.094	7	10	2.910	8.469	-0.512	-0.571	10(0)	6111
13	Protection in Times of Need	956	7.305	0.078	8	10	2.395	5.738	0.445	-0.893	10(0)	6986
14	Benefit Your Community	956	7.080	0.079	7	10	2.443	5.969	0.225	-0.736	10(0)	6761
15	Good for Parents & Children	956	7.441	0.074	8	10	2.289	5.238	0.796	-0.933	10(0)	7116
16	Good for Unreliable Incomes	956	7.863	0.071	8	10	2.179	4.750	1.691	-1.258	10(0)	7516
17	Prevent Going into Debt	956	6.169	0.091	6	8	2.812	7.908	-0.524	-0.483	10(0)	5901
18	Help Start New Business	956	5.347	0.097	5	5	2.988	8.931	-0.840	-0.166	10(0)	5112
19	Feelings of Financial Security	956	6.697	0.085	7	10	2.620	6.865	-0.079	-0.691	10(0)	6404
20	Good for Society	956	6.828	0.088	7	10	2.713	7.360	-0.191	-0.678	10(0)	6530
21	Best Model for Your Country	956	6.204	0.097	6	10	2.984	8.907	-0.635	-0.480	10(0)	5934
22	Mean	956	6.589	0.087	6.857	8.86	2.692	7.312	-0.112	-0.639	10(0)	6299.238

Table 3.18 TW Post-Treatment Data

Outcome Variable	Variable Description	N	Mean	Standard Error	Median	Mode	Std. Dev.	Sample Variance	Kurtosis	Skewness	Max(Min)	Sum
1	Reduce Stress/Life Anxieties	956	4.476	0.086	5	6	2.658	7.065	-0.835	0.019	10(0)	4276
2	Simple & Easy to Understand	956	3.615	0.082	3	3	2.548	6.491	-0.491	0.468	10(0)	3461
3	Get Resources to Needy	956	4.831	0.088	5	6	2.709	7.337	-0.900	-0.082	10(0)	4616
4	Security in an Unpredictable World	956	4.507	0.084	5	7	2.602	6.772	-0.838	-0.035	10(0)	4305
5	Not Discourage Work	956	4.503	0.081	5	5	2.517	6.334	-0.354	0.139	10(0)	4309
6	Make Every Individual Feel Valued	956	3.475	0.078	3	2	2.405	5.784	-0.409	0.383	10(0)	3320
7	Reduce Poverty	956	4.155	0.083	4	5	2.572	6.617	-0.796	0.073	10(0)	3969
8	Difficult to Cheat	956	3.768	0.082	4	5	2.526	6.380	-0.372	0.431	10(0)	3599
9	Good for Economy	956	4.578	0.075	5	5	2.319	5.378	-0.328	-0.219	10(0)	4373
10	Reduce Crime	956	3.455	0.075	3	5	2.310	5.336	-0.533	0.238	10(0)	3301
11	Personal Benefit	956	2.907	0.087	2	0	2.699	7.286	-0.424	0.673	10(0)	2776
12	Fair System	956	4.267	0.085	4	5	2.617	6.848	-0.803	0.081	10(0)	4078
13	Protection in Times of Need	956	4.260	0.089	4	6	2.739	7.501	-0.954	0.038	10(0)	4068
14	Benefit Your Community	956	4.799	0.080	5	5	2.469	6.094	-0.403	-0.197	10(0)	4583
15	Good for Parents & Children	956	5.250	0.083	5	5	2.571	6.611	-0.552	-0.280	10(0)	5016
16	Good for Unreliable Incomes	956	4.483	0.094	5	5	2.890	8.355	-0.979	0.074	10(0)	4281
17	Prevent Going into Debt	956	3.591	0.083	3	0	2.579	6.651	-0.775	0.282	10(0)	3429
18	Help Start New Business	956	2.516	0.073	2	0	2.260	5.107	-0.256	0.646	10(0)	2403
19	Feelings of Financial Security	956	3.536	0.083	3	0	2.569	6.599	-0.750	0.292	10(0)	3377
20	Good for Society	956	4.733	0.083	5	5	2.558	6.544	-0.608	-0.164	10(0)	4520
21	Best Model for Your Country	956	4.275	0.089	5	5	2.760	7.615	-0.790	0.020	10(0)	4085
22	Mean	956	4.094	0.083	4.048	4.05	2.566	6.605	-0.626	0.137	10(0)	3911.667

Table 3.19 UBI Endline Data

Outcome Variable	Variable Description	N	Mean	Standard Error	Median	Mode	Std. Dev.	Sample Variance	Kurtosis	Skewness	Max(Min)	Sum	Baseline N*Mean
1	Reduce Stress/Life Anxieties	886	7.263	0.081	8	8	2.423	5.871	0.585	-1.014	10(0)	6438	6943.693
2	Simple & Easy to Understand	886	8.228	0.063	9	10	1.889	3.568	3.150	-1.570	10(0)	7290	7866.206
3	Get Resources to Needy	886	5.826	0.098	6	8	2.925	8.553	-0.929	-0.305	10(0)	5164	5569.645
4	Security in an Unpredictable World	886	7.388	0.081	8	10	2.412	5.817	0.514	-1.006	10(0)	6546	7062.518
5	Not Discourage Work	886	5.177	0.090	5	5	2.677	7.164	-0.682	-0.124	10(0)	4584	4949.596
6	Make Every Individual Feel Valued	886	6.574	0.090	7	10	2.687	7.222	-0.373	-0.586	10(0)	5825	6284.755
7	Reduce Poverty	886	6.472	0.095	7	10	2.836	8.041	-0.480	-0.612	10(0)	5733	6187.535
8	Difficult to Cheat	886	6.659	0.102	8	10	3.028	9.171	-0.519	-0.738	10(0)	5901	6365.772
9	Good for Economy	886	5.918	0.099	6	5	2.940	8.646	-0.758	-0.356	10(0)	5245	5657.144
10	Reduce Crime	886	5.482	0.097	5	5	2.896	8.386	-0.803	-0.246	10(0)	4860	5241.257
11	Personal Benefit	886	6.938	0.097	8	10	2.893	8.368	-0.164	-0.837	10(0)	6142	6632.588
12	Fair System	886	6.227	0.103	7	10	3.051	9.307	-0.758	-0.531	10(0)	5518	5953.125
13	Protection in Times of Need	886	7.322	0.083	8	10	2.462	6.060	0.540	-0.992	10(0)	6488	6999.864
14	Benefit Your Community	886	6.897	0.086	7	10	2.557	6.538	0.182	-0.796	10(0)	6106	6593.699
15	Good for Parents & Children	886	7.393	0.081	8	10	2.405	5.782	0.752	-1.023	10(0)	6551	7067.919
16	Good for Unreliable Incomes	886	8.049	0.071	8	10	2.127	4.524	2.213	-1.441	10(0)	7131	7694.450
17	Prevent Going into Debt	886	6.225	0.095	7	10	2.830	8.012	-0.531	-0.516	10(0)	5517	5950.965
18	Help Start New Business	886	5.428	0.098	5	5	2.920	8.526	-0.848	-0.206	10(0)	4812	5189.406
19	Feelings of Financial Security	886	6.551	0.088	7	8	2.608	6.804	-0.056	-0.672	10(0)	5806	6263.150
20	Good for Society	886	6.653	0.093	7	10	2.756	7.593	-0.298	-0.646	10(0)	5896	6360.371
21	Best Model for Your Country	886	5.856	0.105	6	5	3.118	9.723	-0.965	-0.337	10(0)	5191	5598.811
22	Mean	886	6.597	0.090	7	8.52	2.688	7.318	-0.011	-0.693	10(0)	5844.952	6306.308

Table 3.20 TW Endline Data

Outcome Variable	Variable Description	N	Mean	Standard Error	Median	Mode	Std. Dev.	Sample Variance	Kurtosis	Skewness	Max(Min)	Sum	Baseline N*Mean
1	Reduce Stress/Life Anxieties	886	5.116	0.083	5	6	2.473	6.114	-0.514	-0.229	10(0)	4530	4891.263
2	Simple & Easy to Understand	886	3.637	0.082	3	2	2.449	5.998	-0.329	0.496	10(0)	3221	3477.248
3	Get Resources to Needy	886	5.600	0.087	6	6	2.578	6.648	-0.610	-0.368	10(0)	4961	5353.600
4	Security in an Unpredictable World	886	4.993	0.084	5	6	2.495	6.224	-0.598	-0.243	10(0)	4421	4773.519
5	Not Discourage Work	886	4.862	0.081	5	5	2.414	5.827	-0.394	0.022	10(0)	4309	4648.212
6	Make Every Individual Feel Valued	886	3.405	0.079	3	3	2.361	5.574	-0.475	0.365	10(0)	3015	3254.721
7	Reduce Poverty	886	4.373	0.085	4	5	2.537	6.435	-0.768	-0.006	10(0)	3871	4180.475
8	Difficult to Cheat	886	4.009	0.086	4	5	2.549	6.495	-0.512	0.331	10(0)	3558	3832.642
9	Good for Economy	886	4.870	0.075	5	5	2.235	4.996	-0.228	-0.244	10(0)	4311	4655.774
10	Reduce Crime	886	3.627	0.081	4	5	2.403	5.773	-0.527	0.239	10(0)	3210	3467.525
11	Personal Benefit	886	2.862	0.090	2	0	2.668	7.117	-0.377	0.723	10(0)	2533	2736.212
12	Fair System	886	4.452	0.087	5	5	2.585	6.682	-0.770	-0.029	10(0)	3942	4256.090
13	Protection in Times of Need	886	4.376	0.091	5	5	2.698	7.278	-0.914	-0.013	10(0)	3878	4183.715
14	Benefit Your Community	886	4.840	0.080	5	5	2.371	5.621	-0.461	-0.219	10(0)	4283	4626.608
15	Good for Parents & Children	886	5.359	0.083	6	5	2.455	6.027	-0.388	-0.347	10(0)	4751	5123.512
16	Good for Unreliable Incomes	886	4.458	0.094	5	5	2.799	7.837	-0.951	0.050	10(0)	3945	4261.492
17	Prevent Going into Debt	886	3.625	0.085	3	5	2.531	6.407	-0.696	0.274	10(0)	3208	3465.365
18	Help Start New Business	886	2.469	0.075	2	0	2.230	4.971	-0.110	0.717	10(0)	2185	2360.294
19	Feelings of Financial Security	886	3.522	0.085	3	0	2.534	6.419	-0.840	0.235	10(0)	3117	3367.064
20	Good for Society	886	4.954	0.084	5	5	2.502	6.261	-0.538	-0.254	10(0)	4385	4735.711
21	Best Model for Your Country	886	4.447	0.094	5	5	2.782	7.741	-0.838	-0.048	10(0)	3937	4251.770
22	Mean	886	4.279	0.084	4.290	4.19	2.507	6.307	-0.564	0.069	10(0)	3789.095	4090.610

Table 3.21 Covariate Baseline & Post-Treatment Data

Covariate	Variable Description	N	Mean	Standard Error	Median	Mode	Std. Dev.	Sample Variance	Kurtosis	Skewness	Max(Min)	Sum	Sum(% of N)
1	No Personal Impact	956	0.265	0.014	0	0	0.441	0.195	-0.860	1.069	1(0)	253	26.464
2	Negative Emotion	956	0.700	0.015	1	1	0.459	0.210	-1.240	-0.873	1(0)	669	69.979
3	Negative Financial	956	0.377	0.016	0	0	0.485	0.235	-1.743	0.510	1(0)	360	37.657
4	<6-week Negative Health	956	0.488	0.016	0	0	0.500	0.250	-2.002	0.046	1(0)	467	48.849
5	>6-week Negative Health	956	0.139	0.011	0	0	0.346	0.120	2.368	2.089	1(0)	133	13.912
6	Intensive Care Admission	956	0.003	0.002	0	0	0.056	0.003	315.323	17.795	1(0)	3	0.314
7	Family Member Impacted	956	0.651	0.015	1	1	0.477	0.228	-1.603	-0.633	1(0)	622	65.063
8	Community Impacted	956	0.747	0.014	1	1	0.435	0.189	-0.708	-1.137	1(0)	714	74.686

Table 3.22 Covariate Endline Data

Covariate	Variable Description	N	Mean	Standard Error	Median	Mode	Std. Dev.	Sample Variance	Kurtosis	Skewness	Max(Min)	Sum	Sum(% of N)	Attrition
1	No Personal Impact	886	0.258	0.015	0	0	0.438	0.192	-0.780	1.105	1(0)	229	25.847	-24
2	Negative Emotion	886	0.696	0.015	1	1	0.460	0.212	-1.271	-0.856	1(0)	617	69.639	-52
3	Negative Financial	886	0.370	0.016	0	0	0.483	0.233	-1.714	0.539	1(0)	328	37.020	-32
4	<6-week Negative Health	886	0.495	0.017	0	0	0.500	0.250	-2.004	0.018	1(0)	439	49.549	-28
5	>6-week Negative Health	886	0.143	0.012	0	0	0.351	0.123	2.163	2.039	1(0)	127	14.334	-6
6	Intensive Care Admission	886	0.003	0.002	0	0	0.058	0.003	291.989	17.127	1(0)	3	0.339	0
7	Family Member Impacted	886	0.647	0.016	1	1	0.478	0.229	-1.625	-0.615	1(0)	573	64.673	-49
8	Community Impacted	886	0.739	0.015	1	1	0.439	0.193	-0.810	-1.092	1(0)	655	73.928	-59

3.4 Data Analysis Strategy: The Empirical Model & Defining Hypotheses

The principal analysis employed a Difference-in-Differences (DiD) treatment effects model, a well-established application to RCT-experimental design data analysis, widely used in applied econometrics to estimate causal effects of treatments or policy interventions on outcomes of interest.

The DiD treatment effect estimation strategy effectively isolates the treatment's causal effect from the influence of other observable and unobservable factors that are time-invariant and potentially correlated with the treatment. In particular, the inclusion of individual-level fixed effects (the eight covariates) controls for time-invariant confounding factors that are specific to each individual, and thus differencing the model helps to capture the difference in pre-treatment trends between the treatment and control groups.

Thus, in isolating the treatment effects and causality, we estimate the following linear model:

$$y_{it} = \alpha + \sum_{g} \delta_g \, Treat_i + \beta Post_t + \sum_{g} \gamma_g \, (Treat_{gi} \cdot Post_t) + \boldsymbol{X'}_{it} \top \boldsymbol{\theta} + \epsilon_{it}$$

Equation 3.1 Difference-in-Differences Treatment Effects[78]

Where:

• y_{it} is the dependent outcome variable for observation *i* at time *t*, relating to the 21 desirable attributes of a Welfare system scored for either UBI or TW
• α is the intercept term
•*g* represents the treatment group (B, C, D, E)
• δ_g is the treatment effect of treatment group g relative to the control group (A) or the difference in the expected value of *y* between the treatment and control group before the treatment is applied
•$Treat_i$ is a binary dummy variable that takes a value of 1 if observation *i* is in the treatment group and 0 otherwise
• β is the coefficient for the post-treatment dummy variable, representing the average change in the outcome variable after treatment, holding all other variables constant
• $Post_t$ is a binary dummy variable that takes a value of 1 if time t is after the treatment is applied and 0 otherwise
• γ_g is the differential post-treatment effect of treatment group *g*, relative to the control group (A) or the difference in the average change in *y* between the treatment and control group after the treatment is applied

• $X'_{it}{}^{\top}$ is a vector of covariates for observation *i* at time *t*

• θ is a vector of regression coefficients for the covariates $X'_{it}{}^{\top}$, where $\theta = (\theta 1, \theta 2, \ldots, \theta k)$ are the individual regression coefficients for the eight covariates in the model.
• ε_{it} is the error term, which captures the unobserved factors that affect the outcome variable *y* but are not accounted for by the model (i.e., $\varepsilon_{it} = U \setminus (S\delta \cup SX)$). We assume that the error term ε_{it} follows the assumptions of independently and identically distributed (I.I.D.) random disturbances, with a mean of zero and constant variance across all observations (Stock & Watson, 2019).

[78] For the full Difference-in-Differences Treatment Effects Model Script used see Appendix B: Code 3.1 Difference-in-Differences Treatment Effects Model Script

β represents the effect of time, specifically, the average change in y over time across all groups, regardless of treatment status. The coefficient for the interaction term, γ, represents the difference in the change in y over time between the treatment and control groups after treatment. The coefficient for the $Treat_i$ variable, δ, represents the difference in y between the treatment and control groups before treatment. Therefore, β and γ together represent the post-treatment effect. The model controls for $X'_{it}{}^{T}$, a vector of the eight observed *Lived Crisis Experience* covariates that may correlate with the outcome variables and the treatment variable. The error term, $\epsilon_{it,}$ accounts for the presence of unobserved factors that may affect y but are not captured by the observed covariates.

This model provides a framework for estimating the causal effects and size of the treatment on the outcome variables measured, accounting for potential confounding factors.

The ability to identify treatment effects is related to the coefficient of the $Treat_i$ variable in the model.

Additionally, the coefficient for the interaction term, γ, also relates to the study's aims of exploring the potential of the treatments having an effect. The coefficient γ captures the differential post-treatment effect, which is the difference in the average change in y between the treatment and control groups after the treatment is applied. A statistically significant γ would indicate the measurable presence of a treatment effect overall. While a statistically significant and positive γ would indicate that the treatment has a positive effect on the outcome variable for the treatment group when compared to the control group, and statistically significant and negative γ would indicate the opposite.

Therefore, as informed by our findings within Chapters One & Two in conjunction with the insight afforded via the theoretical lens of narrative economics, this informs the hypothesis:

"That via exposure to one of the Pandemic related narrative treatments there exists a treatment effect, such that the expected value of the "desirable welfare system attribute score", the dependent outcome variable, y_{it}, differs significantly between the control and treatment groups. This is captured by the coefficient γ, which represents the differential post treatment effect or the difference in the expected value of y between the treatment and control groups after the treatment is applied. Specifically, γ is expected to be positive, indicating that the treatment groups will experience an increase in y compared to the control group after the treatment is applied."

H_0: The selected treatment has no effect on the outcome variable ($\gamma = 0$)

H_A: The selected treatment has a significant effect on the dependent variable (y) relative to the control

At, $\alpha = 0.05$ (error probability), if:
H_0: $p \geq 0.05$
H_A: $p < 0.05$

In addition, Difference-in-Differences estimates are calculated for each group based on the coefficients estimated from the linear regression DiD treatment effects model. The DiD

estimate model calculates the Difference-in-Differences estimate for each treatment group after the intervention.

The DiD estimate is the difference-in-differences between the treated and control groups. The DiD model compares the change in the outcome variable in the treated group before and after the intervention with the change in the outcome variable in the control group over the same time period.

While Equation 3.1 Difference-in-Differences Treatment Effects remains the principal model that will be utilised in exploring our stated hypothesis, Equation 3.2 Difference-in-Differences Estimate is stated to provide further clarity in the empirical analysis.

Denoting the outcome variable as *Y*, the treatment group as *T*, and the time periods as pre and post. Then, the DiD estimate can be formulated as follows:

$$\Delta Y = \beta_1 T + \beta_2 Post + \beta_3 (T \cdot Post) + \varepsilon$$

Equation 3.2 Difference-in-Differences Estimate[79]

Where:

•ΔY is the difference in Y between the post-treatment and pre-treatment periods
•β_1 measures the difference in Y between the treated and control groups before the intervention
•T is a dummy variable indicating whether the group is treated or not
•β_2 measures the average change in Y over time for the control group
•*Post* is a dummy variable indicating whether the period is post-treatment or not
•β_3 measures the difference in the average change in Y over time between the treated and control groups
•ε is the error term, capturing any other unobserved differences between the treated and control groups that may affect the outcome.

When interpreting the Difference-in-Difference Estimate models script[80], group_b_coef, group_c_coef, group_d_coef, and group_e_coef measure the difference in *Y* between the treated and control groups before the intervention, and covariate1_coef through covariate8_coef measure the effects of the covariates on *Y*.

Thus, the DiD estimate for each treatment group can be calculated by substituting the corresponding coefficients into the DiD estimate equation. For example, the DiD estimate for Group B can be calculated as:

group_b_did = post_coef + group_b_coef + covariate1_coef + covariate2_coef + covariate3_coef + covariate4_coef + covariate5_coef + covariate6_coef + covariate7_coef + covariate8_coef

[79] Full Difference-in-Differences Estimate Calculations for each of the 21 outcome variables measured averaged per treatment intervention across each of the four studies is available within Appendix B: Table 3.45 Difference-in-Differences Estimates
[80] For the full Difference-in-Differences Estimate Model Script used see Appendix B: Code 3.2 Difference-in-Differences Estimate Model Script

Where the example estimate measures the average difference in the change in *Y* over time between Group B and the control group, after accounting for any differences in the covariates, similarly, the DiD estimate for Groups C, D, and E can be calculated using the same equation with the appropriate data.

The DiD estimate provides an estimate of the average treatment effect on the treated (ATT), which is the difference in outcomes between the treatment and control groups after accounting for any pre-existing differences between the groups, a numerical measure of the effect of the treatment on the outcome variable, which can be used to compare the magnitude of the treatment effect across different groups or time periods. While the DiD treatment effect which determines the causal effect of the treatment that is estimated using the DiD method. This effect represents the difference in outcomes that can be attributed to the treatment after accounting for any pre-existing differences between the treatment and control groups.

3.5 Model Performance: Fit, Overfitting, Significance & Evaluation

3.5.1 Goodness of Fit and Overfitting

For assessing the model's overall quality, average R-squared values were calculated across each of the 21 Difference-in-Differences calculations performed in each study. Throughout each of the four studies[81], average R-squared values remain very high, supporting that the model explains a significant portion of the variation of the outcome variables post-treatment, suggesting a validation of a general *goodness of fit.*

Across the 21 DiD computations performed upon the 21 outcome variables related to UBI, the model averaged an R-squared value of 0.799, suggesting that the treatment explained 79.9% of the variance in the outcome variable scores. Furthermore, this high performance carried through to the 15-21 days post-treatment endline data follow-up study, which averaged 0.792 across the 21 outcome variables, suggesting 79.2% of the variance in the outcome variables could be explained via the treatment effects measured within the study.

Average R-squared values suggested a moderately weaker *goodness of fit* when explaining the variance in the outcome variables related to confidence scores of a TW system by participants. Although still very strongly performing by general economic and social science research standards, the model averaged an R-squared value of 0.676 and 0.688 for the TW and TW +15-21-day follow-up studies respectively, suggesting these values indicate that 67.6% and 68.8% of the variance in the outcome variable scores measured are explained by the treatment effects implemented.

Additionally, to assess model performance against bias towards overconfidence in assessing treatment effects, average adjusted R-squared values were computed and then calculated across all of the 21 DiD iterations for each outcome variable by study. When evaluating average adjusted R-squared values, we see very little relative change, with Adjusted R-squared values only decreasing by 0.14% and 0.15% for the UBI study and follow-up, as well as 0.24% and 0.22% for the TW study and respective follow-up data collection.

Overall, when prerequisite DiD model assumptions are met, the consistently high R-squared values throughout all studies suggest that model performance was strong, providing a good fit for the data obtained and suggesting that treatment effect estimates can be considered reliable and accurate.

Table 3.23 Mean R-squared and Mean Adjusted R-Squared Values Across All 21 Outcome Variables by Study

Study	Mean R-squared (All 21 Outcome Variables)	Mean Adjusted. R-squared (All 21 Outcome Variables)	Difference, R-Sq. & Adj. R-sq. (As a %)
UBI	0.799	0.797	0.14%
UBI (15-21 Days)	0.792	0.790	0.15%
TW	0.676	0.674	0.24%
TW (15-21 Days)	0.688	0.686	0.22%

[81] Namely the 21 Difference-in-Differences calculations for each of the 21 outcome variables, for each of the 4 group treatment effects and 8 covariates across the 4 studies exploring UBI, UBI 15-21 days post treatment, TW and TW 15-21 days post treatment.

Table 3.24 Difference-in-Differences: R-squared value (Adjusted R-squared value)

Outcome Variable	UBI	UBI *(15-21 Days)*	TW	TW *(15-21 Days)*
1	0.832 (0.83)	0.833 (0.832)	0.721 (0.719)	0.758 (0.756)
2	0.859 (0.858)	0.876 (0.875)	0.625 (0.622)	0.63 (0.628)
3	0.779 (0.778)	0.741 (0.739)	0.731 (0.729)	0.763 (0.762)
4	0.845 (0.844)	0.838 (0.837)	0.721 (0.719)	0.75 (0.748)
5	0.726 (0.724)	0.729 (0.727)	0.725 (0.723)	0.748 (0.746)
6	0.804 (0.803)	0.8 (0.799)	0.628 (0.625)	0.626 (0.623)
7	0.799 (0.797)	0.791 (0.789)	0.697 (0.695)	0.71 (0.708)
8	0.762 (0.76)	0.77 (0.768)	0.652 (0.649)	0.667 (0.665)
9	0.765 (0.764)	0.745 (0.744)	0.764 (0.762)	0.779 (0.777)
10	0.738 (0.736)	0.742 (0.74)	0.655 (0.653)	0.666 (0.663)
11	0.779 (0.777)	0.789 (0.788)	0.512 (0.508)	0.513 (0.51)
12	0.765 (0.763)	0.749 (0.747)	0.688 (0.685)	0.698 (0.696)
13	0.85 (0.849)	0.842 (0.841)	0.678 (0.676)	0.691 (0.689)
14	0.848 (0.847)	0.831 (0.83)	0.764 (0.762)	0.769 (0.768)
15	0.859 (0.858)	0.846 (0.845)	0.769 (0.767)	0.78 (0.778)
16	0.871 (0.87)	0.868 (0.867)	0.675 (0.673)	0.681 (0.678)
17	0.775 (0.774)	0.77 (0.769)	0.622 (0.62)	0.637 (0.635)
18	0.729 (0.727)	0.727 (0.725)	0.534 (0.531)	0.533 (0.53)
19	0.814 (0.813)	0.807 (0.805)	0.619 (0.616)	0.626 (0.623)
20	0.812 (0.811)	0.799 (0.797)	0.741 (0.739)	0.753 (0.751)
21	0.759 (0.757)	0.733 (0.731)	0.673 (0.671)	0.676 (0.673)
Mean	0.799 (0.797)	0.792 (0.790)	0.676 (0.674)	0.688 (0.686)

3.5.2 Degrees of Statistical Significance

Treatment effects determined throughout the Difference-in-Differences analysis of the *Pandemic Narrative Articles* intervention throughout this study were highly significant. All treatments measured p-values remained below '*p ≤0.01'*, excluding the data of Treatment Group B UBI outcome variable scores measured during the 15–21-day post-treatment window period, of which had a p-value still well within statistically significant parameters '*p ≤0.05'*.

Treatment effects calculated via the *Lived Crisis Experience* covariates were, in comparison, more mixed when aggregated and compared across all studies, with high statistical significance among *Covariates 1,2 & 8* having p-values as low as the treatment groups '*p ≤0.01'*, with *Covariate 7* minutely above this 0.01 value. *Covariate4* also presented a low p-value where *'p <0.05'*.

Covariate 3 only exceeded this *'p ≤0.05'* value by a hair's breadth; *Covariates 5 & 6* also exceeded this figure, both presenting relatively poor degrees of significance relative to the outstanding performance of the other variables, with both *Covariates5 & 6* performing less

strongly during the endline follow-up data, presenting p-values in excess of the other components of the model *'$p \leq 0.1$'*.

3.5.3 The Difference-in-Differences Analysis: Model Evaluation & Evidence Towards Our Hypothesis

During data collection, all planned measures to ensure robust data collection outlined in section 3.2.1 were fully implemented and enacted without issue; as such, the requisite sample sizes for sufficient statistical power were met for every treatment group as well as the controlled placebo throughout the study[82].

While the prerequisite assumptions required to utilise a Difference-in-Differences approach successfully are justifiably met, specifically, we can reasonably assume the *Parallel Trends*[83,84] (Jörn-Steffen & Angrist, 2009) and *Common Shocks*[85] (Kothari & Warner, 2004) assumptions hold as pre-treatment measurements and post-treatment measurements were taken immediately after deployment of the treatment and thus any potential treatment effects were measured before any potential general trends (parallel or otherwise), or shocks could cause an effect, this is further backed by the findings that all outcome variable treatment effects determined remained generally similar both in the period immediately post-treatment as well as the 15-21 day follow up data collection as well as stability in pre and post-treatment scores among the placebo control group[86].

Due to the study design taking measurements immediately preceding and immediately after treatment, supporting the prerequisite assumption of *no confounding factors*[87] is also reasonable (Tchetgen & VanderWeele, 2012). We can reliably conclude that no other factor affected the post-treatment outcome variables for the treatment and placebo groups except for the randomly allocated treatment. Thus, we can safely assure that any differences measured in the scores obtained are solely due to the treatment allocated according to group, with no group subject to additional unique confounding factor influence.

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[82] See Appendix B: Figure 3.2 A Priori Sample Size & Power Analysis

[83] The parallel trends assumption states that, in the absence of treatment, the average treatment and control groups would follow parallel trends over time. This assumption is crucial to attribute any differences in outcomes to the treatment effect rather than pre-existing divergences between the group (Jörn-Steffen & Angrist, 2009).

[84] The study design ensures the parallel trends assumption through various additional measures: The Pre-treatment data; by collecting outcome variable data before treatment is implemented, we establish a baseline for both the treatment and control groups. This allows to examine whether the groups exhibit similar trends before the treatment is introduced. The Control group (Group A) data: by having a control group that does not receive any treatment, a benchmark is created against which the treatment groups can be compared. If the control group exhibits parallel trends with the treatment groups during the pre-treatment period, it supports the parallel trends assumption. The Follow-up period data: by including a follow-up period, we can assess whether the parallel trends observed during the pre-treatment period continues after the treatment is implemented. If the trends remain similar between the treatment and control groups during the follow-up, it provides further evidence for the Parallel Trends Assumption.

[85] The common shocks assumption assumes that there are no other contemporaneous shocks affecting the treatment and control groups differently, except for the treatment itself (Kothari & Warner, 2004).

[86] See Table 3.27 Treatment Coefficient Change after Endline (15-21 Day) Data Collection

[87] The assumption of no confounding factors implies that there are no unobserved variables that simultaneously influence the treatment assignment and outcome variables studied (Tchetgen & VanderWeele, 2012).

Due to the study design utilising an online survey methodology, we can also conclude that the *Stable Unit treatment value*[88] assumption is fulfilled (Green, et al., 2012). All participants were organised by their unique ID tied to their Prolific.co account, which is externally validated by the platform host Prolific.co. This allowed for the ability to carefully ensure that all participants remained in not only the correct treatment group but in one treatment group only, thus preventing any treatment spillover effect and ensuring an identical virtual space that ensured a homogenous treatment and answer experience among all participants.

Additionally, the robustness ensured by each participant having pre-qualified for inclusion in survey participation via Prolific.co's rigorous participant detail verification system ensures that while participant data remains anonymised to the researcher, it is substantiated by the platforms background checks, combined with the survey pre-screening parameter that all participants must have successfully contributed to at least 20 surveys, with an individual record of a hand-checked data submission quality approval rate of at least 100% since signing the required contract to answer all surveys with total honesty and good faith leads to a justified conclusion that all participants acted in good faith.

This can be further validated by the large volume of messages the researcher received from a significant volume of highly engaged participants, some sending lengthy accounts with elaborate details on how, why, and what their thought processes were in evaluating either welfare policy in response to their allocated treatment[89]. This unexpected occurrence was extremely heart-warming and a rewarding unanticipated joy to the researcher, resulting in the additional research finding of the positive emotional externalities obtained when collecting primary data; for any researcher considering a similar methodology against the more solitary alternatives, the author would wholeheartedly recommend it.

Under empirical evaluation, the model performs strongly, demonstrating a high degree of goodness of fit across all outcome variables within every study, with averaged R-square values indicating the model could attribute, on average, 79% of the variance in the outcome variables to the treatment received when participants scored their confidence in a UBI based welfare systems performance across 21 comprehensive attributes, this goodness of fit did not diminish over the 15-21 day post-treatment period. While also retaining the potential to explain 67% of the variance in TW confidence scores on average as well as a greater 68% after the post-treatment period.

This finding holds reliably even after re-assessment through the scrutiny of averaging adjusted R-squared values throughout all DiD computations conducted in all studies, with average adjusted R-squared values reducing the goodness of fit by only 0.14% when explaining UBI scores and 0.24% for TW scores.

Furthermore, the empirical evaluation suggests that all DiD computations achieve sufficiently low p-values. Therefore, it is justified to consider all calculated treatment effects to have high statistical significance. This significance on average, holds across all estimated treatment effects, as well as the Covariate effects, when examined in comparison to the placebo group, albeit to a marginally lesser degree.

[88] The SUTVA assumption states that the treatment assigned to one unit does not affect the outcomes of other units (Green, et al., 2012).
[89] It's also worth noting that the researcher was extremely careful to not reveal any information that may influence follow-up data responses to any of the anonymous participants.

Considering our stated hypotheses:

H_0: The selected treatment has no effect on the outcome variable ($\alpha \geq 0.05$, H_0: $\gamma = 0$)

H_A: The selected treatment captured by the coefficient γ, has a statistically significant effect upon the outcome variable (y) when compared to the control group

At, α =0.05 (error probability), if:

H_0: $p \geq 0.05$
H_A: $p < 0.05$

Therefore, the null hypothesis can be rejected for all treatments with not only the 90% confidence level sought as an initial study criterion but also at a higher 99% confidence level ($\alpha = 0.01$). This indicates stronger evidence against the no-effect assumption for treatments where the p-value is less than 0.01.

When qualitatively evaluating the model, it is worth considering the effect sizes obtained; although powerful for such a short, inexpensive treatment, large DiD effect coefficients do stand to reason, specifically due to the theory derived from narrative-based approaches to economics which support the notion that the internalisation of national narratives carry significant weight in how individuals interpret the world around them and thus how they assess economic policy proposals. Furthermore, its widely empirically derived that strong emotion in combination with new information can result in significant shifts in individual perspective, crisis narratives being a magnified emotional trigger in the human psyche.

This emotional magnification stimulating the rapid analysis of new information and a resultant change in worldview is well understood among those that present their written interpretation of current affairs to nations. Historically negative informational shocks have led to a rapid unified reversal of wide spread social narratives, often with disastrous implications such as Black Monday, October 28th 1929, a day burned in the mind of every economist as the day the decade of optimism ended, or to cite a more recent example the press crisis narratives surround potential solvency issues of Silicon Valley Bank, an ongoing story at the time of writing, which unleashed contagion that has erased banks so large and old they can be considered national institutions a continent away. It is clear in the field of journalism, politics and finance that national narrative shifts present perspective-altering power so significant that central banks are brought in to attempt to subvert them via reversing narratives to those that align with regulatory objectives (Zeynep, 2019; Ellen, et al., 2021).

These findings align with the expectations of Chapter One, concluding it is rational for an individual agent to find greater utility in a cash-based welfare system as a hedge against unexpected crisis as well as Chapter Two, which aggregated and derived national crisis narratives over 2020 thematically, coming to supporting the findings of Nettle, et al., (2021) that Pandemic narratives boost support for alternative welfare systems, with the bulk of the support shifting towards a UBI over a TW system.

While crucially offering the insight that this boost is attributed predominantly to *National Crisis Narratives* over *Lived Crisis Experiences*, as well as the insight that this boost can be observed through interaction with something as simple as a typical national news article. A finding so profound that it brings with it the realisation that simple shared narratives can

potentially shape history, to a degree more so than individual narratives, even individual narratives as life-altering as intensive-care hospitalisation, from this those in the position to move national narratives should understand that they, possess the power to move perspectives and nations, for better or worse, and should be fully cognisant of such implications.

3.6 Results: Treatment Interventions & Covariate Data

3.6.1 Treatment Interventions: Representative Pandemic Narratives

3.6.1.1 Examining Causality and Statistical Significance

Assessing via the data analysis strategy outlined in 3.4, we define a metric for sufficient statistical significance for evaluating findings whereby; H_A: $p \leq 0.05$ and H_0: $p \geq 0.05$.

From this, we can conclude that all Difference-in-Difference Pandemic Macro Narrative Treatment effects were determined to be of sufficient statistical significance throughout all treatment groups. Table x outlines aggregated average p-values for all 21 outcome variables in each study by treatment group, where each outcome variable is assigned a number of stars whereby * = $p \leq 0.1$, ** = $p \leq 0.05$, *** = $p \leq 0.01$ and (no stars awarded) = $p \geq 0.1$, from there the number of stars is summed and averaged. Therefore, within Table 3.25, the outlined study parameters consider any value greater than two significant[90].

Table 3.25 Average Degree of Significance by Treatment[91]

Treatment	UBI	UBI (15-21 Days)	TW	TW (15-21 Days)	Mean of Averages
Group B	3	3	3	3	3
Group C	3	3	3	3	3
Group D	3	3	3	3	3
Group E	3	3	3	3	3
Mean	3	3	3	3	3

N.B 3.1 Considering the defined metric for 95% certainty, any score above a 2 implies significance.

3.6.1.2 Quantifying Magnitude & Duration

All treatment coefficients determined within the Difference-in-Differences analysis were substantial for all Pandemic Macro Narrative treatments. Prior to data collection, when hypothesising an effect size from existing literature to compute a priori statistical power, the effect size was postulated at 15-30%, while the average coefficient determined ranged from 1.57 at the lowest to 2.54 at the highest, as scores were allocated on a linear '0–10-point' discrete value Likert scale this postulation could be interpreted as somewhat broadly correct. Overall, the pandemic macro narrative treatments were more positively impactful on the UBI outcome variables but still fairly strongly impactful on the TW outcome variables[92].

[90] See Appendix Tables 3.31 through 3.34 for mean DiD computation p-value significance by outcome variable.
[91] Calculated via assigning stars to represent level of significance where, * = $p \leq 0.1$, ** = $p \leq 0.05$, *** = $p \leq 0.01$. Stars were summed up to allow for a representation of 'average significance' across the 21 questions for both policies as well as the follow up surveys. From there stars were summed per treatment across all 84 Difference-in-Differences regressions (21 questions * 2 baseline policy score measurements and * 2 endline policy score measurements again during the follow-up) allowing for an 'Average of averages' to represent the 'Average significance' of each treatment across all surveys.
[92] Mean DiD outcome variable treatment effect coefficients will be examined in greater detail in section 3.6.2 Characterising Treatment Effects: Prevalent Crisis Narratives

Table 3.26 Average Treatment Coefficient by Treatment Group Across all 21 Outcome Variables[93]

Welfare Model	Group B	Group C	Group D	Group E	Mean
UBI Average Coefficient	2.510	2.420	2.356	2.549	2.459
TW Average Coefficient	1.813	1.679	1.811	1.570	1.718
Difference (UBI-TW)	0.696	0.741	0.545	0.979	0.740

Additionally, conducting further Difference-in-Differences analysis across the same 21 outcome variables scored again by the same participants of each group, it was found that, on average, the treatment effects identified within the period immediately post-treatment remain strong and mostly unchanged relative to the control, decreasing on average by -6.54% across treatments for TW and growing by 0.17% across treatments for UBI, suggesting against treatment effects determined being transitory in nature for the UBI outcome variables over the period between treatment and endline data collection at a certain minimum.

Table 3.27 Treatment Coefficient Change after Endline (15-21 Day) Data Collection[94]

Welfare Model	Group B	Group C	Group D	Group E	Mean
UBI	5.50%	-6.59%	7.58%	-5.83%	0.17%
TW	-12.12%	-13.76%	-1.60%	1.33%	-6.54%
Mean	-3.31%	-10.18%	2.99%	-2.25%	-3.19%

3.6.2 Characterising Treatment Effects: Prevalent Crisis Narratives

3.6.2.1 Treatment Article B: The Pandemic - Looming Recession and Severe Implications

The Treatment article discussing the potential economic and social ramifications of the Pandemic was extremely impactful in boosting UBI scores with an average of 2.5, while also boosting TW scores to a lesser degree, averaging at 1.8, interestingly the Pandemic group increased their perceptions of UBI over the 15-21 days but decreased their scores for TW, this treatment gave a huge perception boost for the outcome variable measuring confidence that UBI "would be good for those with unreliable incomes" in particular.

This large treatment effect persisted over the 15-21 days and even increased marginally. Resulting in the 15–21-day informative Pandemic article treatment being the single most powerful treatment effect of the entire Difference-in-Differences study, suggesting that when considering performance metrics related to UBI, not only does a Pandemic or crisis narrative provide an immediate boost, but this resolution increases as time passes. The single most powerful treatment effect observed within the entire study was the significant increase in the outcome variable "UBI would be good for those with unreliable incomes" measured during the 15-21 post-treatment day period, an outcome variable that actually decreased when the same group were asked to provide new scores on their confidence for a TW system to "be good for those with unreliable incomes".

3.6.2.2 Treatment Article C: Universal Basic Income - A Broad Pandemic Response

[93] For a full table of mean DiD outcome variable treatment coefficients, significance and corresponding standard errors please by outcome variable see Tables 3.31 & 3.32 through 3.34

[94] Full data of mean endline DiD treatment coefficients, significance and corresponding standard errors for each of the outcome variables see Tables 3.33 & 3.34

The article discussing UBI during the context of the global Pandemic proved strong in increasing scores given to UBI. However, marginally less so than the purely informational article, suggesting participants perhaps were more responsive to assessing the situation themselves and deriving the effects a policy may have upon that situation rather than having it suggested to them.

The UBI during the Pandemic Article somewhat boosted perceptions of both the cash transfer systems, and interestingly this group gave TW a relatively low score for the outcome variable "effective at distributing resources to those who need them" relative to the other treatments.

3.6.2.3 Treatment Article D: Targeted Welfare Funds – A Precise Pandemic Response

The article discussing Targeted Cash Transfer systems during the context of the Pandemic treatment was understandably the weakest treatment in boosting UBI perceptions among the four-treatment articles; however, it should be considered that this treatment boosted UBI outcome variable scores by a figure greater than any effect observed upon the TW related outcome variables. Following the observation, among other treatments, that Perceptions of UBI are boosted significantly within a crisis-related context.

Interestingly this group received the lowest confidence score boost for "UBI would not discourage work", as well as "would a UBI benefit you personally", while this treatment gave TW a particularly strong boost for the outcome variable "being effective in reducing poverty", "being effective at distributing resources directly to those who need them" and "being a good thing for society". These effects did diminish over the 15-21 days with regards to TW but grew for UBI.

3.6.2.4 Treatment Article(s) E: UBI as a Pandemic Response & TW Funds as a Pandemic Response – Combined Intervention

Overall, the dual article treatment presenting participants with both typical narratives surrounding UBI during the pandemic as well as typical narratives surrounding TW during the context of the Pandemic was the most powerful treatment effect captured within the Difference-in-Differences experiment baseline data. Specifically, increasing UBI scores, providing a greater average increase than the single Pandemic article by a small amount, suggesting that when comparing UBI, within the context of the Pandemic, to TW within the context of the Pandemic, there is a magnification in the perception of confidence increase in UBI, as well as perhaps that a greater quantity of Pandemic related treatments will increase the effect by a diminished marginal proportion.

Interestingly, this treatment also had the least effect in boosting TW perceptions, suggesting that the idea of a direct one-to-one comparison of both policies within a pandemic context and a greater volume of crisis-related information has an inverse magnification upon lessening perceptions of TW.

This treatment group gave particularly strong scores for "UBI simple to understand", "UBI would provide security in an unpredictable world", and scoring "UBI would be a fair system", significantly higher than treatments C and D and higher than the Pandemic treatment B. While also scoring "do you think a TW would provide protection in times of need" particularly poorly relative to all other treatments.

3.6.3 Covariate Data: Varying Lived Crisis Experience

3.6.3.1 Examining Causality and Statistical Significance

As observed in Table 3.28, *Covariate 1* (I was not personally impacted by the Covid-19 Pandemic), *Covariate 2* (I had a negative emotional impact due to the Covid-19 Pandemic) and *Covariate 8* (My community was negatively impacted by Covid-19 Pandemic) all proved to have had a significant effect on the independent outcome variable scores averaging a p-value where $p < 0.01$ across all surveys.

Additionally, *Covariate 7* (A family member was negatively impacted by the Covid-19 Pandemic) had a highly significant effect on the outcome variable scores from the initial studies but lost a small amount of significance during the follow-up studies, while *Covariate 4* (I had a short-term (<6-weeks) negative health impact due to the Covid-19 Pandemic) retained a good general degree of significance throughout.

While *Covariate 3* (I had a negative financial impact due to the Covid-19 Pandemic), like *Covariate 7*, had strong significance during the initial studies but lost explanatory power by a large degree during the endline studies.

Covariate5 (I had a long-term (>6-weeks) negative health impact due to the Covid-19 Pandemic) and *Covariate 6* (I was admitted to intensive care due to the Covid-19 Pandemic) performed poorly, averaging larger mean p-values than the other Covariates, likely due to the relative rarity of occurrence among both respondents as well as the wider population.

While overall, the *Lived Crisis Experience* as an aggregate within the model performed well, averaging 2.595 and 2.571 significance stars within the initial surveys as well as 1.935 and 2.012 during the follow-ups, averaging 2.29 on aggregate, suggesting that an overall p-value calculated for significance of Lived Crisis Experience within the model is in the accepted significance range of $p \leq 0.05$ despite remaining above $p > 0.01$.

Table 3.28 Average Degree of Significance by Covariate[95]

Covariate	UBI	UBI (15-21 Days)	TW	TW (15-21 Days)	Mean of Averages
Covariate 1	3	3	3	3	3
Covariate 2	3	3	3	3	3
Covariate 3	3	0.810	2.952	1.095	1.964
Covariate 4	2.714	2.571	2.762	2.762	2.702
Covariate 5	0.762	0.333	0.571	0.381	0.512
Covariate 6	2.333	0	2.286	0	1.155
Covariate 7	2.952	2.762	3	2.857	2.893
Covariate 8	3	3	3	3	3
Mean	2.595	1.935	2.571	2.012	2.278

[95] This table was calculated via assigning stars to indicate level of significance where, * = $p \leq 0.1$, ** = $p \leq 0.05$, *** = $p \leq 0.01$. Stars were summed up to allow for a representation of 'average significance' across the 21 questions for both policies as well as the follow up surveys. From there stars were summed per Covariate across all 84 Difference-in-Differences regressions (21 questions * 2 baseline policy score measurements and * 2 endline policy score measurements again during the follow-up) allowing for a 'Mean of averages' to represent the 'Average significance' of each covariate across all surveys.

3.6.3.2 Quantifying Magnitude & Duration

The Difference-in-Differences treatment effect coefficients determined for the eight covariates considered within the model, although of marginally lower statistical power than the treatment effects measured, were undoubtedly significant in magnitude and presented clear patterns throughout the four studies.

On aggregate, when averaged across all outcome variables, the individual level *Lived Crisis* Experience covariates generally magnified the positive impact of the treatment, largely to a greater degree in favour of UBI scores than those of a TW system, the exceptions to the trend would be *Covariate 3* (a negative financial impact due to the Covid-19 Pandemic) and *Covariate 5* (a long term (>6-weeks) negative health impact due to the Covid-19 Pandemic), which both marginally lowered TW outcome variable scores post-treatment where they conversely boosted UBI outcome variable scores instead.

Additionally, *Covariate 6* (admitted to intensive care due to the Covid-19 Pandemic) was found to significantly deviate from the general trend of greater alternative welfare system confidence in response to pandemic-related treatment, resulting in a huge negative shift in every one of the 21 measured outcome variables related to UBI while only moderately negatively impacting TW related scores[96].

Table 3.29 Average Treatment Coefficient by Covariate Across all 21 Outcome Variables

Covariate	UBI Average Coefficient	TW Average Coefficient	Difference (UBI -TW)
Covariate 1	1.146	0.977	0.169
Covariate 2	1.548	0.947	0.601
Covariate 3	0.862	-0.102	0.964
Covariate 4	0.550	0.395	0.155
Covariate 5	0.356	-0.136	0.492
Covariate 6	-3.341	-0.359	-2.982
Covariate 7	0.910	0.568	0.342
Covariate 8	1.338	1.250	0.088
Mean	0.421	0.442	-0.021

All covariate treatment effects determined from the data collected immediately post-treatment remained present and stable when measured again during a period 15-21 days after delivery of the treatment. Treatment effect coefficients calculated as an average per covariate across all 21 of the outcome variables measured remained within a ±10% range of immediate post-treatment values, suggesting the identified characteristic of '*Lived Crisis Experience'* to magnify responsiveness to the Pandemic narrative treatment when assessing confidence in alternative cash-based welfare system performance.

The notable exception to this would again be *Covariate 6* (admitted to intensive care due to the Covid-19 Pandemic), whereby the negative magnification of the particular lived crisis experience when scoring the outcome variables post-treatment, did not remain within the

[96] Mean DiD Covariate treatment effect coefficients will be examined in greater detail in **S**ection 3.6.4 Characterising Covariate Effects: Varied Lived Crisis Experience

±10% range, instead magnifying the negative effect upon scores of the treatment by an additional 19.49%[97].

Table 3.30 Average Covariate Treatment Coefficient Change (%), Immediate Post-Treatment Period to Endline (15-21 day) Data Collection[98].

Covariate	UBI	TW	Mean
Covariate 1	7.58%	4.05%	5.82%
Covariate 2	-3.34%	3.92%	0.29%
Covariate 3	4.80%	-1.97%	1.42%
Covariate 4	2.05%	8.63%	5.34%
Covariate 5	-2.73%	-5.54%	-4.14%
Covariate 6	-9.51%	-19.49%	-14.50%
Covariate 7	-3.55%	6.26%	1.36%
Covariate 8	-2.79%	-7.93%	-5.36%
Mean	-0.94%	-1.51%	-1.22%

3.6.4 Characterising Covariate Effects: Varied Lived Crisis Experience

3.6.4.1 Covariate 1: Personal Exposure and the Covid-19 Pandemic - Absence of Personal Impacts

Interestingly those that considered themselves as "not personally effected by the covid-19 pandemic" were moderately more responsive to the pandemic narrative treatment, with greater scores for either welfare system than those who suffered some of the most severe pandemic-specific personal crisis, magnifying scores by a greater degree than hospitalisation, long and short negative health implications as well as negative financial implications or a negative impact on a family member, while generating lesser magnifications than those that perceived more subjective issues such as a negative emotional impact as well as a perceived collective negative community impact, both of which provided significant score boosts upon UBI related outcome variables[99].

With those "not effected", "emotionally effected" or "socially effected" via negative effects on their community, scoring both UBI and TW relatively highly for metrics such as "would benefit you personally", "would be good for those with unreliable incomes", "would be good for parents and children", "good for reducing stress and life anxieties" as well as "good for your community". Whereas those with high severity health implications were less confident in either welfare systems ability to be effective in those measures, responding with relatively

[97] Average Covariate treatment effect coefficients calculated are listed within Tables 3.31 through 3.35

[98] Whereby a positive percentage indicates Covariate greater outcome variable scores 15-21 days post treatment, while a negative percentage indicates a decrease in of outcome variable score 15-21 days post treatment. I.e., if initial coefficients are positive a negative % indicates a lessening of treatment effect magnification while if initial average scores are negative a negative % indicates an increased negative magnification of treatment upon outcome variable score, therefore a positive % on an initially positive treatment coefficient indicates an increase in treatment effect magnification while a positive % on an initially negative coefficient indicates a weakening of effect magnification.

[99] This finding would merit potential future research to deeply explore individual interpretations of crisis situations and the effect of crisis relief, for example the effects of personal medical emergency in prioritising goods-based welfare provision over cash-based welfare, as well as perceived collective community decline and poor personal mental health and the responsiveness to cash-based intervention over the provision of goods.

little increase in treatment responsiveness for UBI compared to the other Covariates and even a moderate negative effect in TW outcome variables after the pandemic narrative treatments.

3.6.4.2 Covariate 2: Emotional Consequences of the Covid-19 Pandemic - A Negative Outlook

Participants that considered themselves as having suffered emotionally during the crisis were significantly more likely to respond to the crisis-related treatments with a high relative score boost for both welfare systems, with a particularly strong boost for UBI, the largest of the Lived Experience Effect upon welfare perception score of any of the measures, this held over the 15–21-day period for both UBI and TW.

3.6.4.3 Covariate 3: Financial Implications of the Covid-19 Pandemic - Adverse Monetary Effects

Interestingly individuals that experienced a negative financial impact due to the Pandemic Crisis were likely to boost their UBI performance perception scores post-crisis article treatment by a good amount but would reduce their TW performance perception scores by a moderate degree when exposed to the treatment. This trend actually strengthened by a small degree for both UBI and TW over the 15–21-day period.

With significant disparities between those who experienced negative financial impact choosing to boost UBI scores particularly highly on metrics such as “good for those with unreliable incomes”, “make people feel financially secure”, “be a good thing for society”, and “be the best welfare model for your country to implement” while lowering scores for TW by a leading amount on these same metrics.

3.6.4.4 Covariate 4: Transient Health Impacts of the Covid-19 Pandemic - Short-term Detriment

Among those who experienced a short-term negative impact on their health as a result of the crisis, scores were boosted moderately, with the boost for UBI being slightly greater than the boost for TW; this increase in scores was greater after the 15-21 days.

Those with this lived crisis experience were likely to perceive the greatest change in perception scores for both UBI and TW when considering each policy as “effective for reducing stress and life anxieties”.

3.6.4.5 Covariate 5: Chronic Health Impacts of the Covid-19 Pandemic - Prolonged Detriment

Those who had suffered a lengthy negative health impact during the crisis were overall still likely to be more responsive to the Pandemic narrative treatments when reassessing scores related to UBI. However, this lived crisis experience was associated with a decrease in average coefficient scores for the TW outcome variables making these individuals likely to be less confident in the efficacity of a Targeted Welfare system after considering a crisis-related narrative than others.

3.6.4.6 Covariate 6: Critical Care Admittance and the Covid-19 Pandemic - A Severe Experience

Although it is worth considering the analysis of this covariate with a grain of salt due to a lower statistical significance than the other variables measured, due to the small number of those who were hospitalised per thousand of those that were, their responses post-crisis treatment is of particular value due to the unique severity of their lived crisis experience. When exposed to the pandemic treatments, those who had spent a period staying in intensive hospital care shifted perceptions of confidence in UBI to deliver on the 21 aspects of a welfare system massively within all categories, defying the trend observed across all other lived crisis experience measurements which would suggest that lived negative experience enhanced the effects of the treatment in a way that would boost scores.

This significant negative movement of scores held over the 15–21-day period and although not nearly as pronounced in strength upon TW scores, the lived experience of admittance to intensive care did largely shift all perceptions of TW in delivering on the 21 aspects of a welfare system downward as a result of the pandemic narrative treatments.

Again, although this Covariate retained a relatively low statistical power compared to the other covariates, reasons could be hypothesised as to why such a strong negative reaction to the cash transfers was observed by those who had spent time in intensive care relative to those who had not. We could postulate that as the vast bulk of participants, as well as the majority of society, were never hospitalised, the main issue inflicting personal damage, and so likely their focal personal concern, would be related to the monetary issues that come from the crisis. Specifically, this would be indicated as welfare system-related concerns such as "volume of those cheating the system", "the alleviation of unemployment", "general state of your neighbourhood and wider society" in the macro-sphere, as well as "benefiting you personally as an individual", "feeling fair" or "making you feel valued" from a more micro perspective.

However, the Pandemic, although a crisis like any other in terms of monetary devastation, posed a unique hazard, that being severe health implications; it would stand to reason that the majority facing the waves of asymmetric negative income shocks characterised by the pandemic as well as any other crisis would prove responsive to cash transfer based state intervention, but for those whose life had potentially been saved via the intervention of emergency provision of state-based medical services, this primary concern the alleviate the monetary related crisis issues all but evaporates in favour of greater distribution of welfare resources away from alleviating the monetary concerns of the many and perhaps investing in the medical equipment required by the most severely affected.

3.6.4.7 Covariate 7: Familial Impacts of the Covid-19 Pandemic - Negative Consequences

Those who lived through a family member suffering a negative ramification from the pandemic were likely to be moderately more responsive to the score-boosting effects of the crisis narrative articles, with a slightly greater increase associated with boosting UBI scores over those of TW. In particular, seeing greater effectiveness in UBI's ability to "be simple and easy to understand", "benefit them personally", and "be good for those with unreliable incomes" over a Targeted Welfare system.

3.6.4.8 Covariate 8: Community-level Effects of the Covid-19 Pandemic - Adverse Outcomes

Those who had lived through the crisis negatively impacting their community were very receptive to the crisis narrative treatments, boosting scores for both UBI and TW by a small margin less; this carried over to the 15–21-day follow-up, only diminishing by a small degree.

These community-conscious individuals, although marginally boosting their perceptions of UBI by a greater degree than TW after the pandemic narrative treatment, saw fairly large boosts in perception that both policies would “provide security in an unpredictable world”, “benefit their community”, “be good for parents and children” and be “good for those with unreliable incomes”.

While post-treatment, participants who had selected that they had experienced the crisis negatively impacting their community did boost scores for a TW system being “effective at distributing resources to those who need them” by a larger degree than UBI, as well as a UBI system being “simple and easy to understand” by a larger degree than TW.
This perhaps suggests a receptivity towards cash-related welfare, among those who experienced negative effects upon their community, as a means to alleviate the harmful issues within their communities after the introduction of a crisis narrative.

Table 3.31 Difference-in-Differences Treatment Effects, Significance and Standard Error: UBI

Outcome Variable	Post	Group B	Group C	Group D	Group E	Covariate 1	Covariate 2	Covariate 3	Covariate 4	Covariate 5	Covariate 6	Covariate 7	Covariate 8
1	0.968***	2.902***	2.727***	2.639***	2.958***	1.207***	1.587***	0.871***	0.814***	0.414*	-3.730***	0.842***	1.513***
	(0.137)	(0.198)	(0.200)	(0.198)	(0.201)	(0.155)	(0.154)	(0.149)	(0.144)	(0.212)	(1.278)	(0.159)	(0.160)
2	0.771***	3.091***	3.206***	3.109***	3.215***	1.436***	1.461***	0.880***	0.777***	0.206	-2.916**	1.204***	1.889***
	(0.137)	(0.198)	(0.200)	(0.198)	(0.201)	(0.155)	(0.154)	(0.149)	(0.144)	(0.212)	(1.278)	(0.159)	(0.160)
3	1.628***	1.908***	2.032***	1.929***	2.282***	1.301***	1.444***	0.985***	0.480***	0.397*	-2.602**	0.756***	0.988***
	(0.139)	(0.202)	(0.204)	(0.202)	(0.205)	(0.158)	(0.157)	(0.152)	(0.147)	(0.216)	(1.304)	(0.162)	(0.163)
4	1.154***	2.898***	2.830***	2.639***	3.042***	1.212***	1.577***	0.828***	0.668***	0.382*	-3.696***	1.007***	1.548***
	(0.133)	(0.193)	(0.195)	(0.194)	(0.196)	(0.152)	(0.151)	(0.146)	(0.141)	(0.207)	(1.248)	(0.155)	(0.156)
5	0.730***	2.070***	2.126***	1.851***	2.269***	1.124***	1.278***	0.385***	0.559***	0.076	-2.293*	0.480***	1.128***
	(0.135)	(0.196)	(0.198)	(0.196)	(0.199)	(0.154)	(0.153)	(0.148)	(0.143)	(0.209)	(1.265)	(0.157)	(0.158)
6	1.193***	2.373***	2.259***	2.293***	2.550***	1.184***	1.568***	0.972***	0.554***	0.264	-3.590***	0.860***	1.175***
	(0.136)	(0.197)	(0.199)	(0.198)	(0.200)	(0.155)	(0.154)	(0.149)	(0.144)	(0.211)	(1.275)	(0.158)	(0.160)
7	0.876***	2.394***	2.359***	2.230***	2.351***	1.052***	1.512***	1.030***	0.689***	0.254	-3.823***	0.979***	1.345***
	(0.139)	(0.202)	(0.204)	(0.202)	(0.205)	(0.158)	(0.157)	(0.152)	(0.147)	(0.216)	(1.303)	(0.162)	(0.163)
8	0.955***	2.447***	2.233***	1.905***	2.425***	1.253***	1.772***	0.501***	0.783***	0.600***	-3.060**	0.391**	1.413***
	(0.149)	(0.216)	(0.218)	(0.217)	(0.219)	(0.170)	(0.168)	(0.163)	(0.157)	(0.231)	(1.396)	(0.173)	(0.175)
9	1.297***	2.315***	2.035***	2.249***	2.261***	1.021***	1.406***	0.923***	0.405***	0.431**	-2.768**	0.683***	1.093***
	(0.141)	(0.204)	(0.206)	(0.205)	(0.207)	(0.160)	(0.159)	(0.154)	(0.149)	(0.219)	(1.320)	(0.164)	(0.165)
10	0.641***	1.886***	1.783***	2.112***	1.860***	0.695***	1.429***	0.984***	0.684***	0.508**	-3.410***	0.789***	0.946***
	(0.138)	(0.200)	(0.202)	(0.200)	(0.203)	(0.157)	(0.156)	(0.151)	(0.146)	(0.214)	(1.291)	(0.160)	(0.162)
11	0.762***	2.924***	2.665***	2.394***	2.703***	1.240***	1.664***	0.972***	0.276*	0.492**	-3.988***	1.292***	0.996***
	(0.151)	(0.219)	(0.221)	(0.219)	(0.222)	(0.172)	(0.170)	(0.165)	(0.159)	(0.234)	(1.412)	(0.175)	(0.177)
12	1.323***	2.308***	2.059***	1.977***	2.521***	1.065***	1.693***	0.869***	0.227	0.408*	-3.225**	0.825***	1.092***
	(0.131)	(0.190)	(0.192)	(0.191)	(0.193)	(0.149)	(0.148)	(0.144)	(0.139)	(0.203)	(1.229)	(0.152)	(0.154)
13	1.012***	2.985***	2.863***	2.806***	2.973***	1.235***	1.535***	0.790***	0.490***	0.330	-4.016***	1.090***	1.740***
	(0.131)	(0.190)	(0.192)	(0.191)	(0.193)	(0.149)	(0.148)	(0.144)	(0.139)	(0.203)	(1.229)	(0.152)	(0.154)
14	0.976***	2.661***	2.492***	2.394***	2.740***	1.186***	1.502***	0.879***	0.519***	0.392**	-4.059***	0.995***	1.885***

	(0.128)	(0.186)	(0.188)	(0.186)	(0.188)	(0.146)	(0.145)	(0.140)	(0.135)	(0.199)	(1.201)	(0.149)	(0.150)
15	0.993***	2.955***	2.847***	2.663***	2.896***	1.422***	1.555***	1.004***	0.607***	0.366*	-4.192***	1.104***	1.731***
	(0.129)	(0.187)	(0.189)	(0.188)	(0.190)	(0.147)	(0.146)	(0.141)	(0.136)	(0.200)	(1.209)	(0.150)	(0.151)
16	0.908***	3.450***	3.061***	3.098***	3.134***	1.500***	1.616***	0.947***	0.722***	0.310	-4.224***	1.142***	1.882***
	(0.131)	(0.190)	(0.192)	(0.191)	(0.193)	(0.149)	(0.148)	(0.144)	(0.138)	(0.203)	(1.228)	(0.152)	(0.154)
17	0.947***	2.082***	2.112***	2.189***	2.183***	1.138***	1.551***	0.944***	0.596***	0.191	-2.241*	1.034***	1.062***
	(0.141)	(0.204)	(0.207)	(0.205)	(0.207)	(0.161)	(0.159)	(0.154)	(0.149)	(0.219)	(1.321)	(0.164)	(0.166)
18	0.808***	1.835***	2.058***	1.925***	1.899***	0.617***	1.441***	0.633***	0.294**	0.284	-2.135	1.014***	1.011***
	(0.139)	(0.201)	(0.203)	(0.202)	(0.204)	(0.158)	(0.157)	(0.152)	(0.147)	(0.215)	(1.300)	(0.161)	(0.163)
19	1.117***	2.468***	2.532***	2.401***	2.553***	0.977***	1.577***	0.756***	0.526***	0.199	-3.088**	1.041***	1.338***
	(0.135)	(0.195)	(0.197)	(0.196)	(0.198)	(0.154)	(0.152)	(0.148)	(0.142)	(0.209)	(1.263)	(0.157)	(0.158)
20	1.078***	2.504***	2.354***	2.508***	2.465***	1.165***	1.748***	0.954***	0.455***	0.438**	-3.657***	0.958***	1.349***
	(0.139)	(0.202)	(0.204)	(0.203)	(0.205)	(0.159)	(0.157)	(0.152)	(0.147)	(0.216)	(1.305)	(0.162)	(0.163)
21	1.277***	2.247***	2.190***	2.169***	2.248***	1.040***	1.599***	0.987***	0.425***	0.526**	-3.445**	0.618***	0.975***
	(0.145)	(0.210)	(0.212)	(0.210)	(0.213)	(0.165)	(0.164)	(0.158)	(0.153)	(0.224)	(1.355)	(0.168)	(0.170)

N.B 3.2 Data reported where treatment effect coefficients are stated with via assigning stars to represent level of significance where, * = p ≤0.1, ** = p ≤0.05, *** = p ≤0.01 and corresponding standard error directly below in parenthesis

Table 3.32 Difference-in-Differences Treatment Effects, Significance and Standard Error: TW

Outcome Variable	Post	Group B	Group C	Group D	Group E	Covariate 1	Covariate 2	Covariate 3	Covariate 4	Covariate 5	Covariate 6	Covariate 7	Covariate 8
1	-0.041	2.104***	1.811***	2.399***	1.803***	1.273***	1.185***	-0.081	0.520***	-0.326	-0.553	0.518***	1.628***
	(0.129)	(0.187)	(0.189)	(0.188)	(0.190)	(0.147)	(0.146)	(0.141)	(0.136)	(0.200)	(1.210)	(0.150)	(0.152)
2	0.497***	1.310***	1.303***	1.334***	1.317***	1.135***	0.990***	0.063	0.272**	-0.049	0.477	0.302**	0.982***
	(0.129)	(0.187)	(0.189)	(0.188)	(0.190)	(0.147)	(0.146)	(0.141)	(0.136)	(0.200)	(1.210)	(0.150)	(0.152)
3	0.006	2.544***	2.087***	2.436***	2.219***	1.264***	1.043***	-0.183	0.457***	-0.212	-0.427	0.777***	1.712***
	(0.135)	(0.196)	(0.198)	(0.196)	(0.198)	(0.154)	(0.153)	(0.148)	(0.143)	(0.209)	(1.265)	(0.157)	(0.158)
4	0.195	2.112***	1.927***	2.157***	1.891***	1.093***	1.000***	-0.137	0.449***	-0.346*	-0.601	0.670***	1.545***
	(0.126)	(0.183)	(0.185)	(0.184)	(0.186)	(0.144)	(0.143)	(0.138)	(0.133)	(0.196)	(1.183)	(0.147)	(0.148)
5	0.206*	1.972***	1.870***	1.762***	1.634***	0.987***	1.225***	0.372***	0.496***	-0.122	-0.855	0.592***	1.329***
	(0.125)	(0.181)	(0.183)	(0.181)	(0.183)	(0.142)	(0.141)	(0.137)	(0.132)	(0.193)	(1.168)	(0.145)	(0.146)
6	0.554***	1.262***	1.208***	1.449***	1.252***	0.806***	0.692***	-0.012	0.426***	-0.063	0.092	0.293**	1.077***
	(0.113)	(0.164)	(0.166)	(0.164)	(0.166)	(0.129)	(0.128)	(0.124)	(0.119)	(0.175)	(1.059)	(0.131)	(0.133)
7	0.343***	1.720***	1.453***	2.013***	1.357***	0.742***	1.137***	-0.340**	0.437***	-0.374**	-0.696	0.680***	1.389***
	(0.121)	(0.176)	(0.177)	(0.176)	(0.178)	(0.138)	(0.137)	(0.133)	(0.128)	(0.188)	(1.135)	(0.141)	(0.142)
8	0.344***	1.517***	1.556***	1.401***	1.381***	0.959***	1.215***	0.190	0.411***	0.254	-0.405	0.410***	0.773***
	(0.121)	(0.175)	(0.177)	(0.176)	(0.177)	(0.137)	(0.136)	(0.132)	(0.128)	(0.187)	(1.131)	(0.140)	(0.142)
9	0.378***	2.125***	1.849***	2.042***	1.835***	0.987***	1.121***	-0.160	0.456***	-0.078	-1.047	0.731***	1.288***
	(0.112)	(0.162)	(0.164)	(0.163)	(0.165)	(0.128)	(0.127)	(0.123)	(0.118)	(0.174)	(1.050)	(0.130)	(0.132)
10	0.303***	1.491***	1.374***	1.707***	1.413***	0.569***	1.024***	0.015	0.393***	-0.054	-0.383	0.473***	0.794***
	(0.110)	(0.160)	(0.161)	(0.160)	(0.162)	(0.125)	(0.125)	(0.121)	(0.116)	(0.171)	(1.032)	(0.128)	(0.129)
11	0.441***	1.260***	0.942***	0.838***	0.799***	0.902***	0.751***	0.341**	0.058	0.440**	0.053	0.429***	0.584***
	(0.121)	(0.175)	(0.177)	(0.176)	(0.178)	(0.138)	(0.137)	(0.132)	(0.128)	(0.187)	(1.132)	(0.140)	(0.142)
12	0.439***	1.801***	1.717***	1.780***	1.533***	0.921***	0.756***	-0.105	0.425***	-0.020	-0.817	0.786***	1.363***
	(0.129)	(0.187)	(0.189)	(0.188)	(0.190)	(0.147)	(0.146)	(0.141)	(0.136)	(0.200)	(1.210)	(0.150)	(0.152)
13	0.366***	1.856***	1.784***	1.783***	1.456***	1.104***	0.737***	-0.209	0.464***	-0.217	-0.690	0.734***	1.496***
	(0.129)	(0.187)	(0.189)	(0.188)	(0.190)	(0.147)	(0.146)	(0.141)	(0.136)	(0.200)	(1.210)	(0.150)	(0.152)
14	0.453***	1.914***	1.892***	1.957***	1.715***	1.048***	0.992***	-0.114	0.464***	-0.136	-1.518	0.690***	1.700***

	(0.117)	(0.169)	(0.171)	(0.170)	(0.172)	(0.133)	(0.132)	(0.128)	(0.123)	(0.181)	(1.093)	(0.136)	(0.137)
15	0.488***	2.290***	2.137***	2.295***	1.944***	1.214***	1.070***	-0.020	0.493***	-0.185	-1.862	0.783***	1.674***
	(0.126)	(0.183)	(0.184)	(0.183)	(0.185)	(0.143)	(0.142)	(0.138)	(0.133)	(0.195)	(1.180)	(0.146)	(0.148)
16	0.452***	2.224***	2.089***	1.983***	1.843***	1.244***	0.932***	-0.310**	0.390***	-0.239	-0.366	0.486***	1.431***
	(0.136)	(0.197)	(0.199)	(0.198)	(0.200)	(0.155)	(0.154)	(0.149)	(0.144)	(0.211)	(1.273)	(0.158)	(0.159)
17	0.458***	1.664***	1.513***	1.541***	1.413***	0.729***	0.928***	-0.211	0.329**	-0.240	0.694	0.392***	1.016***
	(0.120)	(0.174)	(0.176)	(0.175)	(0.177)	(0.137)	(0.136)	(0.132)	(0.127)	(0.187)	(1.128)	(0.140)	(0.141)
18	0.386***	1.219***	1.381***	1.112***	1.186***	0.648***	0.668***	-0.259**	0.151	0.087	1.450	0.126	0.586***
	(0.100)	(0.145)	(0.147)	(0.146)	(0.147)	(0.114)	(0.113)	(0.110)	(0.106)	(0.155)	(0.937)	(0.116)	(0.117)
19	0.530***	1.441***	1.478***	1.672***	1.350***	0.878***	0.870***	-0.333**	0.254**	-0.402**	0.661	0.464***	0.977***
	(0.118)	(0.171)	(0.173)	(0.172)	(0.174)	(0.135)	(0.134)	(0.129)	(0.125)	(0.183)	(1.107)	(0.137)	(0.139)
20	0.396***	2.289***	2.092***	2.345***	1.884***	0.941***	0.937***	-0.327**	0.544***	-0.255	-0.523	0.775***	1.474***
	(0.123)	(0.179)	(0.181)	(0.179)	(0.181)	(0.140)	(0.139)	(0.135)	(0.130)	(0.191)	(1.155)	(0.143)	(0.145)
21	0.432***	1.960***	1.798***	2.029***	1.749***	1.070***	0.611***	-0.330**	0.406***	-0.329	-0.219	0.824***	1.425***
	(0.130)	(0.189)	(0.191)	(0.190)	(0.192)	(0.148)	(0.147)	(0.143)	(0.138)	(0.202)	(1.221)	(0.151)	(0.153)

N.B 3.3 Data reported where treatment effect coefficients are stated with via assigning stars to represent level of significance where, * = p ≤0.1, ** = p ≤0.05, *** = p ≤0.01 and corresponding standard error directly below in parenthesis

Table 3.33 Difference-in-Differences Treatment Effects, Significance and Standard Error: UBI (15-21 Days)

Outcome Variable	Post	Group B	Group C	Group D	Group E	Covariate 1	Covariate 2	Covariate 3	Covariate 4	Covariate 5	Covariate 6	Covariate 7	Covariate 8
1	1.200***	2.915***	2.704***	2.661***	2.797***	1.201***	1.547***	0.867***	0.858***	0.340	-3.416***	0.919***	1.485***
	(0.142)	(0.205)	(0.209)	(0.205)	(0.208)	(0.164)	(0.160)	(0.156)	(0.151)	(0.218)	(1.284)	(0.167)	(0.166)
2	1.429***	3.308***	3.213***	3.233***	3.109***	1.565***	1.424***	0.803***	0.853***	0.220	-2.348*	1.088***	1.888***
	(0.142)	(0.205)	(0.209)	(0.205)	(0.208)	(0.164)	(0.160)	(0.156)	(0.151)	(0.218)	(1.284)	(0.167)	(0.166)
3	1.023***	2.011***	2.112***	2.031***	2.273***	1.335***	1.446***	1.159***	0.438***	0.330	-2.022	0.755***	0.816***
	(0.151)	(0.217)	(0.221)	(0.217)	(0.221)	(0.174)	(0.170)	(0.165)	(0.159)	(0.231)	(1.358)	(0.176)	(0.176)
4	1.251***	2.938***	2.759***	2.806***	2.889***	1.141***	1.577***	0.926***	0.749***	0.340	-3.563***	0.902***	1.547***
	(0.142)	(0.204)	(0.208)	(0.204)	(0.208)	(0.164)	(0.160)	(0.156)	(0.150)	(0.218)	(1.279)	(0.166)	(0.166)
5	0.789***	2.098***	2.074***	2.098***	2.259***	1.114***	1.094***	0.356**	0.547***	0.259	-2.689**	0.461***	1.231***
	(0.139)	(0.201)	(0.204)	(0.200)	(0.204)	(0.160)	(0.157)	(0.153)	(0.147)	(0.213)	(1.255)	(0.163)	(0.162)
6	1.215***	2.523***	2.282***	2.275***	2.589***	1.243***	1.448***	0.925***	0.531***	0.492**	-3.960***	0.659***	1.377***
	(0.142)	(0.205)	(0.209)	(0.205)	(0.209)	(0.164)	(0.160)	(0.157)	(0.151)	(0.219)	(1.285)	(0.167)	(0.166)
7	0.932***	2.579***	2.313***	2.276***	2.423***	1.265***	1.472***	1.118***	0.572***	0.416*	-4.561***	0.888***	1.303***
	(0.148)	(0.213)	(0.217)	(0.213)	(0.217)	(0.170)	(0.166)	(0.162)	(0.156)	(0.227)	(1.333)	(0.173)	(0.173)
8	1.336***	2.648***	2.241***	2.142***	2.230***	1.252***	1.576***	0.509***	0.672***	0.388	-2.249	0.526***	1.557***
	(0.157)	(0.226)	(0.230)	(0.226)	(0.229)	(0.181)	(0.176)	(0.172)	(0.166)	(0.240)	(1.412)	(0.184)	(0.183)
9	1.079***	2.383***	1.893***	2.380***	2.192***	1.112***	1.382***	1.018***	0.361**	0.539**	-3.168**	0.727***	0.997***
	(0.151)	(0.217)	(0.221)	(0.217)	(0.221)	(0.174)	(0.170)	(0.165)	(0.159)	(0.231)	(1.358)	(0.177)	(0.176)
10	0.825***	1.835***	1.597***	1.911***	1.721***	0.873***	1.544***	0.890***	0.570***	0.314	-4.122***	0.823***	1.052***
	(0.143)	(0.207)	(0.210)	(0.207)	(0.210)	(0.165)	(0.161)	(0.157)	(0.152)	(0.220)	(1.293)	(0.168)	(0.167)
11	1.251***	2.891***	2.707***	2.593***	2.626***	1.241***	1.587***	0.957***	0.327**	0.290	-3.875***	1.166***	1.090***
	(0.156)	(0.225)	(0.229)	(0.225)	(0.228)	(0.180)	(0.175)	(0.171)	(0.165)	(0.239)	(1.406)	(0.183)	(0.182)
12	1.196***	2.307***	1.963***	2.083***	2.537***	1.094***	1.662***	1.080***	0.359**	0.259	-3.565**	0.734***	1.011***
	(0.140)	(0.202)	(0.206)	(0.202)	(0.205)	(0.162)	(0.158)	(0.154)	(0.148)	(0.215)	(1.264)	(0.164)	(0.164)
13	1.084***	2.890***	2.671***	2.760***	2.912***	1.310***	1.545***	0.819***	0.556***	0.392*	-4.316***	1.074***	1.725***
	(0.140)	(0.202)	(0.206)	(0.202)	(0.205)	(0.162)	(0.158)	(0.154)	(0.148)	(0.215)	(1.264)	(0.164)	(0.164)

14	0.867***	2.604***	2.382***	2.561***	2.717***	1.288***	1.597***	0.925***	0.549***	0.374*	-4.288***	0.988***	1.685***
	(0.139)	(0.201)	(0.204)	(0.201)	(0.204)	(0.161)	(0.157)	(0.153)	(0.147)	(0.214)	(1.256)	(0.163)	(0.163)
15	1.033***	2.999***	2.818***	2.724***	2.871***	1.528***	1.569***	1.003***	0.718***	0.367*	-4.030***	1.007***	1.605***
	(0.140)	(0.202)	(0.206)	(0.202)	(0.205)	(0.162)	(0.158)	(0.154)	(0.148)	(0.215)	(1.264)	(0.164)	(0.164)
16	1.175***	3.471***	3.001***	3.130***	3.155***	1.523***	1.571***	0.972***	0.825***	0.290	-4.148***	1.061***	1.846***
	(0.139)	(0.200)	(0.204)	(0.200)	(0.203)	(0.160)	(0.156)	(0.153)	(0.147)	(0.213)	(1.253)	(0.163)	(0.162)
17	1.053***	2.161***	2.078***	2.146***	2.171***	1.352***	1.558***	1.011***	0.584***	0.028	-2.640**	0.975***	1.013***
	(0.149)	(0.215)	(0.218)	(0.214)	(0.218)	(0.172)	(0.168)	(0.163)	(0.157)	(0.228)	(1.342)	(0.174)	(0.174)
18	0.982***	1.794***	1.824***	1.956***	1.708***	0.835***	1.397***	0.700***	0.379**	0.095	-2.537*	1.072***	0.901***
	(0.145)	(0.209)	(0.213)	(0.209)	(0.212)	(0.167)	(0.163)	(0.159)	(0.153)	(0.222)	(1.307)	(0.170)	(0.169)
19	1.009***	2.465***	2.343***	2.513***	2.345***	1.168***	1.510***	0.878***	0.631***	0.124	-3.632***	0.995***	1.326***
	(0.141)	(0.204)	(0.208)	(0.204)	(0.207)	(0.163)	(0.159)	(0.155)	(0.150)	(0.217)	(1.276)	(0.166)	(0.165)
20	0.965***	2.641***	2.295***	2.512***	2.521***	1.200***	1.706***	1.042***	0.479***	0.481**	-3.648***	0.974***	1.215***
	(0.148)	(0.214)	(0.217)	(0.213)	(0.217)	(0.171)	(0.167)	(0.163)	(0.157)	(0.227)	(1.336)	(0.174)	(0.173)
21	0.980***	2.393***	2.167***	2.282***	2.257***	1.021***	1.602***	1.142***	0.420**	0.556**	-3.379**	0.566***	0.844***
	(0.155)	(0.224)	(0.228)	(0.224)	(0.227)	(0.179)	(0.175)	(0.171)	(0.164)	(0.238)	(1.401)	(0.182)	(0.181)

N.B 3.4 Data reported where treatment effect coefficients are stated with via assigning stars to represent level of significance where, * = p ≤0.1, ** = p ≤0.05, *** = p ≤0.01 and corresponding standard error directly below in parenthesis

Table 3.34 Difference-in-Differences Treatment Effects, Significance and Standard Error: TW (15-21 Days)

Outcome Variable	Post	Group B	Group C	Group D	Group E	Covariate 1	Covariate 2	Covariate 3	Covariate 4	Covariate 5	Covariate 6	Covariate 7	Covariate 8
1	0.621***	1.958***	1.700***	2.371***	1.867***	1.437***	1.192***	-0.163	0.504***	-0.367*	-1.278	0.588***	1.629***
	(0.130)	(0.187)	(0.191)	(0.187)	(0.190)	(0.150)	(0.146)	(0.143)	(0.138)	(0.199)	(1.173)	(0.152)	(0.152)
2	0.565***	1.283***	1.189***	1.448***	1.327***	1.210***	1.051***	0.042	0.352***	-0.257	0.337	0.371**	0.794***
	(0.130)	(0.187)	(0.191)	(0.187)	(0.190)	(0.150)	(0.146)	(0.143)	(0.138)	(0.199)	(1.173)	(0.152)	(0.152)
3	0.825***	2.361***	2.037***	2.454***	2.041***	1.229***	1.115***	-0.191	0.625***	-0.344	-1.252	0.769***	1.659***
	(0.138)	(0.199)	(0.203)	(0.199)	(0.202)	(0.159)	(0.156)	(0.152)	(0.146)	(0.212)	(1.246)	(0.162)	(0.161)
4	0.715***	1.805***	1.796***	2.120***	1.860***	1.089***	1.128***	-0.253*	0.557***	-0.423**	-0.843	0.754***	1.477***
	(0.128)	(0.185)	(0.188)	(0.185)	(0.188)	(0.148)	(0.144)	(0.141)	(0.135)	(0.196)	(1.155)	(0.150)	(0.150)
5	0.586***	1.985***	1.804***	1.846***	1.626***	1.058***	1.192***	0.292**	0.667***	-0.050	-0.559	0.713***	1.134***
	(0.127)	(0.183)	(0.186)	(0.183)	(0.186)	(0.146)	(0.143)	(0.139)	(0.134)	(0.194)	(1.143)	(0.149)	(0.148)
6	0.514***	1.132***	1.078***	1.302***	1.210***	0.870***	0.714***	-0.013	0.568***	0.046	0.021	0.386***	0.939***
	(0.116)	(0.168)	(0.171)	(0.168)	(0.170)	(0.134)	(0.131)	(0.128)	(0.123)	(0.178)	(1.049)	(0.136)	(0.136)
7	0.604***	1.508***	1.466***	1.963***	1.410***	0.712***	1.140***	-0.405***	0.565***	-0.286	-0.826	0.763***	1.275***
	(0.125)	(0.180)	(0.183)	(0.180)	(0.183)	(0.144)	(0.141)	(0.137)	(0.132)	(0.192)	(1.126)	(0.146)	(0.146)
8	0.615***	1.458***	1.386***	1.232***	1.389***	0.886***	1.133***	0.317**	0.536***	0.134	-0.509	0.533***	0.745***
	(0.125)	(0.180)	(0.184)	(0.180)	(0.183)	(0.144)	(0.141)	(0.137)	(0.132)	(0.192)	(1.128)	(0.147)	(0.146)
9	0.701***	1.979***	1.710***	2.138***	1.802***	0.973***	1.045***	-0.108	0.473***	0.081	-1.187	0.864***	1.225***
	(0.115)	(0.166)	(0.169)	(0.166)	(0.168)	(0.133)	(0.129)	(0.126)	(0.122)	(0.176)	(1.037)	(0.135)	(0.134)
10	0.471***	1.279***	1.194***	1.671***	1.256***	0.583***	1.095***	-0.054	0.403***	-0.236	-0.920	0.594***	0.859***
	(0.115)	(0.166)	(0.169)	(0.166)	(0.168)	(0.133)	(0.129)	(0.126)	(0.122)	(0.176)	(1.038)	(0.135)	(0.134)
11	0.411***	1.226***	0.805***	0.862***	0.936***	1.037***	0.765***	0.385***	0.163	0.352*	-0.020	0.393***	0.484***
	(0.124)	(0.179)	(0.182)	(0.179)	(0.181)	(0.143)	(0.140)	(0.136)	(0.131)	(0.190)	(1.118)	(0.145)	(0.145)
12	0.665***	1.663***	1.705***	1.821***	1.533***	0.991***	0.811***	-0.142	0.527***	-0.238	-0.510	0.839***	1.231***
	(0.132)	(0.191)	(0.194)	(0.190)	(0.194)	(0.152)	(0.149)	(0.145)	(0.140)	(0.203)	(1.192)	(0.155)	(0.154)
13	0.498***	1.805***	1.600***	1.721***	1.739***	1.063***	0.857***	-0.316**	0.563***	-0.170	-0.481	0.769***	1.365***
	(0.132)	(0.191)	(0.194)	(0.190)	(0.194)	(0.152)	(0.149)	(0.145)	(0.140)	(0.203)	(1.192)	(0.155)	(0.154)

14	0.554***	1.684***	1.545***	1.876***	1.849***	1.159***	0.984***	-0.138	0.642***	-0.096	-1.019	0.785***	1.561***
	(0.119)	(0.172)	(0.175)	(0.172)	(0.175)	(0.138)	(0.134)	(0.131)	(0.126)	(0.183)	(1.077)	(0.140)	(0.139)
15	0.638***	2.256***	2.053***	2.349***	2.011***	1.252***	1.145***	-0.163	0.542***	-0.213	-1.736	0.841***	1.572***
	(0.128)	(0.185)	(0.188)	(0.184)	(0.188)	(0.148)	(0.144)	(0.141)	(0.135)	(0.196)	(1.155)	(0.150)	(0.150)
16	0.452***	2.098***	1.846***	2.033***	1.971***	1.283***	1.032***	-0.301**	0.498***	-0.476**	-0.557	0.622***	1.218***
	(0.139)	(0.200)	(0.204)	(0.200)	(0.203)	(0.160)	(0.156)	(0.152)	(0.147)	(0.213)	(1.251)	(0.163)	(0.162)
17	0.475***	1.603***	1.348***	1.630***	1.486***	0.757***	0.983***	-0.295**	0.338***	-0.289	-0.037	0.518***	0.956***
	(0.122)	(0.176)	(0.179)	(0.176)	(0.179)	(0.141)	(0.138)	(0.134)	(0.129)	(0.188)	(1.103)	(0.143)	(0.143)
18	0.343***	1.015***	1.079***	1.145***	1.104***	0.700***	0.627***	-0.100	0.203*	-0.146	1.062	0.196	0.634***
	(0.103)	(0.148)	(0.151)	(0.148)	(0.151)	(0.119)	(0.116)	(0.113)	(0.109)	(0.158)	(0.928)	(0.121)	(0.120)
19	0.508***	1.312***	1.289***	1.518***	1.362***	0.970***	0.844***	-0.329**	0.375***	-0.332*	0.226	0.437***	1.057***
	(0.121)	(0.174)	(0.177)	(0.174)	(0.177)	(0.139)	(0.136)	(0.133)	(0.128)	(0.185)	(1.091)	(0.142)	(0.141)
20	0.636***	2.126***	1.953***	2.245***	1.830***	1.040***	1.071***	-0.289**	0.584***	-0.248	-0.961	0.778***	1.390***
	(0.127)	(0.183)	(0.187)	(0.183)	(0.186)	(0.147)	(0.143)	(0.140)	(0.134)	(0.195)	(1.147)	(0.149)	(0.148)
21	0.645***	1.991***	1.788***	1.953***	1.643***	1.066***	0.780***	-0.337**	0.423***	-0.471**	-0.579	0.739***	1.376***
	(0.137)	(0.197)	(0.201)	(0.197)	(0.200)	(0.158)	(0.154)	(0.150)	(0.145)	(0.210)	(1.235)	(0.160)	(0.160)

N.B 3.5 Data reported where treatment effect coefficients are stated with via assigning stars to represent level of significance where, * = p ≤0.1, ** = p ≤0.05, *** = p ≤0.01 and corresponding standard error directly below in parenthesis

Table 3.35 Treatment Effect Change: UBI Post-Treatment Effects – UBI Follow-up Effects

Outcome Variable	Post	Group B	Group C	Group D	Group E	Covariate 1	Covariate 2	Covariate 3	Covariate 4	Covariate 5	Covariate 6	Covariate 7	Covariate 8
1	-0.232	-0.014	0.023	-0.023	0.161	0.007	0.040	0.004	-0.044	0.074	-0.313	-0.077	0.027
2	-0.659	-0.217	-0.008	-0.124	0.106	-0.129	0.037	0.076	-0.076	-0.013	-0.568	0.116	0.001
3	0.606	-0.104	-0.080	-0.102	0.008	-0.034	-0.002	-0.174	0.042	0.067	-0.580	0.001	0.172
4	-0.098	-0.040	0.071	-0.167	0.152	0.071	0.000	-0.098	-0.081	0.042	-0.133	0.105	0.001
5	-0.059	-0.028	0.052	-0.247	0.010	0.010	0.184	0.029	0.011	-0.183	0.397	0.019	-0.103
6	-0.023	-0.150	-0.023	0.018	-0.040	-0.059	0.120	0.047	0.023	-0.228	0.370	0.201	-0.202
7	-0.056	-0.186	0.046	-0.046	-0.072	-0.213	0.040	-0.088	0.117	-0.162	0.738	0.091	0.043
8	-0.381	-0.202	-0.008	-0.237	0.195	0.001	0.196	-0.007	0.110	0.212	-0.811	-0.135	-0.144
9	0.219	-0.068	0.142	-0.131	0.069	-0.091	0.023	-0.095	0.044	-0.109	0.400	-0.044	0.097
10	-0.184	0.051	0.186	0.201	0.138	-0.178	-0.115	0.094	0.114	0.194	0.712	-0.034	-0.106
11	-0.489	0.033	-0.042	-0.198	0.077	-0.001	0.077	0.015	-0.051	0.202	-0.113	0.127	-0.094
12	0.127	0.002	0.096	-0.106	-0.016	-0.029	0.031	-0.211	-0.132	0.149	0.340	0.092	0.081
13	-0.072	0.096	0.192	0.046	0.061	-0.075	-0.011	-0.029	-0.067	-0.061	0.300	0.016	0.015
14	0.110	0.057	0.110	-0.167	0.023	-0.102	-0.095	-0.046	-0.030	0.018	0.229	0.007	0.200
15	-0.040	-0.045	0.028	-0.060	0.025	-0.105	-0.014	0.001	-0.111	-0.001	-0.162	0.097	0.125
16	-0.268	-0.021	0.059	-0.032	-0.021	-0.023	0.045	-0.026	-0.104	0.020	-0.076	0.081	0.036
17	-0.106	-0.080	0.034	0.043	0.012	-0.214	-0.007	-0.067	0.013	0.163	0.399	0.059	0.049
18	-0.175	0.041	0.234	-0.031	0.191	-0.219	0.044	-0.067	-0.085	0.190	0.402	-0.057	0.110
19	0.108	0.003	0.190	-0.112	0.208	-0.191	0.067	-0.122	-0.106	0.075	0.543	0.046	0.013
20	0.113	-0.138	0.059	-0.004	-0.056	-0.035	0.042	-0.088	-0.024	-0.043	-0.009	-0.016	0.134
21	0.297	-0.146	0.022	-0.113	-0.009	0.019	-0.003	-0.155	0.005	-0.030	-0.066	0.052	0.131
Mean	-0.060	-0.055	0.066	-0.076	0.058	-0.076	0.033	-0.048	-0.020	0.027	0.095	0.036	0.028

Table 3.36 Treatment Effect Change: TW Post-Treatment Effects – TW Follow-up Effects

Outcome Variable	Post	Group B	Group C	Group D	Group E	Covariate 1	Covariate 2	Covariate 3	Covariate 4	Covariate 5	Covariate 6	Covariate 7	Covariate 8
1	-0.662	0.146	0.112	0.028	-0.064	-0.163	-0.008	0.082	0.016	0.041	0.725	-0.070	-0.001
2	-0.068	0.027	0.114	-0.114	-0.009	-0.074	-0.062	0.021	-0.081	0.208	0.140	-0.069	0.188
3	-0.819	0.183	0.050	-0.018	0.178	0.035	-0.073	0.008	-0.168	0.132	0.825	0.008	0.053
4	-0.520	0.307	0.131	0.037	0.031	0.003	-0.128	0.116	-0.108	0.078	0.243	-0.084	0.069
5	-0.380	-0.013	0.066	-0.084	0.007	-0.071	0.033	0.080	-0.171	-0.072	-0.296	-0.120	0.196
6	0.040	0.129	0.130	0.147	0.042	-0.065	-0.022	0.001	-0.142	-0.109	0.070	-0.093	0.139
7	-0.261	0.213	-0.014	0.051	-0.054	0.031	-0.003	0.065	-0.128	-0.089	0.129	-0.083	0.114
8	-0.271	0.059	0.169	0.169	-0.009	0.073	0.082	-0.127	-0.126	0.120	0.105	-0.123	0.028
9	-0.323	0.146	0.139	-0.097	0.033	0.014	0.076	-0.052	-0.017	-0.159	0.140	-0.133	0.064
10	-0.168	0.211	0.179	0.036	0.157	-0.014	-0.071	0.069	-0.010	0.183	0.537	-0.121	-0.066
11	0.031	0.034	0.137	-0.025	-0.137	-0.136	-0.014	-0.043	-0.105	0.088	0.072	0.037	0.100
12	-0.226	0.138	0.013	-0.042	0.000	-0.071	-0.054	0.038	-0.102	0.218	-0.307	-0.053	0.132
13	-0.132	0.051	0.184	0.062	-0.283	0.041	-0.120	0.108	-0.099	-0.047	-0.209	-0.035	0.131
14	-0.101	0.230	0.348	0.081	-0.134	-0.112	0.008	0.024	-0.177	-0.040	-0.499	-0.095	0.139
15	-0.150	0.034	0.085	-0.054	-0.067	-0.038	-0.075	0.143	-0.049	0.028	-0.126	-0.058	0.103
16	-0.001	0.126	0.243	-0.050	-0.129	-0.039	-0.101	-0.010	-0.109	0.237	0.191	-0.136	0.213
17	-0.017	0.061	0.165	-0.089	-0.073	-0.028	-0.055	0.084	-0.009	0.050	0.731	-0.126	0.060
18	0.043	0.205	0.302	-0.033	0.082	-0.052	0.041	-0.158	-0.052	0.233	0.388	-0.070	-0.048
19	0.023	0.129	0.189	0.154	-0.012	-0.091	0.027	-0.004	-0.121	-0.070	0.435	0.027	-0.080
20	-0.240	0.163	0.139	0.100	0.054	-0.100	-0.134	-0.038	-0.039	-0.008	0.438	-0.003	0.085
21	-0.213	-0.032	0.010	0.076	0.106	0.004	-0.169	0.007	-0.017	0.142	0.360	0.085	0.049
Mean	-0.210	0.121	0.138	0.016	-0.013	-0.041	-0.039	0.020	-0.086	0.055	0.195	-0.063	0.079

3.7 Further Robustness

The robustness of findings is furthered by employing three techniques: robust standard errors, multiple inference correction using FDR adjustments, and permutation inference testing.

These techniques are applied to the initial Difference-in-Differences (DiD) analysis to test the sensitivity of the statistical power of the treatment effects under fewer assumptions and more conservative criteria. Aiming to enhance the robustness of findings and provide more rigorous evidence regarding the power of the treatment effects determined.

Including robust standard errors allows for estimating standard errors that are robust to heteroscedasticity (examining an initial assumption of our model), ensuring more reliable standard error estimates and valid hypothesis testing. By comparing the results obtained from the original DiD analysis with those incorporating robust standard errors, we can evaluate the sensitivity of our findings to potential violations of the assumption of constant error variance and correct any resultant potential error (Freedman, 2006).

Multiple inference correction using FDR adjustments provides a more appropriate approach to handle the challenges of multiple hypothesis testing (a potential issue within the broad scope of outcomes examined within this study). Through the FDR control, we limit the number of Type I errors and reduce the likelihood of erroneously identifying significant effects. The comparison of the original p-values with the FDR-adjusted p-values enables us to assess the impact of multiple comparisons on the statistical significance of our findings (Yoav & Yekutieli, 2001).

Further Permutation inference testing allows us to validate the statistical significance of the treatment effects (the key metric related to the hypothesis of this study). By creating a distribution of treatment effects under the null hypothesis of no treatment effect through a repeated reshuffling of the treatment and control groups, we can determine the likelihood of observing the obtained treatment effect by chance alone. This technique provides additional evidence supporting the validity of our treatment effects (Roth, et al., 2023).

3.7.1 Robust Standard Errors

Difference-in-Differences analysis uses robust standard errors to address heteroscedasticity, which refers to unequal variances across different groups or time periods. Standard regression techniques may produce inefficient and biased standard error estimates when heteroscedasticity is present. Robust standard errors, also known as heteroscedasticity-robust or Huber-White standard errors, adjust for this issue by estimating the standard errors in a way that is robust to heteroscedasticity. This adjustment helps provide more reliable standard error estimates and valid hypothesis testing (Freedman, 2006).

Considering both treatment and control group allocation were randomised, in addition to time and treatment effects being measured immediately post-treatment, it was assumed that the data obtained would be non-heteroscedastic with parallel trends applying (Roth, et al., 2023).

Resultantly the standard errors used in the primary Difference-in-Differences analysis were ordinary[100].

Therefore, to ensure a greater level of model robustness, we can modify the model to incorporate robust-standard errors to investigate the potential of our initial assumptions have been off and the data instead needing "corrected, to allow for heteroscedasticity[101]" (Fredriksson & de Oliveira, 2019).

In order to calculate robust standard errors, a robust covariance estimator will be specified within the OLS regression model; this will be done via the inclusion of the HC3[102] covariance type estimator. While there are as many as five HC estimators, the HC3 is generally "singled out as the best performing" (Cribari-Neto & da Silva, 2011).

The HC3 estimator adjusts the standard errors in regression analysis to account for potential heteroscedasticity in the data. Furthermore, the HC3 estimator is more robust to violations of the assumption of constant error variance (homoscedasticity) and provides standard errors that are consistent even in the presence of heteroscedasticity (Cribari-Neto & da Silva, 2011).

Comparing the *'p>|t|'* and *'p>|z|'* columns between the ordinary standard error DiD computations and the robust standard error HC3 modified DiD computations can assess the robustness of the treatment effect significance. This can be done as both values provide the p-values associated with the coefficients, indicating their statistical significance.

In the case of the ordinary least squares (OLS) DiD regressions, the 'p>|t|' value represents the p-values based on the t-statistics, while the 'p>|z|' value in the robust standard error DiD HC3 model represents the p-values based on the Z-statistics.

Although these p-values are calculated via different means, with the Z-statistic being a standardized version of the t-statistic, the p-values are equivalent for comparative analysis, enabling means to assess the robustness of the determined treatment effect's significance.

If the p-values are consistently small (below chosen significance level, 0.05) across both the t-statistic and Z-statistic calculations, it strengthens the evidence for the statistical significance of the coefficients. On the other hand, if the p-values differ substantially between the two calculations, it could indicate potential issues with the initial assumptions or robustness of the ordinary OLS DiD model.

Table 3.37 displays average p-values across all 21 outcome variables associated with each of the treatment variables as well as the covariates across the four studies, while Table 3.38 displays the difference in the average p-score, calculated as "*OLS DiD 'p>|t|' minus HC3 DiD 'p>|z|'".*

Resultantly we can observe clear consistency in not only p-values that support significance to the degree that would suggest against accepting the null hypothesis but also that the p-values determined via the different models remain essentially identical in assessing the treatment

[100] Also referred to as 'non-robust standard errors', this is indicated by the line *'Covariance Type: nonrobust'* in each DiD computational output.
[101] 'Ecker-Huber-White heteroscedasticity-robust standard errors' to specify.
[102] The term 'HC3' stands for "heteroscedasticity consistent covariance matrix estimator type 3", It is one of the commonly used robust covariance estimators, often referred to as the 'Huber-White sandwich estimator' or the 'Eicker-Huber-White estimator' (Cribari-Neto & da Silva, 2011).

variables and largely unchanged throughout the covariates—excluding *Covariate 6*, which was determined to have associated p-values that were somewhat lower within the original OLS DiD model deployed, suggesting a slightly exaggerated power initially determined when now adjusting the standard errors for potential heteroskedasticity.

Despite this initially lessened p-value for *Covariate 6*, the significance determined via robust standard errors matches the significance concluded within the original DiD OLS analysis for all coefficients, supporting the determined degrees of significance derived via the DiD model's original assumptions and specifications. Strengthening empirical conclusions and adding further degrees of robustness to findings by suggesting that the unfettered results remained immune to the possibility of a type I error when increasing sensitivity via the inclusion of HC3 robust standard errors.

Table 3.37 Original and Robust Average P-values, Average DiD (Average HC3)[103]

Variable	UBI	UBI (15-21 Days)	TW	TW (15-21 Days)
Post	0.000 (0.000)	0.000 (0.000)	0.093 (0.093)	0.000 (0.000)
Group B	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Group C	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Group D	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Group E	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Covariate 1	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Covariate 2	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Covariate 3	0.001 (0.001)	0.001 (0.001)	0.285 (0.281)	0.226 (0.224)
Covariate 4	0.014 (0.014)	0.006 (0.006)	0.043 (0.043)	0.011 (0.014)
Covariate 5	0.151 (0.147)	0.209 (0.207)	0.358 (0.364)	0.276 (0.280)
Covariate 6	0.023 (0.117)	0.025 (0.108)	0.578 (0.686)	0.559 (0.679)
Covariate 7	0.001 (0.001)	0.001 (0.001)	0.017 (0.017)	0.006 (0.006)
Covariate 8	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)

Table 3.38 Difference in Significance, (OLS DiD Average P-value - DiD HC3 Average P-value)

Variable	UBI	UBI (15-21 Days)	TW	TW (15-21 Days)
Post	0	0	0	0
Group B	0	0	0	0
Group C	0	0	0	0
Group D	0	0	0	0
Group E	0	0	0	0
Covariate 1	0	0	0	0
Covariate 2	0	0	0	0
Covariate 3	0	0	0.004	0.002
Covariate 4	0	0	0	-0.003
Covariate 5	-0.004	0.002	-0.006	-0.004
Covariate 6	0.094	-0.083	-0.108	-0.12
Covariate 7	0	0	0	0
Covariate 8	0	0	0	0

[103] For the full Robust Standard Errors (HC3) Model Script used see Appendix B: Code 3.3 Difference-in-Differences Robust Standard Error (HC3) Model Script

3.7.2 FDR Adjustments: Multiple Inference Correction

Multiple hypothesis testing is a common challenge in empirical research, particularly when dealing with a large number of outcome variables (Anderson, 2006). Failure to account for this issue can increase the likelihood of false positives, potentially compromising the validity of findings. To address this, we employ FDR control (*False Discovery Rate control*) as a more appropriate approach to mitigate the risks associated with multiple comparisons[104].

The FDR adjustment is performed to control the false discovery rate potentially generated within studies, whereby the *False Discovery Rate* considers correction of results derived from multiple inference whereby "the reported p-values are correct for tests conducted in isolation" and "is considered standard (and often mandatory) in psychological research (Yoav & Yekutieli, 2001; Anderson, 2006)" to provide a more robust assessment of the significance of the variables in the context of multiple comparisons.

One crucial aspect of FDR control is that it focuses on controlling the expected proportion of false positives among the rejected hypotheses. Using FDR control, we can limit the number of Type I errors due to multiple inferences, thereby reducing the likelihood of erroneously identifying significant effects. Therefore, this control provides an additional degree of robustness when assessing the significance of the treatment effects and the covariates (Yoav & Yekutieli, 2001).

In comparing the original Difference-in-Differences (DiD) p-values with the FDR-adjusted p-values for each treatment group across each of the 21 outcome variables, the observed differences between the two sets of p-values provide insights into the impact of FDR control mitigating any potential effects of multiple inference upon statistical significance levels determined, and so shed light on the robustness of our results.

Table 3.39 shows the absolute values of the average FDR controlled p-values across the 21 outcome variables (in parenthesis) next to the original average p-values used within assessing significance via the original DiD model, while Table 3.40 displays the net change between the average FDR controlled p-value subtracted from the original average DiD p-value.

For the majority of variables, the FDR-adjusted p-value closely aligns with the original p-value, indicating robustness to the FDR adjustment. The values range from -0.058 to 0.043, a small magnitude overall. The differences between the original and FDR-adjusted p-values are largely close to zero. This suggests that the FDR adjustment did not substantially impact the significance level of these variables. As these treatment and covariate variables remain robust to the FDR adjustment, this suggests the original p-values for these variables were not significantly inflated due to multiple comparisons, and conclusions remain valid.

However, specific variables, such as *Covariates 3,5,6 & 7*, show larger differences between the original and FDR-adjusted p-values, suggesting that the FDR adjustment did effectively correct for the issue of multiple comparisons, highlighting the potential influence of these

[104] As with 21 outcome variables, Bonferroni correction can be extremely conservative. Bonferroni correction divides the significance level by the number of comparisons, which would require an extremely low p-value threshold to declare significance for each variable. This can lead to an increased risk of Type II errors, where true effects may be missed due to the stringent correction. FDR control, on the other hand, allows for a more flexible threshold that adjusts for the expected proportion of false positives among the rejected hypotheses; for further discussion of when either FDR control or Bonferroni correction is better suited see (Anderson, 2006).

variables on the outcomes. As the FDR-adjusted p-values for *Covariates 3,5,6 & 7* show a larger difference compared to the original p-values, this indicates the FDR adjustment resulted in a decrease in the p-value, indicating that the significance level of *Covariates 3,5,6 & 7* decreased after accounting for multiple testing. This suggests that the original p-values for *Covariates 3,5,6 & 7* might have been inflated due to the issue of multiple comparisons and, thus, significance exaggerated.

Whereas *Covariate 4* within the original TW study saw an FDR-adjusted p-value greater than the original p-value, this suggests that *Covariate 4* may have gained power after accounting for multiple comparisons and thus may have been more significant than initially observed.

Table 3.39 Original DiD and FDR Adjusted Significance, Original P-value (FDR P-value[105])

Variable	UBI	UBI (15-21 Days)	TW	TW (15-21 Days)
Post	0 (0.000)	0 (0.000)	0.093 (0.132)	0.000 (0.000)
Group B	0 (0.000)	0 (0.000)	0 (0.000)	0 (0.000)
Group C	0 (0.000)	0 (0.000)	0 (0.000)	0 (0.000)
Group D	0 (0.000)	0 (0.000)	0 (0.000)	0 (0.000)
Group E	0 (0.000)	0 (0.000)	0 (0.000)	0 (0.000)
Covariate 1	0 (0.000)	0 (0.000)	0 (0.000)	0 (0.000)
Covariate 2	0 (0.000)	0 (0.000)	0 (0.000)	0 (0.000)
Covariate 3	0.001 (0.001)	0.001 (0.001)	0.285 (0.343)	0.226 (0.253)
Covariate 4	0.014 (0.014)	0.006 (0.007)	0.043 (0.000)	0.011 (0.017)
Covariate 5	0.151 (0.154)	0.209 (0.215)	0.358 (0.386)	0.276 (0.301)
Covariate 6	0.023 (0.025)	0.025 (0.027)	0.578 (0.634)	0.559 (0.583)
Covariate 7	0.001 (0.001)	0.001 (0.001)	0.017 (0.019)	0.006 (0.008)
Covariate 8	0 (0.000)	0 (0.001)	0 (0.000)	0.000 (0.000)

N. B 3.6 Within Python, the 'multipletests function' from the 'statsmodels.stats.multitest module' was utilised to perform FDR adjustment on the p-values.

Table 3.40 Difference in Significance, (Original Average P-value - FDR Average P-value)

Variable	UBI	UBI (15-21 Days)	TW	TW (15-21 Days)
Post	0.000	0.000	-0.038	0.000
Group B	0.000	0.000	0.000	0.000
Group C	0.000	0.000	0.000	0.000
Group D	0.000	0.000	0.000	0.000
Group E	0.000	0.000	0.000	0.000
Covariate 1	0.000	0.000	0.000	0.000
Covariate 2	0.000	0.000	0.000	0.000
Covariate 3	0.000	0.000	-0.058	-0.027
Covariate 4	-0.001	-0.001	0.043	-0.006
Covariate 5	-0.003	-0.006	-0.028	-0.025
Covariate 6	-0.002	-0.002	-0.056	-0.024
Covariate 7	0.000	0.000	-0.002	-0.002
Covariate 8	0.000	0.000	0.000	0.000

[105] For the full FDR Adjusted Model Script used see Appendix B: Code 3.4 Difference-in-Differences FDR Adjustments Model Script

3.7.3 Permutation Inference Test

The Fisher Randomization Tests (FRTs), also referred to as the permutation approach, allows us to address concerns related to multiple outcome variables, complex experimental designs, and potential confounding factors. The results of the permutation-based inference test can be used to evaluate the original model's robustness by providing quantitative insight into the stability and statistical significance of the DiD estimated treatment effects (Roth, et al., 2023).

The permutation-based inference test examines the robustness of the studies' estimated treatment effects; this is done by permuting the treatment variable "post" at random in each of the models' iterations to create a null distribution of the treatment effect estimates, which are then fitted to the permuted model for each iteration. From this, we can calculate the resulting p-values from each iterative re-randomised data permutation which can be compared against the p-values determined from the original data collected. This approach allows us to compare the observed treatment effects with the distribution of effects under the null hypothesis of no treatment effect. By conducting a large number of permutations (i.e., 10,000 simulations[106] for each of the 21 outcome variables in both the UBI and TW surveys as well as follow-up data), we obtain a robust assessment of the statistical significance of the treatment effects and assess the overall stability of the findings.

The Permutation Test adopts a null hypothesis that assumes *'the treatment does not affect the outcome variable';* by permuting the treatment variable and re-estimating the model, we create a distribution of outcomes under this null hypothesis. The simulated p-values represent the proportion of permuted models that yield a coefficient as extreme as, or more extreme than, the observed coefficient in the original model. If the simulated p-values are consistently below our stated significance level, *'$\alpha = 0.05$'*, it suggests that the observed coefficient is not common or likely to occur by chance under the null hypothesis. Therefore, simulated p-values below 0.05 suggest that the observed effect is likely statistically significant (Roth, et al., 2023).

The regression analysis yields initial coefficient estimates and p-values for the treatment effects on the outcome variables. Comparing the initial estimates with the distribution of treatment effects obtained from the permuted models provides insights into the stability of the estimated effects by calculating the proportion of permuted p-values that are smaller than the initial p-value. Furthermore, we compute the frequency of simulated p-values below the conventional threshold of 0.05 to assess the statistical significance of the treatment effects under the permutation framework.

The Permutation test simulation results contained within Table 3.41 suggest that we "reject the (assumed) null hypothesis of no effect" (Roth, et al., 2023) under all treatment effects, both initial as well as in the follow-up data. Further suggesting that we reject the null of no effect for *Covariates 1,2,7*[107]*& 8*. Suggesting that we reject the no-effect null hypothesis for

[106] Contained within Appendix B: Code 3.5 Permutation Inference Test Model Script**,** the np.random.seed(0) sets the random number generation seed within NumPy to 0. This ensures that the permutation of the treatment variable in the loop is the same each time the program is run. Allowing for both reproducibility, as well as non-biased simulation generating the same set of 're-randomised' output when running the code again.

[107] Excluding for the initial TW study which missed significance by a number relatively insignificant in size but proportionately significant in impact; just 0.0004.

Covariate 4 only in the instance of the second UBI study and in the case of *Covariate 3* for both UBI studies but not both TW studies**.**

Further Table 3.42 displays results labelled *'$p_i \leq p_s$ score'*, an additional, more conservative metric calculated in this case as the proportion of permuted models where the variable's simulated p-value (p_s) is greater than or equal to the initial DiD data's p-value (p_i). In essence, displaying the proportion of the models configured with data randomly permuted within 210,000[108] simulations, that the initial coefficients derived from the real data remained more significant than, suggesting the rarity that the significance obtained would be due to chance rather than causality.

Therefore, a higher *'$p_i \leq p_s$ score'* score suggests a greater confidence in the variable's association with the outcome, indicating that the result is not likely due to random chance when compared against even the most extreme randomised permuted model iterations.

The *'$p_i \leq p_s$ score'* results contained within Table 3.42 suggest particularly low p-values and thus a strong significance outcome relative to the 10,000 permutations of the data set for the four treatments across both the first and second UBI studies as well as the second TW study. While also suggesting this for *Covariates 1,2,3,4,7 & 8* for the UBI studies but with a lesser degree for the TW studies, with the first TW study particularly low.

Table 3.41 Average Simulated 'P-value <0.05' Frequency[109].

Variable	UBI	UBI (15-21 Days)	TW	TW (15-21 Days)
Post	1(0.999852)	1(0.999852)	0.976	0.966
Group B	1	1	1	1
Group C	1	1	1	1
Group D	1	1	1	1
Group E	1	1	1	1
Covariate 1	1	1	1	1
Covariate 2	1	1	1	1
Covariate 3	1	1(0.999795)	0.379	0.450
Covariate 4	0.897	0.988	0.891	0.918
Covariate 5	0.316	0.209	0.129	0.151
Covariate 6	0.827	0.815	0(0.000081)	0(0.00000952)
Covariate 7	0.999	1	0.950	0.952
Covariate 8	1	1	1	1

N.B 3.7 All results are displayed to three decimal places, however where this may result in a potentially misleading figure, namely either 1 (100%) or 0 (0%) original values have been maintained and displayed within parenthesis.

[108] Treatment and covariate averages are calculated as 10,000 permutations of the survey data set regressed into a mean value per individual outcome variable which is then averaged across the other 21 dependent variables that together comprehensively representing a desirable welfare system.

[109] For the full Permutation Inference Test Model Script used see Appendix: Code 3.5 Permutation Inference Test Model Script

Table 3.42 Average Permutation Based Inference pi ≤ ps Score.

Variable	UBI	UBI (15-21 Days)	TW	TW (15-21 Days)
Post	0.306	0.210	0.791	0.489
Group B	0.666	0.691	0.248	0.526
Group C	0.663	0.695	0.249	0.532
Group D	0.662	0.700	0.251	0.534
Group E	0.656	0.697	0.246	0.533
Covariate 1	0.660	0.687	0.261	0.537
Covariate 2	0.627	0.654	0.273	0.536
Covariate 3	0.553	0.563	0.618	0.503
Covariate 4	0.617	0.631	0.324	0.540
Covariate 5	0.482	0.493	0.511	0.495
Covariate 6	0.462	0.448	0.480	0.530
Covariate 7	0.605	0.604	0.335	0.533
Covariate 8	0.662	0.686	0.270	0.537

3.8 Discussion: Presenting Findings

"The human brain has always been highly tuned toward narratives.

Stories motivate and connect activities to deeply felt values and needs. Narratives "go viral" and spread far, even worldwide, with economic impact. The 1920–1921 Depression, the Great Depression of the 1930s, the so-called Great Recession of 2007–2009.

Though these narratives are deeply human phenomena that are difficult to study in a scientific manner, quantitative analysis may help us gain a better understanding of these epidemics in the future" (Shiller, 2017)

By presenting participants with a simple written news article containing the national pandemic narratives identified within Chapter Two, this study was able to empirically identify a resultant significant large positive increase in certainty of a UBI-based welfare system's potential to deliver across all 21 desirable aspects of a welfare system measured. This significant positive increase also applied to participants' confidence in a TW-based system to deliver the same 21 desirable aspects of a welfare system, albeit with a marginally lesser positive shift.

Indicating a greater shift in confidence toward both alternative models of welfare systems post-crisis narrative treatment in all cases with the greater increase (on top of greater baseline confidence) toward the measure with the broader coverage of the two, namely UBI over the more precise measure the TW system. Seeing particularly positive shifts in confidence post-crisis article treatment with regards to a UBI's relative simplicity to understand, general life anxiety reducing potential, personal benefit as well as potential to be good for those with unreliable incomes and provide support during times of need.

The micro-level unique participant, *Lived Crisis Experience*, related to the pandemic, was also found to possess a significant role in boosting responsiveness to the treatment, mainly boosting certainty in a UBI to ensure the 21 desirable aspects of a welfare system measured, but also generating a large negative impact upon confidence in those who had been in the unfortunate position of spending time within an intensive care unit.

Similarly, although again to a marginally lesser strength, the micro-level *Lived Crisis Experience* covariates were found to boost perceptions of certainty in a TW system's ability to ensure the 21 desirable aspects of a welfare system when re-evaluating the policy after considering the macro-level *National Crisis Narrative* treatment articles, however personal crisis experiences of financial hardship, long term health implications and admittance to an intensive care unit were associated with a marginal negative response to the treatment.

Furthermore, all shifts attributed to the macro-level national pandemic narrative treatments were also found to be present and relatively unaltered during an additional measurement period carried out 15-21 days after deployment of all treatments, indicating that all effects determined were not simply transitory across the period measured and that differences

measured in confidence scores post-treatment were likely more significantly embedded into participants minds and attitudes going forward than one might initially expect when one expects public perceptions of policy issues to come from a place of short-term emotional reactivity or intransigent positions attributed to ideological cognitive dissonance.

While additionally, findings remained largely unfettered after the three-pronged robustness check, using robust standard errors to re-test without initial homoscedastic assumptions produced results consistent with the original OLS DiD analysis.

While FDR adjustments explore potential multiple hypothesis inference that may be associated with the study design provided further evidence supporting the empirical conclusions of the study. Further, the permutation-based inference test consistently supports the statistical significance of the treatment effects observed in the original DiD analysis, demonstrating that the observed treatment effects were statistically significant and unlikely to be due to random variation and that the results are also robust to potential violations of parametric assumptions.

The congruent conclusions of these techniques demonstrate the robustness of the empirical findings and enhance the reliability of conclusions. The consistent results obtained across all different techniques specifically reaffirm the statistical significance of the treatment effects determined and provide strong empirical support for the effectiveness of the treatment.

These robust conclusions provide both optimistic lessons moving forward as well as implications of future responsibility, the first being that broadly shared human narratives bring people together and facilitate the re-evaluation of perspectives for the future. This is a profoundly healthy mechanism to enable the internalisation of new information to bring about positive change, and as this research shows holds the potential to allow for a quick reaction that prioritises the perceived needs of wider society when a crisis presents itself.

However, somewhat more concerningly, it is in the detail of these “perceived needs” whereby the devil resides. This study measures reactivity to four articles containing national narratives that were determined to be representative of those aggregated from all UK print news articles of 2022. As such, were the theory of narrative economics to hold, regardless of if reporting was exaggerating reality or even purely misleading, perspective shifts would be largely uniform when considered together, as this study has observed.

However, as conventional media dissipates in dominance over the provision of narrative depiction following ongoing trends, the replacement may be less cohesive and unifying; for example, there is ever increasing volumes of society that solely gather the information that constitutes their ongoing world narratives that guide their decision making, from a plethora of social media, segregated niche internet communities or even artificial intelligence systems.

As historically centralised institutions that constituted the collective portal to the narratives of the wider world for the every-man become displaced by an unknowable number of decentralised un-regulated micro-medias often tailoring information provision to the individual via emotion-churning algorithms and selective reporting, so too does any degree in uniformity of reactivity to the emergence of new narratives, crisis or otherwise.

Considering this we are faced with two choices, firstly; to allow the now fading oligopoly, which once controlled new narrative formation, to pass into the hands of new media. Where

these unregulated entities, through information control can now construct contradicting, biased or deceitful narratives, gaining the ability to exacerbate differences between individuals and polarising society further. Allowing them to obfuscate truth in a way that could, over time, result in individuals constructing mental models of reality so polarised from each other that over time the gap could become un-bridgeable, where truth becomes relative, and perspectives become irreconcilable.

Secondly, instead, we have the opportunity to fill the void that will be left by the crumbling of old media with a new era of real-time provision of cross—verifiable fact, in conjunction with new methods of labelling and discrediting 'opinionated narratives' from those with hidden agendas, as well as an emphasis on emphasising to individuals the importance of critical thought, contextual evaluation and the necessity to think and act as a genuine individual with a moral obligation to the truth, regardless of emotion.

Although this may seem un-obtainable, this research has demonstrated a general underlying characteristic of the intent to show empathy for society at large in the face of changing circumstances and new information; this better-understood characteristic has the potential to sail society to an equitable future regardless of inevitable future storms.

3.9 Concluding Remarks

Through the combination of a randomised control trial methodology and the application of Difference-in-Differences analysis, this study has determined the effects of the media depictions of the 2020 Covid crisis to be highly influential upon confidence in the effectiveness of the alternative welfare systems of a UBI and a TW system to provide beneficial attributes of a welfare system, measured across all 21 related outcome variables. This effect was determined immediately post-treatment and with significance 15-21 days again post-treatment.

In all treatment cases this positive treatment effect was most pronounced in shifting confidence scores for the broader UBI policy over the more precise TW policy out of the two alternative welfare systems, this in conjunction with higher pre-treatment baseline scores for former suggests that among the representative sample of UK residents that a UBI is likely the favourable of the two, both within and without a national crisis narrative presented, within the dimensions examined within this study.

Additionally, this study determines that the covariates relating to measures of *Lived Crisis Experience* also boost responsivity to the national crisis narrative treatments by a notable degree, indicating an enhanced receptivity to altering policy perceptions in response to the national narratives. The notable exceptions were the *Lived Crisis Experience* covariates signifying "admittance to an intensive care unit" (particularly in the case of UBI) and for TW "financial hardship" and a "long term health implication", all of which resulted in a negative reaction to the respective policies in response to the crisis narratives.

Further these results hold robust not only through the significance determined within the main Difference-in-Differences treatment effects model but after the scrutiny of the *'three-pronged'* approach to assess the model's robustness; examining initial assumptions via re-assessing with robust standard errors, adjusting for potential type 1 errors associated with multiple hypothesis testing as well as examining treatment effect significance against the probability of obtaining treatment effects as extreme as the observed effects under the null hypothesis of no treatment effect, finding that even when permuting the data 10,000 times, re-running the DiD regression approximately 84,000 and examining each of the 13 independent variables upon each of the 21 dependent variables in all of the 4 studies, test results consistently support the statistical significance of the treatment effects observed in the original DiD analysis and thus significance of results were highly unlikely due to random variation or chance.

> Therefore, based on the results obtained, there is sufficient evidence to support the core exploratory hypothesis, H_A*: The selected (Pandemic Narrative) treatment (γ) has a significant (positive) effect upon the dependent variable (welfare score/y) relative to the control. This finding further supports the extended hypothesis that treatment effects would be generally greater in magnitude for a Universal Basic Income rather than a Targeted Welfare system upon the outcome variables measured.*

3.9.1 Implications & Applications: Proactive Policy Design, Future Research & Broader Utility Beyond UBI

The implications of these findings are potentially vast; firstly, as determined within Chapter Two, until the onset of the 2020 Pandemic, narratives surrounding alternative models of

welfare systems remained largely absent; instead, narratives surrounded the gradual reformation of existing models. However, Chapter Two's findings suggest that this trend overwhelmingly changed as positive narratives surrounding Basic Incomes, cash transfer systems, and radical welfare overhaul exploded. This was particularly prevalent in the single most prominent emergent theme throughout 2020 UBI-related media publications, which came to constitute the emergent narrative of the "Emergence of Basic Income as a Pandemic Response", which exploded to represent the single most prevalent narrative surrounding basic income throughout the crisis.

From there Nettle, et al., (2021) determined measurable increases in support surrounding Basic Income and cash-based welfare systems, determining that via survey methodology that "pro-UBI shifts have persisted beyond the immediate shock of the onset of the pandemic", concluding that "intuitive political preferences are not fixed individual differences variables, but are continuously generated by structured psychology that is highly responsive to situational features" doing so "because they spontaneously represent and infer the demands and difficulties of each situation, leading them to weight possible advantages and disadvantages differently as the situation changes".

This study sought to determine the specifics surrounding this "structured psychology" and to explore empirically potentially these non-fixed "individual difference variables" within the context of alternative welfare models and the Covid crisis. Finding that within this context, "intuitive political (policy) preference" is not only composed of "shifts in what respondents thought of as important" as a result of the Pandemic but rather composed of a composite of interpreting new information through a lens of national narratives and the trade-off between individual and collective best that this implies as well as subjective individual lived crisis experience, all of which are the components in the individuals mental model when evaluating public policy.

Providing direction to research seeking to understand exactly how public economic opinion may shift from one preference to another as national narratives and individual experiences alter. Enabling better prediction and planning to better prepare for times of turmoil or volatility that may emerge as a result.

Further, this study informs policymakers that welfare policy should be designed not just to meet the demands of the public of the present but to incorporate greater flexibility to facilitate the potentially rapidly changing demands and preferences that will likely emerge as new narratives emerge in the future, as such it is critical to better study welfare systems within the context of crisis as to harmonise better the future needs of those subject to an unanticipated shock with those left behind during periods of growth, both of which may differ wildly. Thus, implementing either model without fully integrating the flexibility for it to accommodate the required attributes of the other leaves both systems potentially fragile and insufficient when macroeconomic conditions shift.

Therefore, these findings can hold significant implications for policymakers tasked with designing and implementing welfare systems. The study underscores the necessity for policy frameworks that exhibit adaptability and responsiveness to dynamic societal narratives, particularly during times of crisis. The surge in support for alternative welfare models like Universal Basic Income amidst the 2020 Covid crisis signals a shift in public perception, necessitating a revaluation of traditional welfare paradigms. Policymakers must recognise the importance of incorporating flexibility into welfare policies to accommodate evolving public

sentiments and emergent narratives. Failure to do so risks leaving welfare systems ill-prepared to address the changing needs of society, potentially exacerbating socio-economic disparities during periods of upheaval. Thus, this study advocates for a proactive approach to policy design that anticipates and integrates the fluctuating demands and preferences of the populace, ensuring the resilience and efficacy of welfare systems in an ever-evolving socio-political landscape.

Looking ahead, these findings point towards several promising avenues for future research in the field of welfare policy and public opinion. While the present study offers valuable insights into the effects of media depictions on confidence in welfare systems, further investigation is warranted to delve deeper into the specifics of the underlying mechanisms driving shifts in public sentiment. Future research could explore and map the role of specific media channels and narratives in shaping perceptions of welfare policies, as well as the interaction between a greater variety of individual experiences and broader socio-political contexts. Additionally, longitudinal studies tracking public opinions and attitudes over time could provide valuable insights into the long-term durability and nature of the shifts observed during crises. Furthermore, comparative analyses across different national contexts, demographics and countries could illuminate the generalisability of the findings and uncover unique cultural or institutional factors influencing welfare attitudes. By addressing these avenues, future research can contribute to a more nuanced understanding of the complex interplay between media narratives, individual experiences, and policy preferences, ultimately informing more effective strategies for welfare policy design and implementation.

Additionally, the implications of this research can extend beyond the realm of welfare policy all together, offering insights into broader dynamics of public opinion formation and policy responsiveness. By elucidating the mechanisms through which media depictions influence confidence in welfare systems, this research sheds light on the broader implications for policy areas beyond both Universal Basic Income and Targeted Welfare. Understanding how individuals interpret and respond to narratives surrounding social policies can inform strategies for effectively communicating and implementing a wide range of policy initiatives. For instance, in the realm of healthcare, understanding the impact of media narratives on perceptions of public health measures or healthcare reform initiatives could inform efforts to build public trust and compliance. Similarly, in environmental policy, insights from this study can guide policymakers in crafting narratives that resonate with the public and garner support for sustainable initiatives.

The practical applications may also be applicable within areas of the private sector where understanding how media narratives shape public perceptions of social policies can inform decision-making processes for businesses, particularly those involved in socially responsible investing or corporate social responsibility initiatives or seeking to forecast economic developments. Furthermore, in the realm of political science and campaign calculation, the findings highlight the significance of narrative framing and crisis communication in shaping voter attitudes and potentially electoral outcomes. Political strategists can deploy these insights to research messaging strategies that resonate with the electorate and mobilise support for candidates or policy agendas.

Moreover, the findings underscore the importance of considering societal narratives and individual experiences in various contexts beyond traditional policymaking. By recognising the pervasive influence of even a short exposure to varied media narratives when weighed

against differing lived experiences, stakeholders across varied sectors can develop more effective communication strategies, foster public engagement, and navigate changing socio-economic landscapes more effectively. Ultimately, this research highlights the interconnected nature of public opinion, media influence, and policy outcomes, emphasising the need for combined approaches to policymaking that account for the complex interplay between emerging societal narratives and individual perceptions due to differing lived experience.

In Conclusion: Findings and Contributions

The global socio-economic landscape has witnessed a series of transformative events in recent years, including economic crises, technological advancements, and now, the unprecedented disruption caused by the COVID-19 pandemic. These events have not only prompted the re-evaluation of existing policies but have also highlighted the need for innovative approaches to address emerging challenges. Within this dynamic context, this thesis seeks to shed light on critical questions regarding the interaction between alternative welfare policies and decision-making behaviour. Exploring factors such as risk, uncertainty, macro-level national crisis narratives and micro-level lived crisis experience, seeking to culminate in a more comprehensive understanding of their combined influence.

The exploration of investment costs and the viability of lifetime basic income schemes, as presented in Chapter One, is grounded in examining economic decision-making theory, emphasized the pivotal role of investment costs in shaping individual choices, highlighting their potential to alter risk profiles and influence economic outcomes. Furthermore, when introducing the provision of a basic income scheme, explores the potential of unconditional transfers to foster economic growth, mitigate inequality, and provide a safety net in the face of adversity. Providing theoretical underpinnings examining the interplay between uncertainty, individual choices and basic income policies through investigating the influence of investment costs on decision outcomes and the viability of self-sustaining basic income policies, contributing to the literature on economic decision-making, social welfare policies, and risk-taking behaviour.

Specifically, Chapter One through the development of a logical proof, built upon assumptions considered well recognised within the wider literature, establishes a theoretical basis for an unconditional cash transfer that will both incentivise increased incomes of recipients and provide returns that would be considered sufficient to suggest the transfer system would remain self-financing and thus viable over the longer term. This theoretical exploration was applied to the practical example of a small farmer (the DM) and consisted of a total of nine steps.

Firstly, an expression for the difference in utilities between a low risk, low return action (α_1), and a higher risk, higher return action (α_2) is established as a baseline for comparison to represent the DM's choices of action without a basic income transfer (τ).

Secondly, through the assumption of the DMs prudence, derived from the literature, it is concluded that the difference in utilities between α_1 and α_2 will be negative and so it can be reasoned that in the absence of the cash transfer-based intervention the DM will select the lower risk lower return investment option.

This allows for step three to propose that by logic if including a basic income transfer to reduce costs and hedge against the risk of total failure, presented as the risk of crop failure within the practical application there must be a minimum threshold whereby the difference in utilities observed by the DM between α_1 and α_2 will become positive. In essence a minimum transfer investment ($\underline{K}$) whereby the DM will choose α_2.

Considering this, it is then established within step four that when the investment $K < \underline{K}$ for $V(\alpha_1) - V(\alpha_2) > 0$ the DMs difference in utility between the choices becomes positive, specifically whenever $K < K$, $V(\alpha_1) - V(\alpha_2) > 0$ or the point whereby the inclusion of the transfer (τ) incentivises the small farmer to choose the high risk, high return crop option over the low risk, low return option due to reduced costs. This point where the inclusion of the lifetime basic income transfer is sufficient to incentivise the DMs choice of α_2 over α_1 is expressed within step five, establishing the utility function with the new inclusion of the basic income (τ) against the original without the basic income. While Step six determines the DMs utilities with and without the basic income (τ) under the assumption of prudence of the utility function.

This allows for step seven to define the logical upper bound of investment $\overline{K}$, whereby the transfer (τ) exceeds the returns (g) generated due to its inclusion and thus the point where the policy maker would deem the transfer non-self-financing and therefore not desirable.

Culminating in step eight which compiles each step into the logical assertion that any Universal Basic Income transfer (τ) considered and distributed as an investment (K) between $\underline{K}$ and $\overline{K}$ will both be sufficient to incentivise the DM to choose the higher risk and higher return option (α_2) while not exceeding the upper bound ($\overline{K}$) whereby the gains (g) accrued due to the inclusion of the transfer (τ) do not exceed the costs, and so would allow for the policy to be considered self-financing and sustainable by the policy maker. Within step nine this is presented as a bounded range of investment affordability $K \in [\underline{K}, \overline{K}]$, where α_2 is incentivised, so returns are generated but the basic income transfer (τ) does not exceed those returns i.e. $\tau < pg + (1 - p)l$.

These theoretical outcomes align with those of Banerjee, et al. (2019), Ghatak & Maniquet (2019), and Handa, et al. (2016), in identifying the potential for the positive impact of unconditional cash transfers and UBI schemes on asset growth, earnings, and immediate poverty reduction. While further providing additional theoretical evidence to support the fiscal feasibility of such transfers, providing conceptual evidence towards their financial viability for policymakers. Therefore, adding further weight to the argument in favour of further exploring Universal Basic Income as a practical tool for tackling monetary poverty.

Moreover, this research contributes toward a gap in the literature, highlighted by Pinto, et al. (2021), regarding the theoretical implications of unconditional cash transfers and UBI systems in providing income security during times of crises. Therefore, Chapter One also extends understanding of the underexplored intersection of macro and microeconomic effects, particularly in relation to income, risk, and economic decision-making, as recognised of importance by Rizvi, et al. (2022).

Chapter Two extends the inquiry through incorporating the power of narratives, a topic increasingly recognized as a central driver of public opinion and policy formation (Shiller, 2017). The media's role in shaping perceptions has been widely documented, with Bormann, (2009); McComas & Shanahan, (1999); and Shiller (2020) through highlighting the media's capacity to construct and influence societal narratives. This chapter aligns with recent research by Nettle, et al., (2021), which observed that the COVID-19 crisis had a significant impact upon political preferences for policies such as a basic income by shaping intuitive responses to emerging crises.

The COVID-19 pandemic has particularly underscored the media's capacity to transform national narratives which are known to have profound impacts upon individuals' perceptions, and in this case potentially shifting narratives of previously unfeasible obscure policy alternatives, such as basic income, into more positively viewed practical interventions. However, the dynamics of these shifts, their long-term implications, and the interaction between narratives and individual experiences remained underexplored. This thesis aims to contribute to this discourse by offering insights into the nature of crisis emergence and the evolution of media narratives with regard to policy perception, ultimately enhancing our understanding of the malleability of national media characteristics and policy receptivity.

Chapter Two distilled the data contained within the selected 897 written articles from the UK press, which were screened and cleaned from the original 5039 articles. Generating 1159 individual codes, which themselves were organised into fourteen sets of codes for the pre-Pandemic corpus, and 1499 codes organised into fifteen sets for the post-Pandemic corpus.

After analysing these codes five themes were determined within the pre-Pandemic data, and six from the post-Pandemic data.

Within the pre-Pandemic corpus the themes were identified as:

Theme 1: Mixed Sentiment

> Codes: Negatives of Basic Income 17% of Total Codes, 27% of Articles and Other Basic Income Positives 16% of Total Codes, 33% of Articles.

Theme 2: Negative Attitude Towards Basic Income Pilot Study Research

> Codes: Basic Income Pilot Studies 16% of Total Codes, 23% of Articles.

Theme 3: Basic Income a Toxic Association

> Codes: Political Party, Politician or Figure Calling Against Basic Income 3% of Total Codes, 8% of Articles and Political Party, Politician or Figure Calling for Basic Income 15% of Total Codes, 40% of Articles.

Theme 4: Basic Income Less Desirable than the Present System

> Code: Basic Income and Existing Welfare System 7% of Total Articles, 16% of articles.

Theme 5: Infrequent Factual Policy Explanations

> Codes: Basic Income is Popular Polling considered together with Basic Income is Not Popular Polling, combining at 2% of total codes or 5% of articles as well as the code Basic Income Costing 3% of total codes or 9% of all articles and the code Factual Account of What Basic Income Is, 4% of total references, 12% of articles.

While within the post-Pandemic corpus the themes were identified as:

Theme 1: Basic Income as a Pandemic Response

> Code: Basic Income as a Pandemic Response at 21% of total codes, 33% of all articles.

Theme 2: Open Call for Basic Income Policies

> Codes: Political Party, Politician or Figure Calling for Basic Income at 16% of total codes, 33% of total articles and the code Political Party, Politician or Figure Calling Against Basic Income at 3% of total codes, 7% of total articles.

Theme 3: Positive Sentiment

> Codes: Other Basic Income Positives at 11% of total codes or 18% of total articles and the code Negatives of Basic Income at 8% of total codes or 15% of total articles.

Theme 4: Positivity Towards Basic Income Trials and Future Research at the Local Level

> Code: Basic Income Pilot Studies at 8% of total codes or 13% of total articles.

Theme 5: The Frequency of Factual Explanations Increases

> Codes: Basic Income Costing at 3% of total codes, 7% of articles, code Factual Account of What a Basic Income Is at 3% of total codes or 7% of articles and the codes Basic Income is Popular Polling at 1% of total codes, 2% of articles and Basic Income is Not Popular Polling at 0.2% of total codes or 0.5% of articles.

Theme 6: Basic Income Touted as a Solution to the Failure of the Existing System

> Codes: Basic Income and the Existing Welfare System at 7% of total codes or 14% of articles.

Each of these themes were then explored qualitatively, allowing for a representative thematic description of both the pre-Pandemic corpus and the post-Pandemic corpus to be determined.

After exploring each of the eleven themes qualitatively they were compared against each other quantitatively wherever applicable, allowing for the determination of six emergent themes which could characterise the thematic change between the pre-to-post Pandemic narrative.

The six emergent themes were identified to be:

Emergent Theme 1: Emergence of Basic Income as a Pandemic Response,

Emergent Theme 2: Mixed Sentiment to Positive Sentiment,

Emergent Theme 3: Basic Income Less Desirable than Present System to Basic Income Being Touted as a Solution to the Failure of the Existing System,

Emergent Theme 4: Basic Income a Toxic Association to Open Call for Basic Income Policies,

Emergent Theme 5: Infrequent Factual Policy Explanations to Frequency of Factual Explanations Increases

Emergent Theme 6: Negative Attitude Towards Basic Income Pilot Study Research to Positivity Towards Basic Income Trials and Future Research at the Local Level.

After this the pre-Pandemic and post-Pandemic aggregate narratives were identified allowing for the overall comparative narrative shift to be determined and examined. This culminated in what was termed *A New Crisis Narrative of Basic Income* and was summarised in brief as: an overall significant narrative shift surrounding basic income in the UK media over the period, shifting from a narrative of obscurity, infeasibility, and ridicule to one of a robust, well-measured and practical intervention when confronted with the new crisis-imposed social and economic conditions. As specifically it was determined that the narrative shift of new criticism towards the existing welfare system, coupled with a new narrative of basic income being a disaster relief policy, evolved alongside additional novel themes that contributed to the overall supportive re-calibration in the perception of basic income narrative change.

In particular it was identified that there was an emergence of an overall predominant positive sentiment towards basic income, while additionally negativity directed towards basic income waned. This allowed for a new narrative, in which individuals that advocated in favour of a basic income were now described as "forward thinking", "open to new ideas", and even "philanthropic to the whole of society", at a crisis point where this was seen as important, in contrast to the previous narrative where advocates where generally ridiculed and discredited for similar statements.

Further it was determined that this New Crisis Narrative of Basic Income led to a narrative shift whereby consideration of further basic income research shifted from being discussed as a mostly closed issue left at a dead end, to instead, a narrative of renewed interest, with significant support for trialling basic income policies at many local levels. Particularly among those who considered themselves disadvantaged by the existing welfare system during the crisis, as many now re-evaluated basic income in the context of its potential benefit in providing welfare system attributes such as the mental, physical, and bureaucratic streamlining effects observed in the results of the 2017-2018 Finnish basic income pilot study.

Chapter Three further enriches this thesis by delving into the realm of human psychology and behaviour, building upon the insights gleaned from the preceding chapters and further applying the theoretical lens of Shiller (2017), whereby human narratives have an unparalleled ability to shape economic realities and impact decision-making. This chapter quantitatively examines the effects of the identified crisis media narratives as well as personal crisis experiences upon policy perceptions of 957 individuals within the real world, seeking to examine the external validity of previous findings, this chapter uncovers the intricate psychological mechanisms that underlie shifts in public preferences.

While findings within the third chapter were also numerous and nuanced. All Pandemic narrative treatment effects examined were determined as significant, averaging $p<0.01$ across all four groups when compared to the placebo. This level of significance was repeated again during the measurement 15-21 days later. Demonstrating both an immediate and sustained shift in participants given scores due to the treatments measured against the control, providing evidence to support the rejection of the null hypothesis which stated that there would be no measurable significant treatment effect.

Further, all treatment effects were substantial and positive in size, falling within the high end of the 15% to 30% range, reasoned from within the literature and used within the A Priori power analysis. The average treatment effect for the Pandemic narratives across all non-

placebo groups for UBI was 2.459 for UBI with a maximum score of 2.549 (Group E) and a minimum of 2.356 (Group D), while for TW average effect size across all treatments was 1.718 with a maximum of 1.813 (Group B) and a minimum of 1.570 (Group E).

The treatment effects determined remained substantial over the 15-21 day follow up period, as all treatment effects when remeasured remained within ±10% of previous measurements taken immediately post treatment exposure. Follow-up treatment effects had on average across all groups increased by 0.17% for UBI, as opposed to diminishing as might be expected, while averaged follow-up treatment effects for TW had only decreased by -6.57%.

When examining average treatment effect coefficient across all outcome variables by treatment group the magnitude of effect could be ranked from strongest to least strong, firstly for UBI as:

1: Group E, the combined UBI and TW during the Pandemic narrative treatments at 2.549

2: Group B, the Pandemic narrative treatment at 2.510

3: Group C, the UBI during the Pandemic narrative treatment at 2.420

4: Group D, the TW during the Pandemic narrative treatment at 2.356

While for TW the ranking of average treatment effect size would be:

1: Group B, the Pandemic narrative at 1.813

2: Group D, the TW during the Pandemic narrative treatment at 1.811

3: Group C, the UBI during the Pandemic narrative treatment at 1.679

4: Group E the combined UBI and TW during the Pandemic narrative treatments at 1.570

Disaggregating the results there were also many interesting findings, particularly with regards to how well received a UBI system is when the pandemic narrative is introduced, as the Pandemic narrative increased scores for the measure “being good for those with unreliable incomes” was not only the largest effect observed within the entire study, but further the effect increased 15-21 days post treatment. As well as participants differing responses to narratives presenting impartial economic data versus more personable policy specific narratives, for example the UBI during the Pandemic narrative treatment boosted UBI scores to a lesser degree than the purely informative Pandemic narrative treatment article, which itself, motivated participants to give a particularly low score for a TW systems ability to be “effective at distributing resources to those who need them”. Suggesting when presented with a narrative participants are likely to reevaluate policies that are not explicitly discussed as much, or even more so than those that are, in this case greater Pandemic narrative exposure shifted preferences positively for both policies but to the greatest degree for UBI and least for TW when presented with information on them both.

This finding is observed again within the unexpected outcome that the TW in the context of the Pandemic narrative treatment boosted UBI scores by a greater degree than it increased rated scores for a TW system, in conjunction with the combined treatment generating the single largest increase in scores for UBI but the lowest for a TW system.

When examining how varied lived crisis experiences impacted responsiveness to the Pandemic narrative treatments averaged across the 21 outcome variables measures, the findings consistently showed strong results. On average, the p-values were below the accepted threshold of $p<0.05$, indicating significant effects. As across each survey this level of significance was maintained on average, excluding the UBI follow-up survey whereby the average p-value was above 0.05 by a very small margin.

When considering individual lived crisis experience covariates, Covariates 1,2 and 8 averaged p-values below 0.01 while Covariates 4 and 7 (as well as very nearly 3) averaged p-values below 0.05. Covariates 5 and 6 performed less significantly within the model, although Covariate 6 did average p-values below 0.1.

The effects of the lived crisis experience covariates were substantial, generally acting positively in boosting receptivity towards the Pandemic narrative treatments. On average the lived crisis experience covariates increased the post treatment confidence scores by 0.421 for UBI and 0.442 for TW across all outcome variables, and so only differing by 0.021 when considered on aggregate.

The effects of the lived crisis experiences upon welfare system confidence scores remained, overall, stable and sustained within in the 15-21 day follow up, remaining within a ±10% range of the original observations across both UBI and TW scores, being -0.94% and -1.51% respectively. Therefore, the average covariate effect change 15-21 days post treatment was only -1.22% for both UBI and TW. Examining the covariates individually this ±10% stable range holds for all covariates excluding Covariate 6, which averaged a -14.5% change in effect, more specifically a -9.51% change for UBI and a -19.49% change for TW.

Disaggregating the lived crisis experience effects also presented a number of unique findings. In general, those who had considered themselves as “not negatively affected by the Pandemic” were largely more receptive to UBI and to a marginally lesser extent a TW system after exposure to any of the Pandemic narrative treatments. These individuals were observed to become particularly more positive in scoring welfare system attributes such as “would benefit you personally”, “good for those with unreliable incomes”, “good for reducing stress and life anxieties” as well as “good for your community”. Suggesting that after exposure to the welfare systems in the context of the Pandemic narratives those individuals who had considered themselves unaffected, became more supportive of the welfare measures effectiveness in helping those in their wider community as well as those in need, averaging a 1.15 increase in score for UBI and 0.977 for a TW system.

Similarly, those who had experienced a negative effect upon their community were largely more receptive to the Pandemic narratives for both UBI at a 1.338 average score increase and for TW at 1.25 average score increase. While the increase in UBI scores among those who had suffered emotionally during the Pandemic was the largest of the positive shifts in scoring after exposure to the Pandemic treatment of the eight lived crisis experiences measured, averaging at 1.548.

However, while those who had suffered financially saw an increased receptivity towards UBI post treatment, this lived experience actively decreased their scoring towards a TW system after exposure to the Pandemic narratives. This decrease was associated with the welfare system attributes relating to financial security, benefitting society and if the welfare model

would be a good choice to implement, attributes which all had increased substantially post treatment when scoring a UBI at 0.862 specifically, but decreased moderately when scoring a TW system by -0.102 on average. Suggesting evidence towards the external validity in the observations of increased receptivity towards a universal system over a more targeted during times of crisis, determined during the narrative analysis of Chapter Two.

Additionally, those who had experienced short term negative health implications of less than six weeks due to the crisis were only marginally positively responsive to increasing positivity towards a UBI post treatment, with those who had increasing scores by only 0.550 and TW by 0.400. This trend of decreasing receptivity alongside increasing negative health severity continued as those who had suffered a longer-term negative health impact of greater than six weeks were only marginally more positive towards a UBI on average post treatment at 0.360 and were in fact more likely to decrease scores for a TW system post treatment by -0.136.

Building upon this trend it was also found that those who had gone so far as to have been admitted to critical care as result of the Covid-19 Pandemic were very strongly negatively influenced in their confidence score rankings of a UBIs ability to deliver all the 21 positive welfare system attributes measured. Clearly demonstrating the most extreme end of the trending decreasing receptivity to the Pandemic narratives as health impact severity increases. Additionally, this extreme negative effect towards welfare system scores after receiving the Pandemic narrative treatments was hugely more pronounced towards a UBI at -3.341 than the more moderate -0.359 effect upon a TW system. Potentially giving insight towards the effects of an undoubtedly difficult medical experience such as intensive care admittance upon an individual's prioritisation for a goods-based welfare model, such as direct medical provision funded via taxation, against a more universally spread model based upon liquid cash interventions.

The findings from this chapter provide a deeper empirical understanding of the underlying cognitive processes that lead to the transformation of individual perspectives and, subsequently, societal dynamics. This study not only quantified statistically significant effects, from a single exposure to an article presenting a simple pandemic related narrative, of which demonstrated that not only can narratives shape policy preference, but, along with crisis time narratives of both basic income and targeted welfare, narratives shift preferences in both instances. Further national crisis narratives in and of themselves can shift preferences regarding both policies over and above lived crisis experience, both minor to severe.

Furthermore, Chapter Three emphasizes the necessity to navigate the shifting terrain of media information dissemination, as conventional narratives make room for decentralized and varied sources of information. As the final thread connecting these three chapters intertwines concepts such as investment cost, basic income policies, media narratives, and cognitive psychology, the thesis reaches its culmination with a thorough examination of how economic decisions, policy receptivity, and societal narratives intersect to shape our shared future.

As the thesis delves into the interwoven complexities of welfare policies, decision-making behaviour, and the dynamics of narrative influence, it engages with a multidisciplinary research field at the crossroads of economics, political science, psychology, and media studies. The exploration of basic income policies, cash transfer systems, lived crisis experience and media narratives contributes to the advancement of each respective field while offering a holistic perspective on societal responses to crises. Furthermore, the

implications of this research extend beyond academia, offering value to policymakers, social welfare policy specialists, and citizens alike. The findings hold potential for informing national welfare policy design that fosters economic growth, reduces inequality, and addresses the evolving needs of societies during times of turmoil.

Navigating through the intricacies of welfare policies, decision-making behaviour, and the dynamics of narrative influence, this thesis engages with a multidisciplinary research domain situated at the crossroads of economics, political science, psychology, and media studies. By delving into topics like basic income policies, cash transfer systems, lived crisis experiences, and media narratives, this exploration not only advances each respective field but also offers perspective on societal responses to crises. Moreover, the benefits of this research can transcend the boundaries of academia, providing value to policymakers, social welfare specialists, and inquisitive individuals alike. The findings have the potential to guide the design of national welfare policies, fostering economic growth, reducing inequality, paving viable paths out of poverty and addressing the ever-evolving needs of societies during periods of crisis and uncertainty.

Additionally, this research carries implications that potentially go beyond the realm of welfare economics and policy making altogether. The methodological process of uncovering how media narratives develop and evolve as well as understanding how people interpret and react to narratives about social policies can inform communication and implementation strategies across various policy domains. For instance, in healthcare, insights into the impact of media narratives can aid efforts to build trust and compliance with public health measures or healthcare reform initiatives. Similarly, in environmental policy, lessons from this research can assist policymakers in crafting narratives that resonate with the public and garner support for sustainable initiatives.

Moreover, beyond policymaking altogether the practical applications can extend to the private sector, where understanding how media narratives influence public perceptions of social developments can inform decision-making processes for businesses, especially those engaged in socially responsible investing or corporate social responsibility initiatives, or those seeking to forecast economic developments over time. Furthermore, in political science and campaign strategy, the findings potentially underscore the importance of narrative framing and crisis communication in shaping voter attitudes and potentially electoral outcomes. Political strategists can leverage these insights to devise messaging strategies that connect with the electorate and rally support for candidates or policy agendas.

Ultimately, the findings highlight the importance of considering societal narratives in conjunction with individual experiences across diverse contexts beyond traditional policymaking. Recognizing the influence of even brief exposure to a new narrative alongside an individual's unique lived experience, stakeholders across sectors can develop more effective communication strategies, foster public engagement, and navigate complex socio-economic landscapes with greater insight and empathy, during a rapidly changing period of history, where this may perhaps be important now more than ever.

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Appendices

Appendix A: Chapter 2

3.9.2 Tables

Table 2.5 Pre-Pandemic and Post-Pandemic Codes Identified

Pre-Pandemic Codes Identified	Post-Pandemic Codes Identified
1. Negatives of Basic Income	1. Basic Income and Pandemic Response
2. Other Basic Income Positives	2. Political Party, Politician or Figure Calling for Basic Income
3. Political Party, Politician or Figure Calling for Basic Income	3. Other Basic Income Positives
4. Basic Income Pilot Studies	4. Negatives of Basic Income
5. Basic Income Abroad	5. Basic Income Pilot Studies
6. Basic Income and Existing Welfare System	6. Basic Income and Existing Welfare System
7. Casual Mention of Basic Income	7. Basic Income and Pandemic Response Abroad
8. Basic Income in Title	8. Basic Income in Title
9. Factual Account of what Basic Income is	9. Basic Income Costing
10. Basic Income Costing	10. Political Party, Politician or Figure Against Basic Income
11. Political Party, Politician or Figure Calling Against Basic Income	11. Casual Mention of Basic Income
12. Support for Basic Income from Both Left and Right Politically	12. Factual Account of what a Basic Income is
13. Basic Income is Popular Polling	13. Basic Income is Popular Polling
14. Basic Income is Not Popular Polling	14. Support from Both Left and Right Politically
	15. Basic Income Not Popular Polling

3.9.3 Figures

Figure 2.7 Data Set One: Pre-Pandemic Codes Visualised

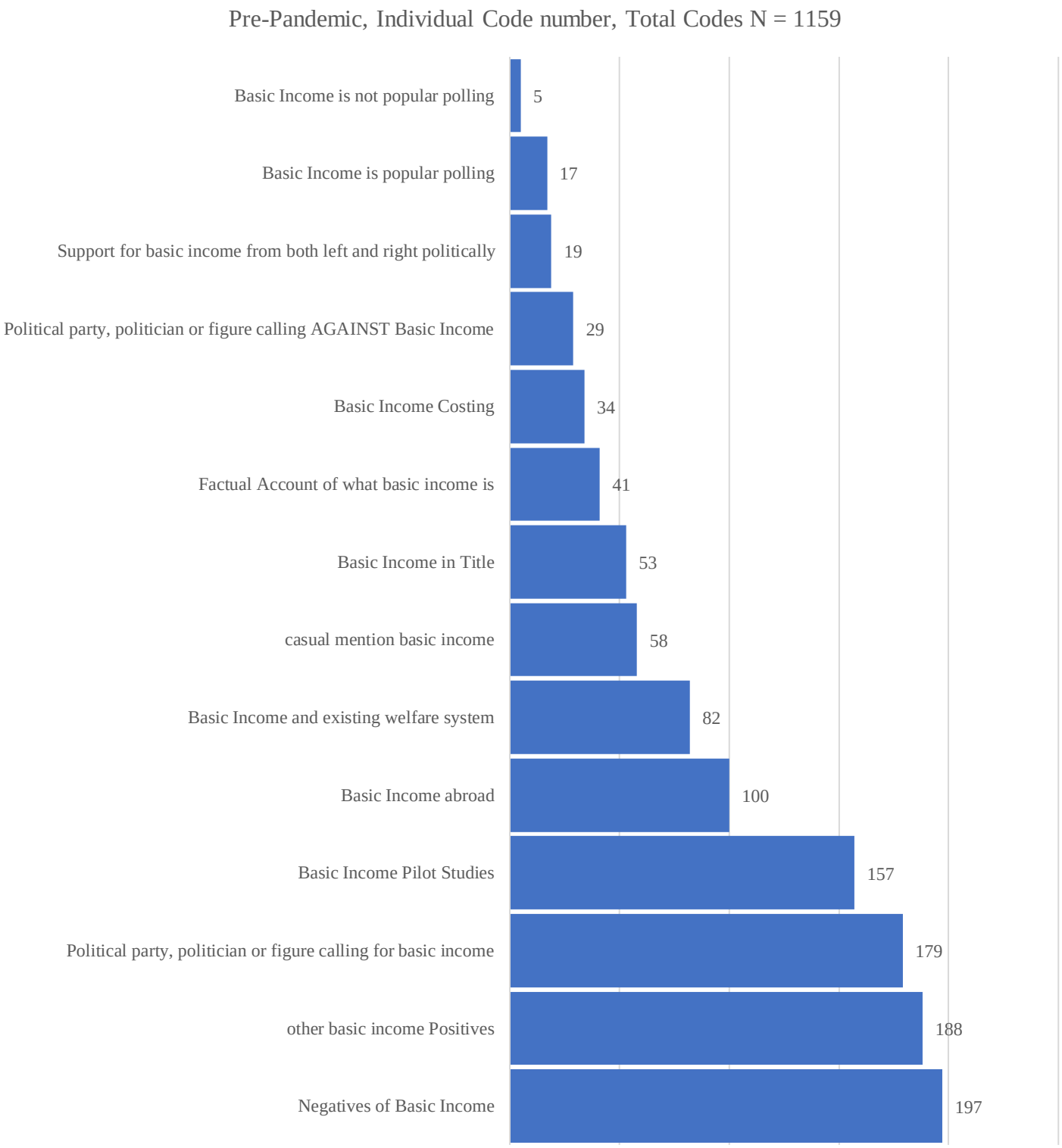


Figure 2.8 Data Set One: Pre-Pandemic Code Type as Percent of Total Codes

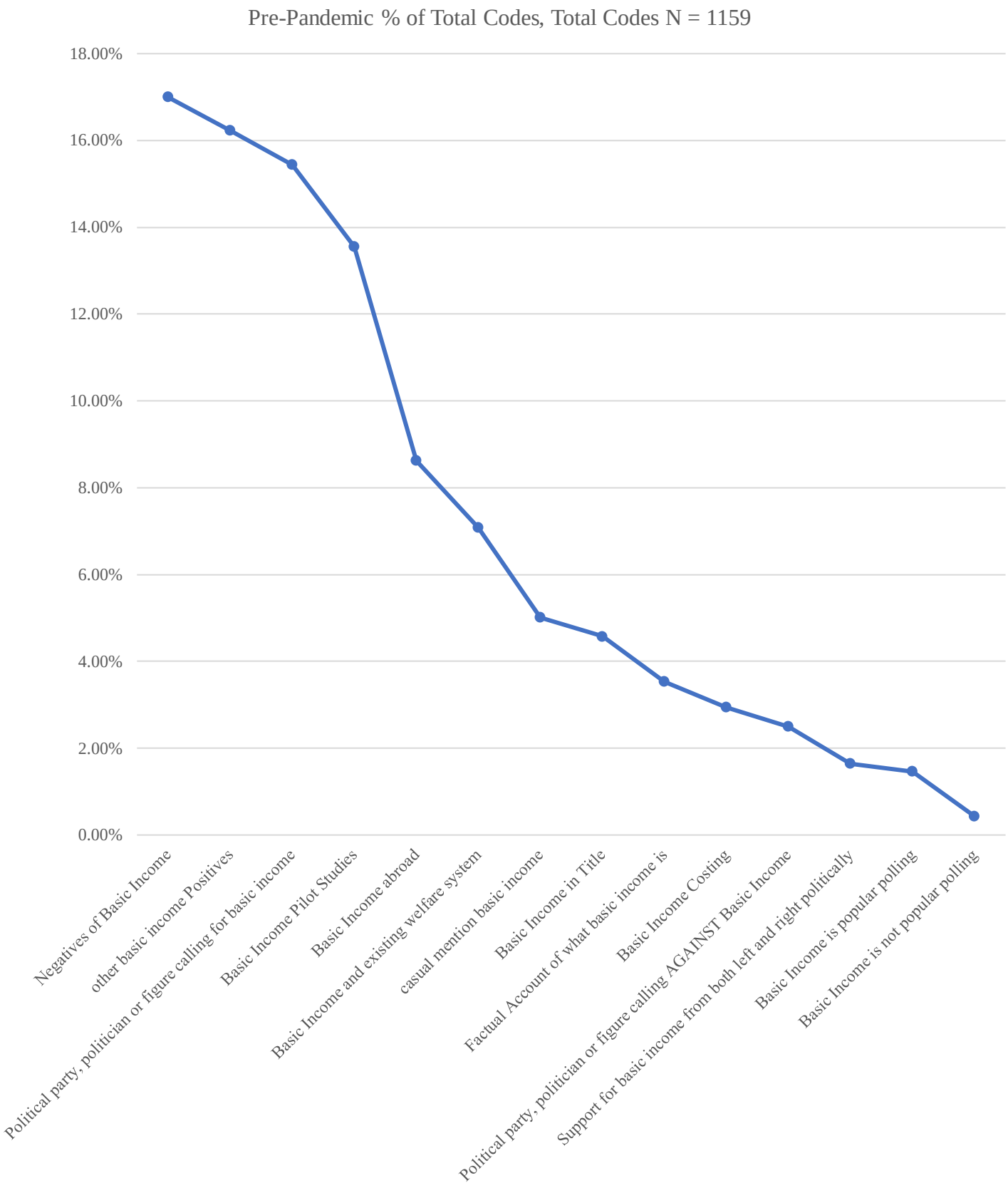


Figure 2.9 Data Set One: Pre-Pandemic Codes by Article Recurrence Volume

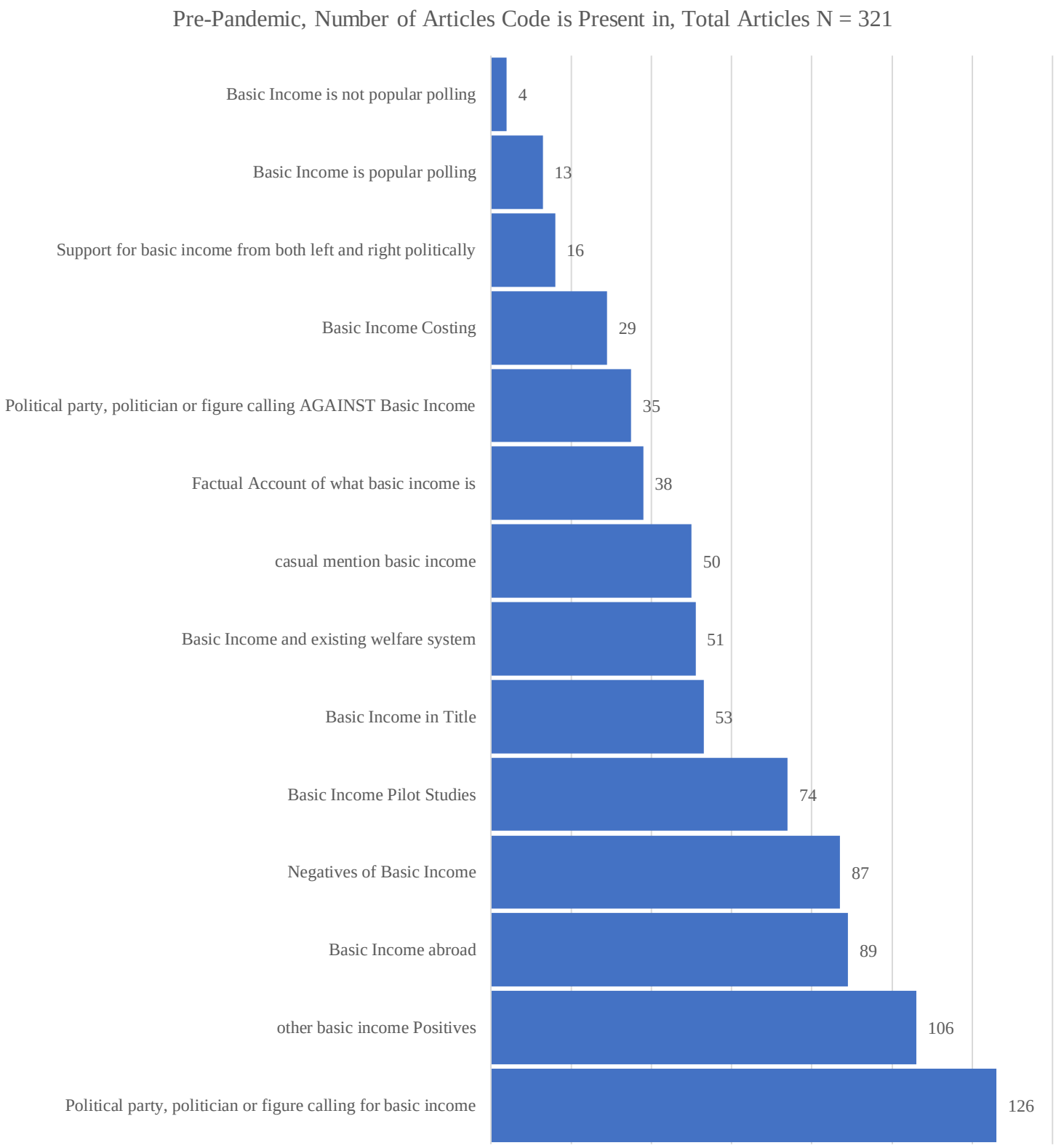


Figure 2.10 Data Set One: Pre-Pandemic Codes by Article Recurrence as Percent of Total Articles

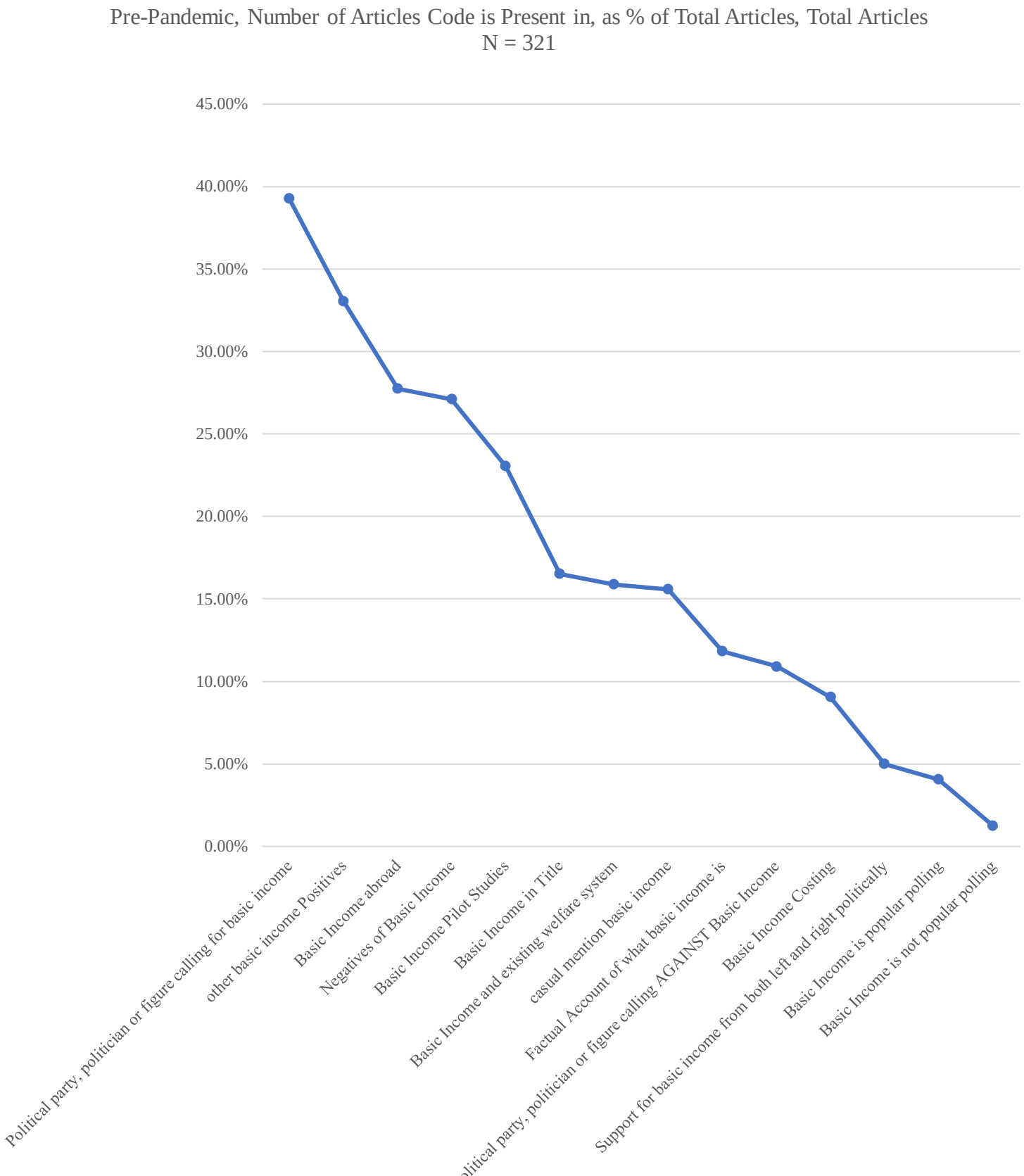


Figure 2.11 Data Set Two: Post-Pandemic Code Volume Visualised

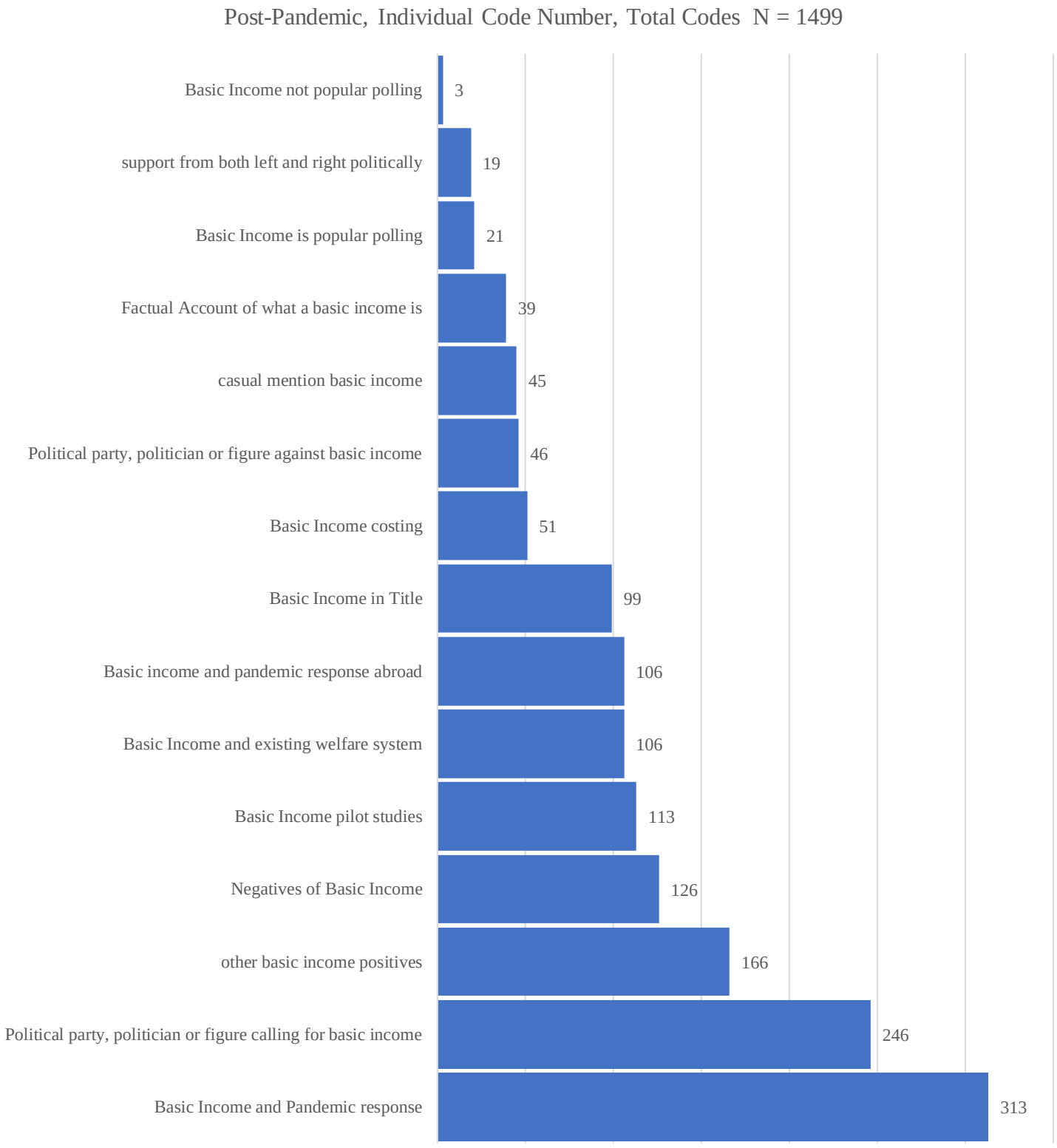


Figure 2.12 Data Set Two: Post-Pandemic Code Type as Percent of Total Codes

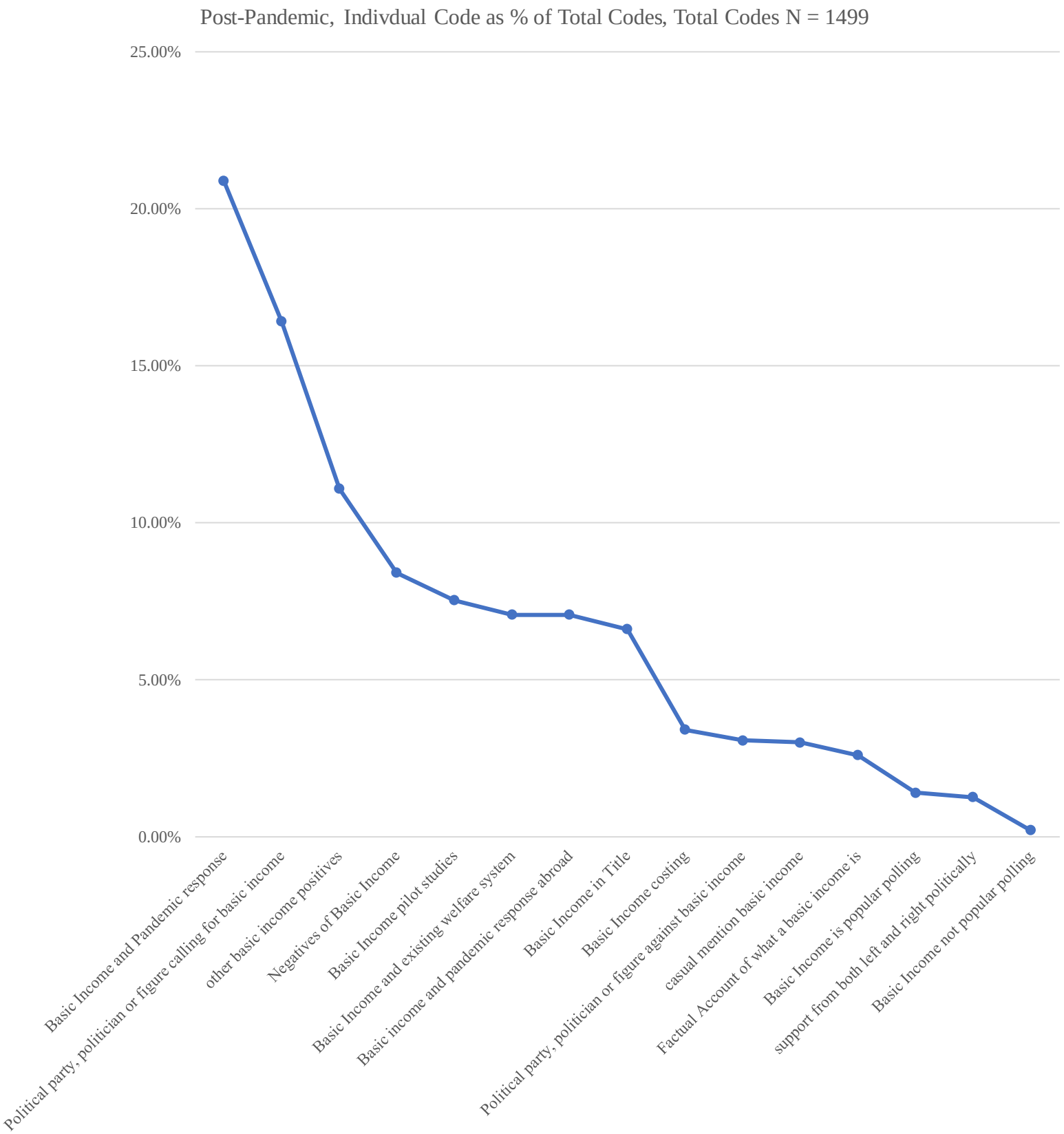


Figure 2.13 Data Set Two: Post-Pandemic Codes by Article Recurrence Volume

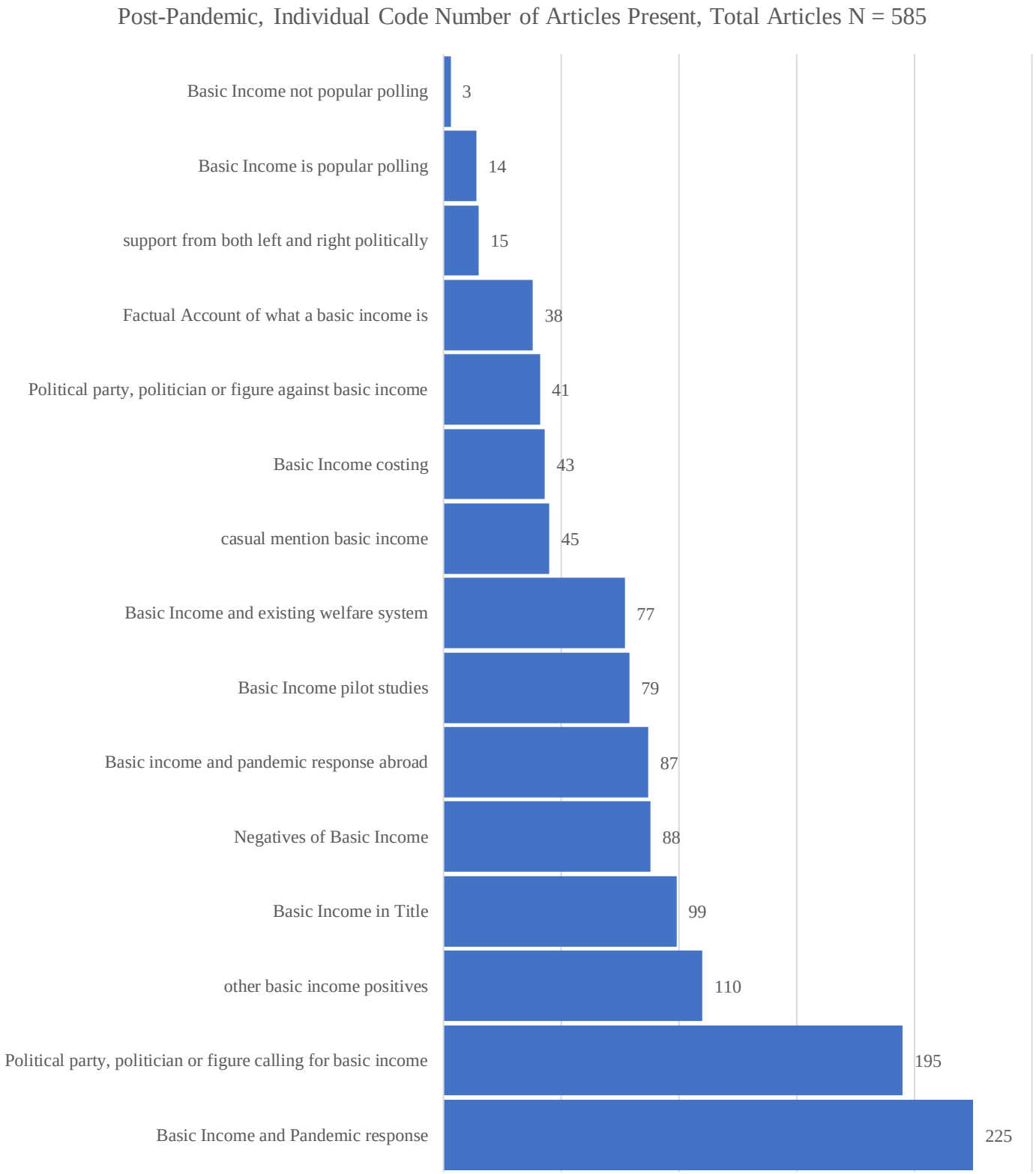


Figure 2.14 Data Set Two: Post-Pandemic Codes by Article Recurrence as Percent of Total Articles

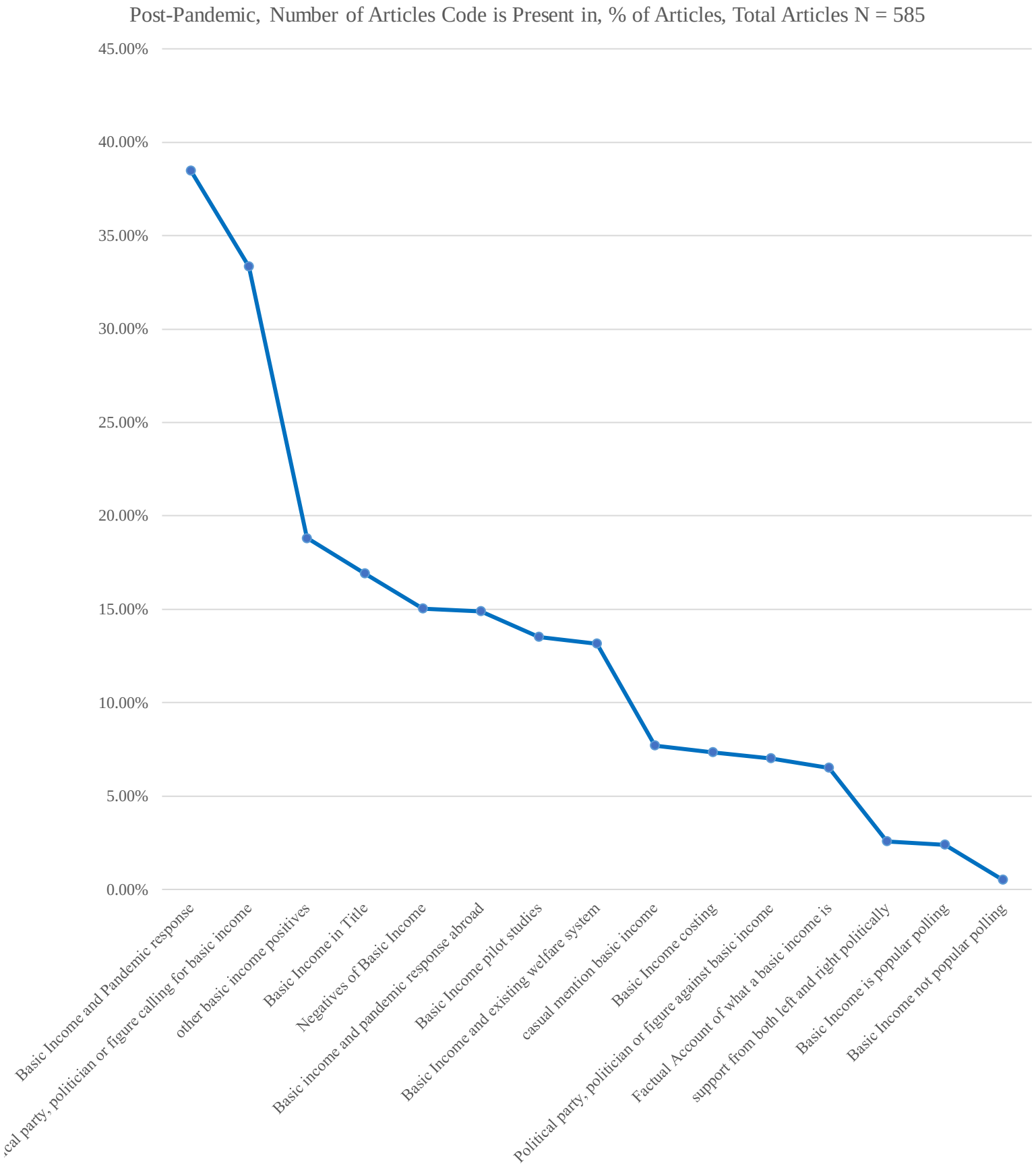
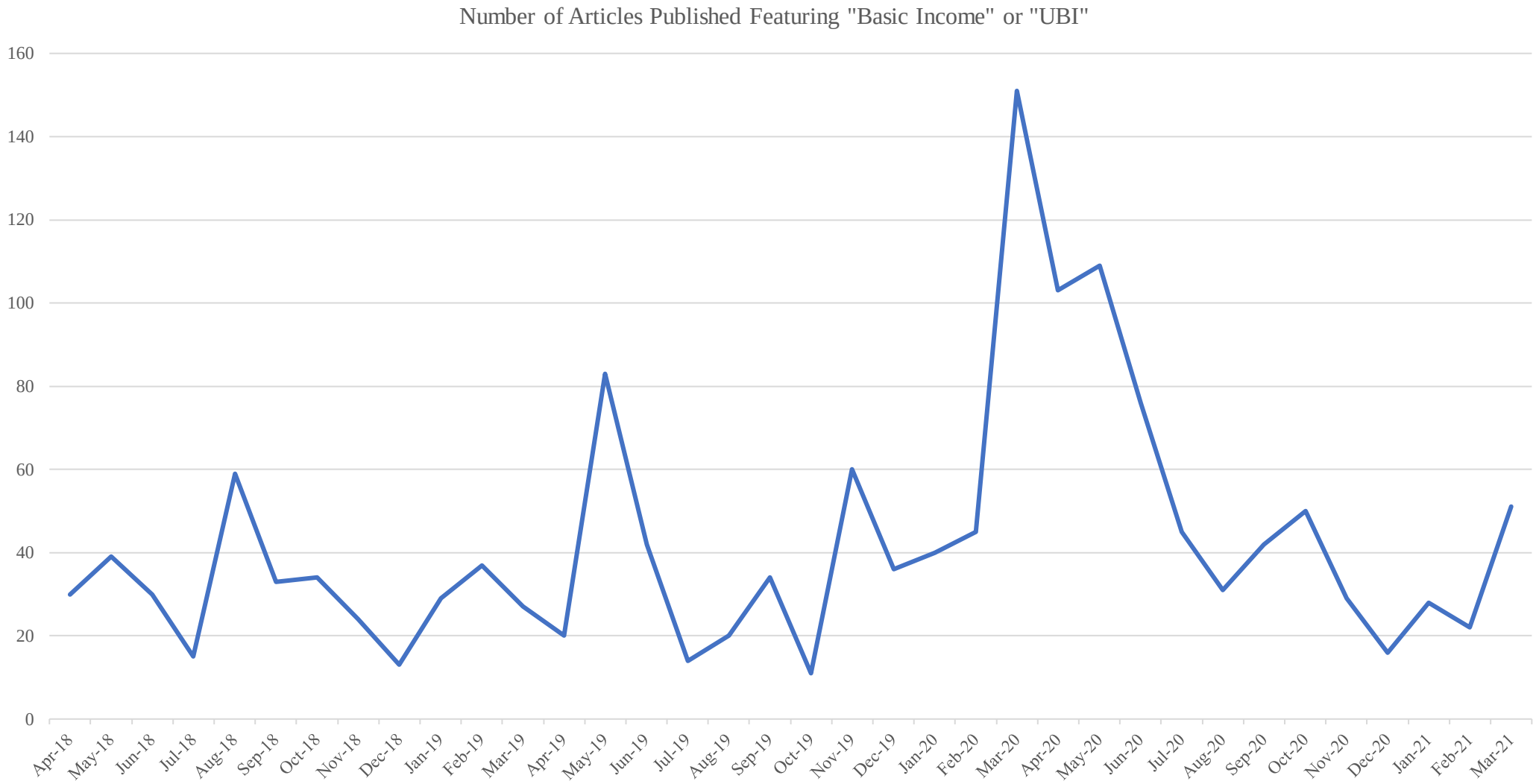
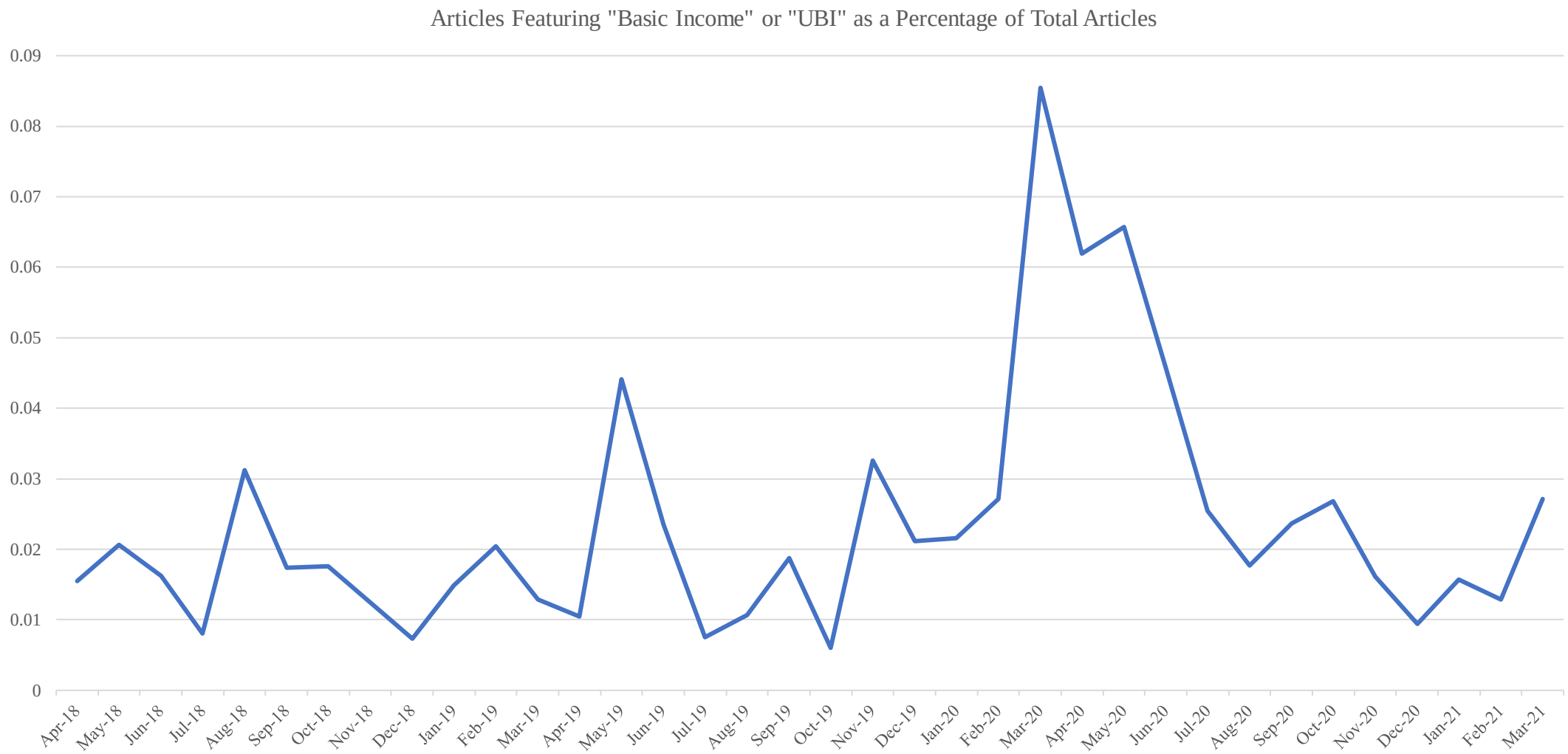


Figure 2.15 Total Number of Written News Articles Featuring terms “Basic Income” or “UBI”, April 2018 to February 2021



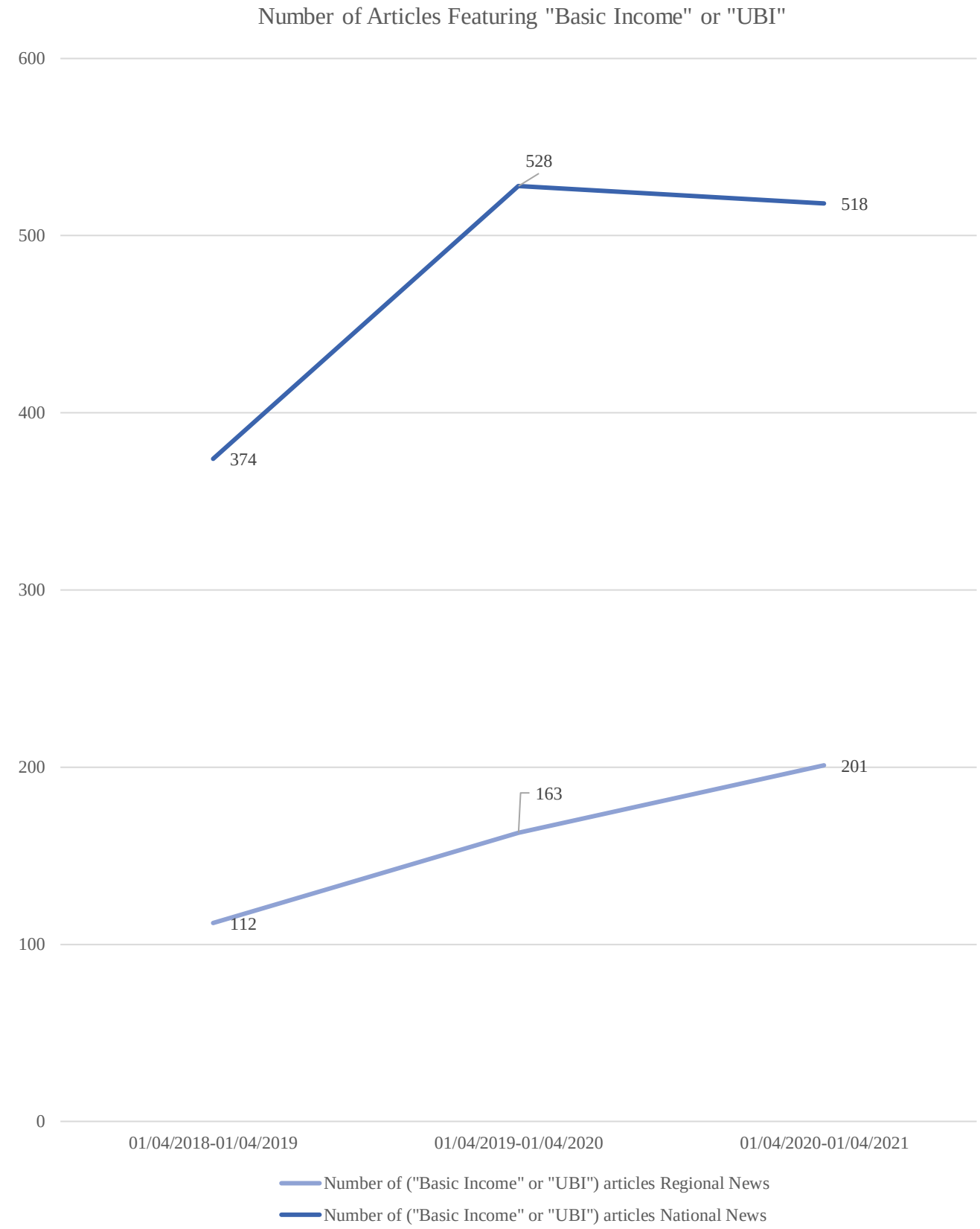
N.B 2.0 Source: LexisNexis

Figure 2.16 Total Number of Written News Articles Featuring terms “Basic Income” or “UBI” as a Percentage of All Published News Articles, April 2018 to February 2021



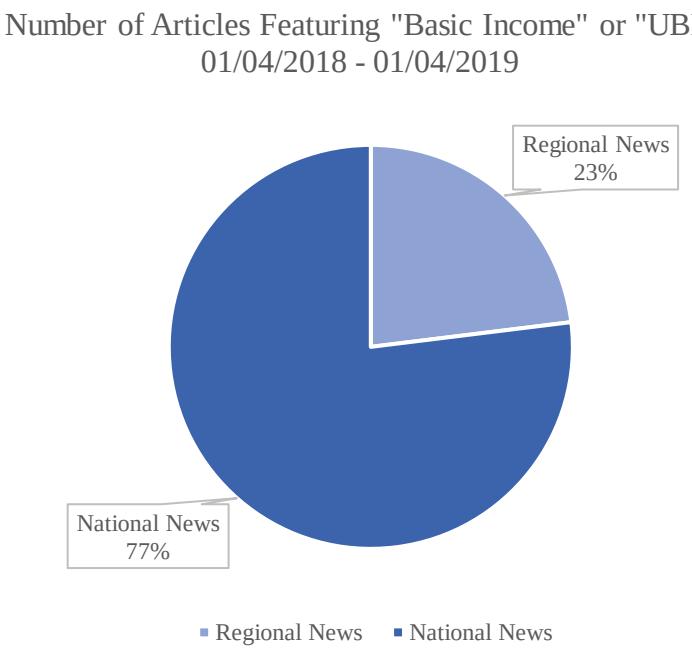
N.B 2.1 Source: LexisNexis

Figure 2.17 Number of Written News Articles Featuring the Term “Basic Income” or “UBI” Regional & National News April 1st, 2019, to April 1st 2021



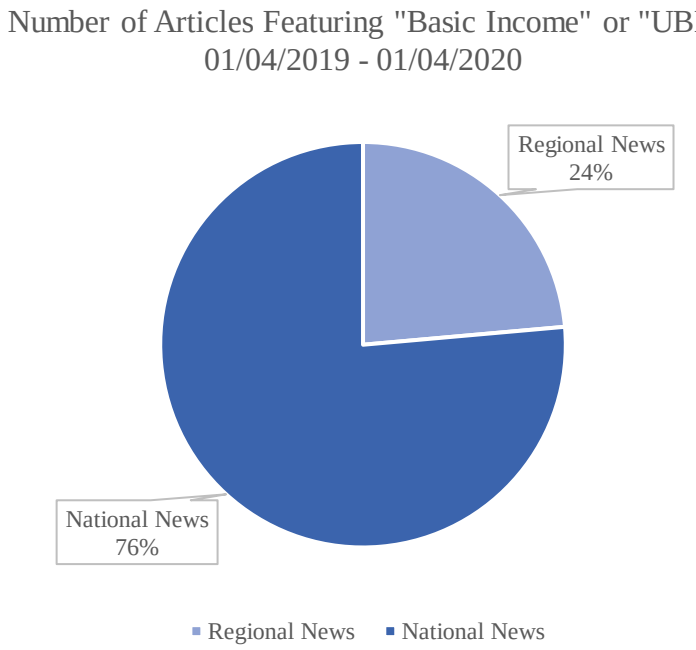
N.B 2.2 Source: LexisNexis

Figure 2.18 Number of Written News Articles Featuring the Term “Basic Income” or “UBI” Regional & National News April 1st, 2018, to April 1st, 2019.



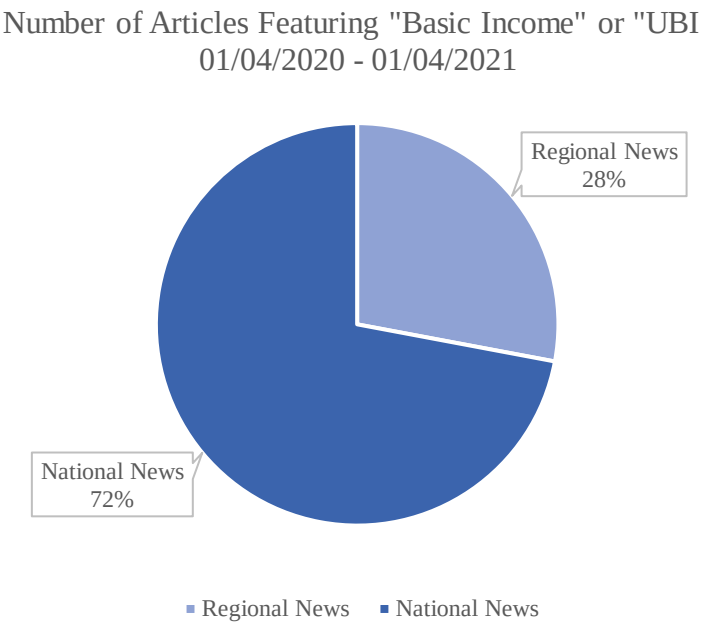
N.B 2.3 Source: LexisNexis

Figure 2.19 Number of Written News Articles Featuring the Term “Basic Income” or “UBI” Regional & National News April 1st, 2019, to April 1st, 2020.



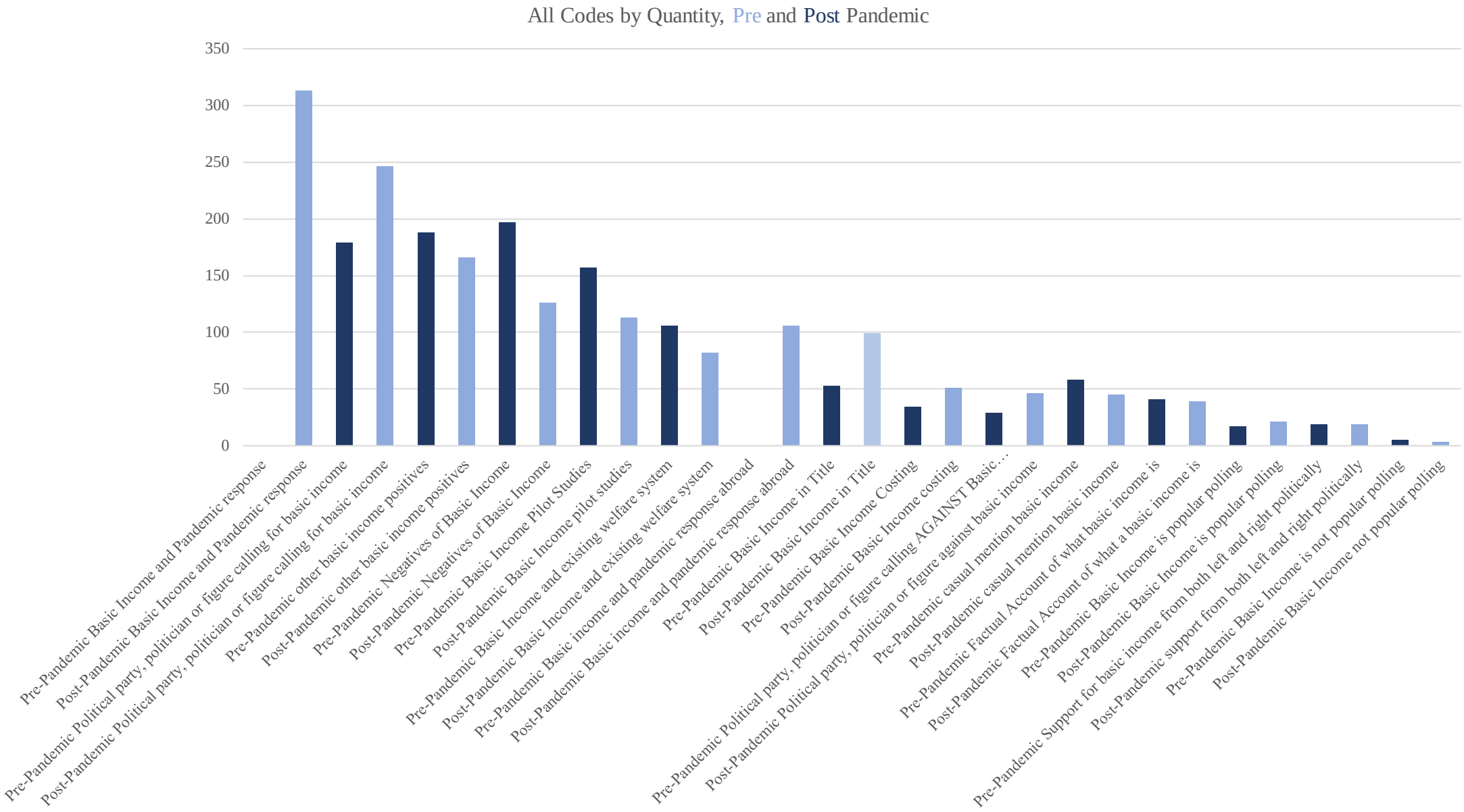
N.B 2.4 Source: LexisNexis

Figure 2.20 Number of Written News Articles Featuring the Term “Basic Income” or “UBI” Regional & National News April 1st, 2020, to April 1st, 2021.



N.B 2.5 Source: LexisNexis

Figure 2.21 Pre-Pandemic and Post-Pandemic Codes by Quantity Visualisation



N.B 2.6 Source: LexisNexis

Appendix B: Chapter 3

3.9.4 Tables

Table 3.43 Factual Definitions of Universal Basic Income and Targeted Transfer Systems

Welfare Model Name	Description
Universal Basic Income	One type of welfare system is called Universal Basic Income. A universal basic income is a social security system where every citizen is paid a modest guaranteed income every month, just enough to cover basic necessities. The payment is the same for everyone. The payment is not conditional on what other earnings the person has and they do not have to do anything in particular to receive it.
Targeted Transfer System	Another type of welfare system is called a targeted welfare system. Here, assistance is only available to people who meet certain eligibility criteria, for example if they are unable to work or have a low income. Some people are eligible for more, and others to nothing, under this system. People who believe they are eligible have to apply, and their circumstances are then assessed. People's eligibility may change if their circumstances change.

N.B 3.1 Source: (Nettle, Johnson, Johnson, & Saxe, 2021)

Table 3.44 Study Question Set.

Question Number	Question
1	Do you believe a (UBI or TW) system would be an effective welfare policy in reducing stress/life anxieties?
2	Do you believe a (UBI or TW) system would be simple and easy to understand?
3	Do you believe a (UBI or TW) system would be effective at distributing resources to those who need them?
4	Do you believe a (UBI or TW) system would provide security in an unpredictable world?
5	Do you believe a (UBI or TW) system would not discourage work?
6	Do you believe a (UBI or TW) system would make every individual feel valued?
7	Do you believe a (UBI or TW) system would reduce poverty?
8	Do you believe a (UBI or TW) system would be difficult to cheat?
9	Do you believe a (UBI or TW) system would be good for the economy?
10	Do you believe a (UBI or TW) system would reduce crime?
11	Do you believe a (UBI or TW) system would benefit you personally?
12	Do you believe a (UBI or TW) system would be a fair system?
13	Do you believe a (UBI or TW) system would provide you with protection in times of need?
14	Do you believe a (UBI or TW) system would benefit your community?
15	Do you believe a (UBI or TW) system would be good for parents and children?
16	Do you believe a (UBI or TW) system would be good for those with unreliable incomes?
17	Do you believe a (UBI or TW) system would help prevent people going into debt?
18	Do you believe a (UBI or TW) system would help people to start a business?
19	Do you believe a (UBI or TW) system would make people feel financially secure?
20	Do you believe a (UBI or TW) system would be a good thing for society?
21	Do you think a (UBI or TW) system would be the best model for your country to implement?

N.B 3.2 Participants were asked to evaluate the UBI and TW Systems in separate question sets, "(UBI or TW)" is used within this table for the benefit of brevity.

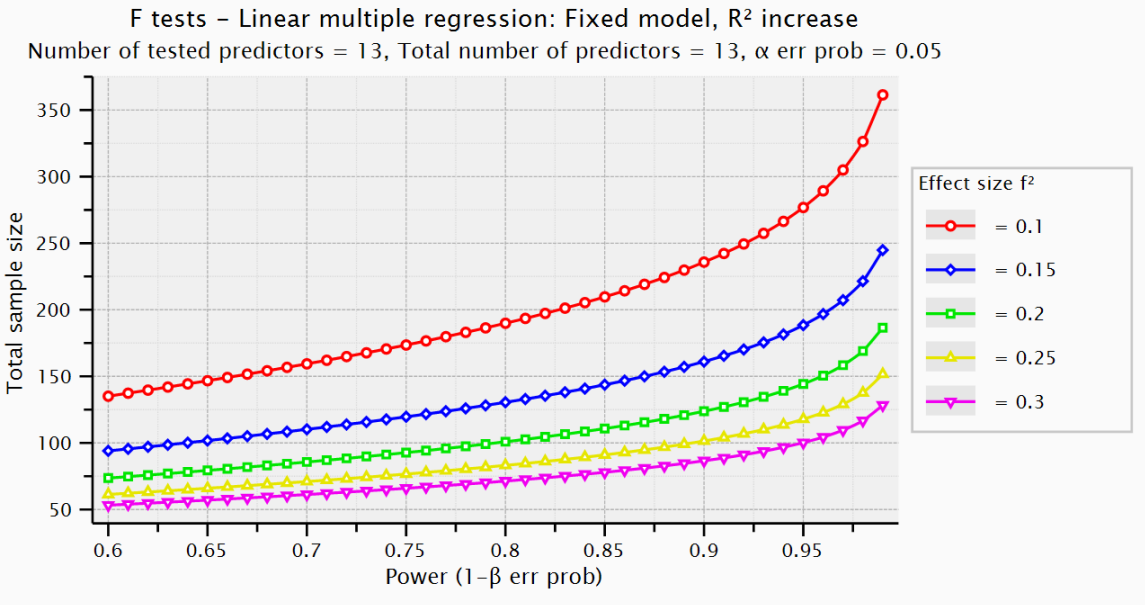
Table 3.45 Difference-in-Differences Estimates

Outcome Variable	Treatment	UBI	UBI *(15-21 Days)*	TW	TW *(15-21 Days)*	Mean
1	B	7.388	7.916	6.227	6.121	6.913
	C	7.213	7.705	5.935	5.863	6.679
	D	7.125	7.662	6.522	6.534	6.961
	E	7.445	7.798	5.926	6.030	6.800
2	B	8.798	10.232	5.979	5.748	7.689
	C	8.913	10.136	5.973	5.654	7.669
	D	8.816	10.156	6.003	5.913	7.722
	E	8.922	10.032	5.987	5.791	7.683
3	B	7.286	7.292	6.980	6.796	7.088
	C	7.410	7.392	6.523	6.472	6.950
	D	7.307	7.312	6.873	6.889	7.095
	E	7.660	7.554	6.655	6.476	7.086
4	B	7.576	7.808	5.981	6.007	6.843
	C	7.508	7.629	5.795	5.997	6.732
	D	7.316	7.676	6.026	6.321	6.835
	E	7.719	7.759	5.759	6.062	6.825
5	B	5.536	5.260	6.202	7.017	6.004
	C	5.592	5.236	6.100	6.836	5.941
	D	5.318	5.260	5.992	6.878	5.862
	E	5.736	5.421	5.864	6.658	5.920
6	B	6.552	6.454	5.127	5.178	5.828
	C	6.439	6.212	5.073	5.124	5.712
	D	6.472	6.206	5.314	5.347	5.835
	E	6.729	6.520	5.117	5.256	5.905
7	B	6.308	5.985	5.039	5.050	5.595
	C	6.273	5.718	4.772	5.009	5.443
	D	6.144	5.681	5.332	5.505	5.665
	E	6.265	5.828	4.676	4.953	5.430
8	B	7.054	8.215	5.668	5.849	6.696
	C	6.841	7.808	5.706	5.777	6.533
	D	6.513	7.709	5.551	5.622	6.349
	E	7.033	7.797	5.531	5.780	6.535
9	B	6.807	6.431	5.802	6.046	6.271
	C	6.527	5.941	5.526	5.777	5.943
	D	6.740	6.428	5.719	6.205	6.273
	E	6.753	6.240	5.512	5.868	6.093
10	B	5.151	4.604	4.625	4.075	4.614
	C	5.049	4.366	4.508	3.989	4.478
	D	5.377	4.680	4.841	4.466	4.841
	E	5.125	4.491	4.548	4.052	4.554
11	B	6.630	6.923	5.259	5.196	6.002
	C	6.372	6.740	4.941	4.775	5.707
	D	6.100	6.625	4.836	4.832	5.598
	E	6.409	6.658	4.798	4.906	5.693

12	B	6.585	6.137	5.549	5.836	6.027
	C	6.336	5.793	5.466	5.878	5.868
	D	6.254	5.913	5.528	5.994	5.922
	E	6.798	6.367	5.282	5.706	6.038
13	B	7.190	7.078	5.641	5.952	6.465
	C	7.067	6.860	5.569	5.746	6.311
	D	7.011	6.949	5.568	5.868	6.349
	E	7.177	7.101	5.241	5.885	6.351
14	B	6.937	6.589	5.494	6.117	6.284
	C	6.768	6.367	5.472	5.977	6.146
	D	6.670	6.546	5.536	6.309	6.265
	E	7.016	6.702	5.295	6.282	6.324
15	B	7.543	7.799	5.946	6.134	6.856
	C	7.435	7.618	5.793	5.930	6.694
	D	7.252	7.523	5.950	6.227	6.738
	E	7.485	7.670	5.599	5.889	6.661
16	B	8.252	8.587	6.242	5.871	7.238
	C	7.863	8.117	6.107	5.619	6.926
	D	7.900	8.246	6.000	5.806	6.988
	E	7.936	8.271	5.860	5.744	6.953
17	B	7.304	7.094	5.761	5.008	6.291
	C	7.334	7.011	5.609	4.752	6.177
	D	7.411	7.078	5.637	5.035	6.290
	E	7.405	7.104	5.510	4.890	6.227
18	B	5.803	5.617	5.063	4.534	5.254
	C	6.025	5.647	5.224	4.598	5.373
	D	5.892	5.778	4.956	4.664	5.323
	E	5.866	5.531	5.029	4.622	5.262
19	B	6.910	6.475	5.340	5.067	5.948
	C	6.975	6.353	5.378	5.044	5.937
	D	6.844	6.524	5.572	5.273	6.053
	E	6.996	6.355	5.250	5.117	5.929
20	B	6.992	7.055	6.252	6.129	6.607
	C	6.842	6.709	6.055	5.956	6.390
	D	6.996	6.926	6.308	6.248	6.620
	E	6.953	6.935	5.847	5.832	6.392
21	B	6.250	6.145	5.851	5.634	5.970
	C	6.192	5.920	5.689	5.430	5.808
	D	6.172	6.035	5.920	5.596	5.931
	E	6.251	6.010	5.640	5.286	5.797
Mean	B+C+D+E	6.847	6.834	5.621	5.645	6.237

3.9.5 Figures

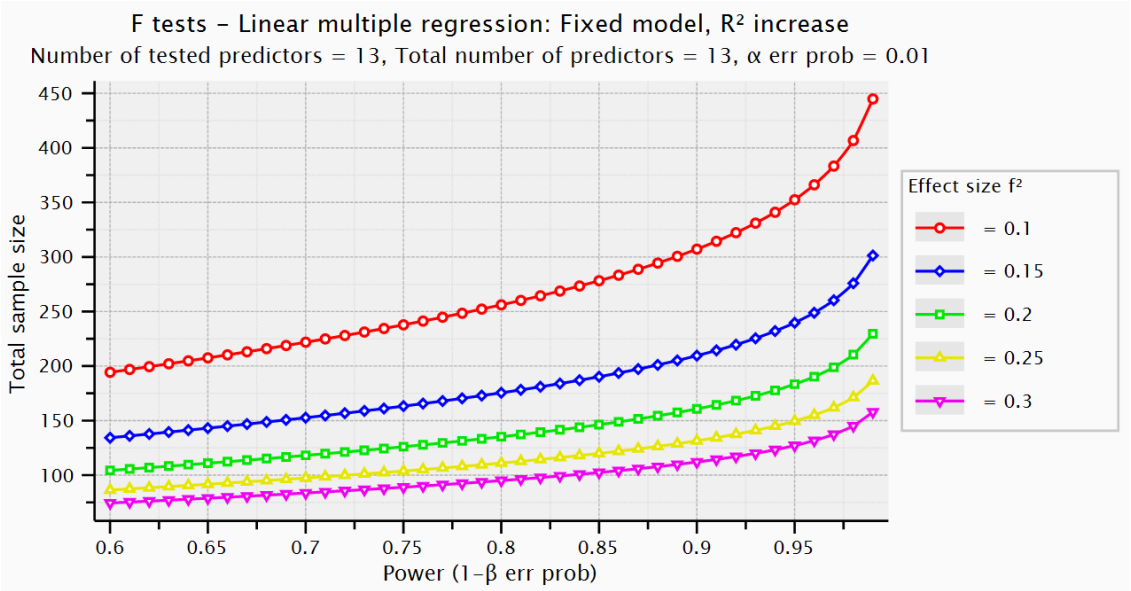
Figure 3.2 A Priori Sample Size & Power Analysis



N.B 3.3 Analysis - A priori Compute required sample size

F Tests - Linear multiple regression: Fixed model, R² increase, α error probability =0.05

Calculated using G*Power 3.1.9.4

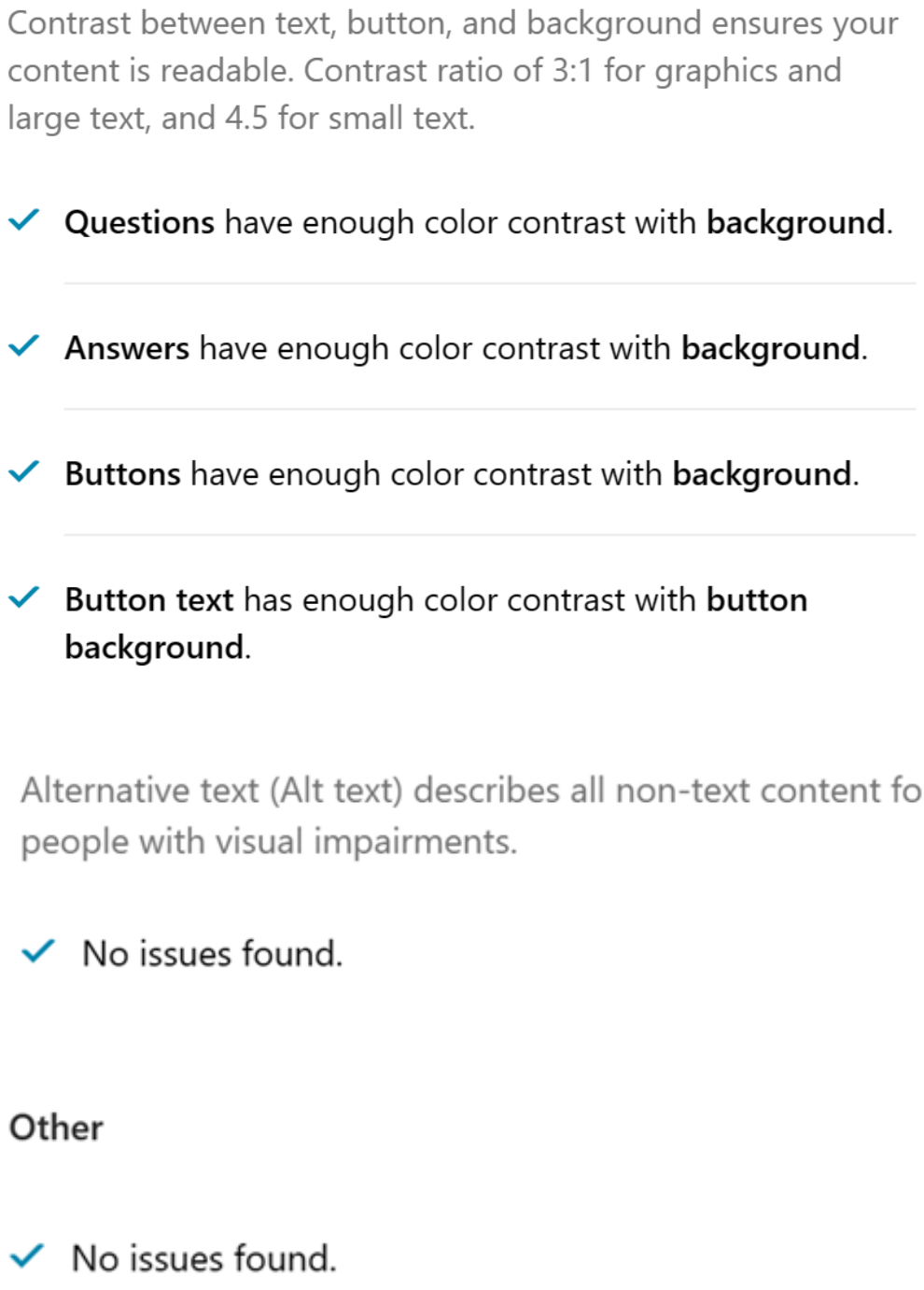


N.B 3.4 Analysis - A priori Compute required sample size

F Tests - Linear multiple regression: Fixed model, R² increase, α error probability =0.01

Calculated using G*Power 3.1.9.4

Figure 3.3 Survey Accessibility Assessment



N.B 3.5 Accessibility assessment performed by survey host Typeform.com

Figure 3.4 Treatment Article Overview

Group A	Shown non-related article as an active control group	**Title:** Lost trekkers survive on spider diet helped trekkers survive Given up for dead, pair emerge from seven-week ordeal in the Amazonian rainforest. **Publication:** The Daily Telegraph (LONDON) **Date:** April 7, 2007, Saturday **Length:** 791 words **Author:** Henry Samuel
Group B	Shown article about the pandemic	**Title:** UK coronavirus recession 2020: what the biggest economic downturn in 11 years means - and what happened during the Great Recession **Publication:** Scotsman **Date:** August 12, 2020, Wednesday **Length:** 444 words **Author**: Finlay Greig
Group C	Shown article discussing basic income during the pandemic	**Title:** The Time for universal basic income is now **Publication:** Evening Times (Glasgow) **Date:** April 11, 2020, Saturday **Length**: 620 words **Author**: Stuart Sandler
Group D	Shown an article discussing targeted welfare during the pandemic	**Title**: How fund is benefiting families in time of need; extra support for parents as they wait for government income **Publication**: Leicester Mercury **Date:** May 6, 2020, Wednesday **Length**: 470 words **Author**: Asha Patel
Group E	Shown article discussing basic income during the pandemic and an article discussing targeted welfare during the pandemic	**Title:** The Time for universal basic income is now **Publication:** Evening Times (Glasgow) **Date:** April 11, 2020, Saturday **Length**: 620 words **Author**: Stuart Sandler **&** **Title**: How fund is benefiting families in time of need; extra support for parents as they wait for government income **Publication**: Leicester Mercury **Date:** May 6, 2020, Wednesday **Length**: 470 words **Author**: Asha Patel

3.9.6 Code

Code 3.1 Difference-in-Differences Treatment Effects Model Script

```
import pandas as pd
import statsmodels.api as sm

# read in data from the excel sheet
data = pd.read_excel(r'/Excel/File/Location/')

# create a binary variable indicating post-treatment
data['post'] = (data['time'] == 'post').astype(int)

# create binary variables for the treatment groups
group_dummies = pd.get_dummies(data['group'])
data = pd.concat([data, group_dummies], axis=1)

# specify the dependent variable and independent variables
y = data['Variable1']
X = data[['post', 'GroupB', 'GroupC', 'GroupD', 'GroupE',
          'covariate1', 'covariate2', 'covariate3', 'covariate4',
'covariate5',
          'covariate6', 'covariate7', 'covariate8']]

# fit the linear regression model
model = sm.OLS(y, X).fit()

# print the summary of the regression results
print(model.summary())
```

Code 3.2 Difference-in-Differences Estimate Model Script

```
import pandas as pd

# list of sheet names to read from. Where each sheet contains Data for one
variable
sheet_names = ['Sheet1', 'Sheet2', 'Sheet3', 'Sheet4', 'Sheet5', 'Sheet6',
'Sheet7', 'Sheet8', 'Sheet9', 'Sheet10', 'Sheet11', 'Sheet12', 'Sheet13',
'Sheet14', 'Sheet15', 'Sheet16', 'Sheet17', 'Sheet18', 'Sheet19',
'Sheet20', 'Sheet21',]

# loop over sheet names and perform DiD analysis for each sheet
for sheet_name in sheet_names:
    # read the DiD analysis output from an Excel file
    did_output = pd.read_excel(r'/Excel/File/Location/',
sheet_name=sheet_name, index_col=0)

# get the coefficient values for the post-treatment period and the
treatment groups
    post_coef = did_output.loc['post', 'coef']
    group_b_coef = did_output.loc['GroupB', 'coef']
    group_c_coef = did_output.loc['GroupC', 'coef']
    group_d_coef = did_output.loc['GroupD', 'coef']
    group_e_coef = did_output.loc['GroupE', 'coef']

# get the coefficient values for the covariates
    covariate1_coef = did_output.loc['covariate1', 'coef']
    covariate2_coef = did_output.loc['covariate2', 'coef']
    covariate3_coef = did_output.loc['covariate3', 'coef']
    covariate4_coef = did_output.loc['covariate4', 'coef']
    covariate5_coef = did_output.loc['covariate5', 'coef']
    covariate6_coef = did_output.loc['covariate6', 'coef']
    covariate7_coef = did_output.loc['covariate7', 'coef']
    covariate8_coef = did_output.loc['covariate8', 'coef']

# calculate the DiD estimate for each group
    group_b_did = post_coef + group_b_coef + covariate1_coef +
covariate2_coef + covariate3_coef + covariate4_coef + covariate5_coef +
covariate6_coef + covariate7_coef + covariate8_coef
    group_c_did = post_coef + group_c_coef + covariate1_coef +
covariate2_coef + covariate3_coef + covariate4_coef + covariate5_coef +
covariate6_coef + covariate7_coef + covariate8_coef
    group_d_did = post_coef + group_d_coef + covariate1_coef +
covariate2_coef + covariate3_coef + covariate4_coef + covariate5_coef +
covariate6_coef + covariate7_coef + covariate8_coef
    group_e_did = post_coef + group_e_coef + covariate1_coef +
covariate2_coef + covariate3_coef + covariate4_coef + covariate5_coef +
covariate6_coef + covariate7_coef + covariate8_coef

# print the DiD estimate for each group for this sheet
    print('Sheet:', sheet_name)
    print('DiD estimate for Group B:', group_b_did)
    print('DiD estimate for Group C:', group_c_did)
    print('DiD estimate for Group D:', group_d_did)
    print('DiD estimate for Group E:', group_e_did)
```

Code 3.3 Difference-in-Differences Robust Standard Error (HC3) Model Script

```
import pandas as pd
import statsmodels.api as sm

# read in data from the excel sheet
data = pd.read_excel(r'/Excel/File/Location/')

# create a binary variable indicating post-treatment
data['post'] = (data['time'] == 'post').astype(int)

# create binary variables for the treatment groups
group_dummies = pd.get_dummies(data['group'])
data = pd.concat([data, group_dummies], axis=1)

# specify the dependent variable and independent variables
y = data['Variable1']
X = data[['post', 'GroupB', 'GroupC', 'GroupD', 'GroupE',
          'covariate1', 'covariate2', 'covariate3', 'covariate4',
'covariate5',
          'covariate6', 'covariate7', 'covariate8']]

# fit the linear regression model with robust standard errors
model = sm.OLS(y, X)
results = model.fit(cov_type='HC3')  # Specify the type of robust
covariance estimator

# print the summary of the regression results
print(results.summary())
```

Code 3.4 Difference-in-Differences FDR Adjustments Model Script

```
import pandas as pd
import statsmodels.api as sm
from statsmodels.stats.multitest import multipletests

# read in data from the excel sheet
data = pd.read_excel(r'/Excel/File/Location')

# create a binary variable indicating post-treatment
data['post'] = (data['time'] == 'post').astype(int)

# create binary variables for the treatment groups
group_dummies = pd.get_dummies(data['group'])
data = pd.concat([data, group_dummies], axis=1)

# specify the dependent variable and independent variables
y = data['Variable1']
X = data[['post', 'GroupB', 'GroupC', 'GroupD', 'GroupE',
          'covariate1', 'covariate2', 'covariate3', 'covariate4',
'covariate5',
          'covariate6', 'covariate7', 'covariate8']]

# fit the linear regression model
model = sm.OLS(y, X).fit()

# get the p-values from the model
p_values = model.pvalues

# adjust the p-values using FDR control
adjusted_p_values = multipletests(p_values, method='fdr_bh')[1]

# create a DataFrame with the results
results = pd.DataFrame({'Coefficients': model.params,
                        'Standard Errors': model.bse,
                        'P-values': p_values,
                        'Adjusted P-values (FDR)': adjusted_p_values})

# print the summary of the regression results
print(results)
```

Code 3.5 Permutation Inference Test Model Script

```
import pandas as pd
import numpy as np
import statsmodels.api as sm

# read in data from the excel sheet
data = pd.read_excel(r'/Excel/File/Location')

# create a binary variable indicating post-treatment
data['post'] = (data['time'] == 'post').astype(int)

# create binary variables for the treatment groups
group_dummies = pd.get_dummies(data['group'])
data = pd.concat([data, group_dummies], axis=1)

# specify the dependent variable and independent variables
y = data['Variable1']
X = data[['post', 'GroupB', 'GroupC', 'GroupD', 'GroupE',
          'covariate1', 'covariate2', 'covariate3', 'covariate4',
'covariate5',
          'covariate6', 'covariate7', 'covariate8']]

# fit the linear regression model
model = sm.OLS(y, X).fit()

# Obtain the coefficient estimates and p-values from the initial model
initial_coefficients = model.params
initial_pvalues = model.pvalues

# Perform permutation-based inference
num_permutations = 10000  # Number of permutations (adjust as needed)

permuted_pvalues = []
np.random.seed(0)  # Set a seed for reproducibility

for _ in range(num_permutations):

# Permute the treatment variable
    permuted_X = X.copy()
    permuted_X['post'] = np.random.permutation(permuted_X['post'])


# Fit the permuted model and obtain p-values
    permuted_model = sm.OLS(y, permuted_X).fit()
    permuted_pvalues.append(permuted_model.pvalues)

# Compute the robustness check for coefficients and p-values
robustness_check = []
simulated_pvalues = []

for i in range(len(X.columns)):
    initial_pvalue = initial_pvalues[i]
    permuted_pvals = [pvalues[i] for pvalues in permuted_pvalues]
    robustness = (initial_pvalue >= np.array(permuted_pvals)).mean()
    robustness_check.append(robustness)
    simulated_pvalue_freq = (np.array(permuted_pvals) < 0.05).mean()
    simulated_pvalues.append(simulated_pvalue_freq)
```

```
# Print the summary of the regression results, simulated p-values, and the
robustness check
print(model.summary())
print("Robustness Check:")
for i in range(len(X.columns)):
    print(
        f"Variable: {X.columns[i]}, Robustness: {robustness_check[i]},
Simulated P-value < 0.05 Frequency: {simulated_pvalues[i]}")
```

3.9.7 Supplementary Material

Item 3.1 Study Ethical Approval Form

Study Ethical Approval Form removed due to confidentiality issues.

Group A

Title: Lost trekkers survive on spider diet helped trekkers survive Given up for dead, pair emerge from seven-week ordeal in the Amazonian rainforest.

Body: EMACIATED and riddled with insect bites, two Frenchmen emerged alive yesterday after surviving seven weeks lost in the Amazonian jungle on a diet of bird-eating spiders, frogs, centipedes and turtles.

Rescue officials described as "extraordinary" the escape of Loïc Pillois and Guilhem Nayral, both 34, who got lost in the heart of French Guiana, a French overseas department bordering Brazil and Venezuela.

"I was so hungry that I even had a go at the turtle's shell and tucked into his claws," said Mr Nayral after the ordeal in which he lost almost four stone.

He was infested with worm parasites that had burrowed into his flesh and had trouble speaking and moving after swallowing venom from a poorly cooked giant spider. He was covered with bites from "poux d'agoutis" - a particularly itchy tropical flea.

His brother, Gilles, said he looked like "he'd just come out of a concentration camp". His blood pressure had plummeted and doctors said that without proper nutrition he would have died within three days. Amazingly, Mr Pillois was in reasonable health.

The jungle of French Guiana, which is virtually untouched, is teeming with animal and insect life, including numerous species that are deadly to man. These include jaguars, coral snakes, anaconda and the dyeing poison dart frog, whose secretions tip the arrows of indigenous Indians. Contact with its skin can cause paralysis and death.

French authorities had given the pair up for dead 10 days ago after three weeks of fruitless searches but their families believed they were still alive and reached Saül, the village where the men had been heading, just as their relatives resurfaced.

Armed only with a compass, a map and 12 days of food, the two friends had been dropped off on the Approuague river at the Grand Kanori rapids in the centre of French Guiana. They had planned to trek 60 miles west to Saül, population 60, a former centre of the gold rush. It is the only inhabited village for hundreds of miles except for the uncharted camps of Amazonian Indians.

But the two landscape gardeners from the Bordeaux region and the Riviera lost their bearings under the bewildering tropical canopy.

Mr Pillois said: "We intended to get there in 12 days. We walked for 12 days, and after that we thought, 'We're lost, someone will come and get us.'"

They built a shelter and stayed put for three weeks, lighting fires in the hope of attracting attention. Several times they heard helicopters but the forest's thick canopy blocked them from view.

"We ate palm seeds, we drank water as we always had the river next to us. Then we caught insects. We caught giant centipedes, we ate frogs, bird-eating spiders. It was a bit of an acquired taste, but when you are in the forest you have to eat something," said Mr Pillois.

"After three weeks we started walking again, three hours a day. We ended up stopping as Guilhem began to feel bad. Then I heard a plane and said to myself, 'We are a day or two's walk from Saül, so I'll try to get there'. "

Mr Pillois finally reached Saül on Thursday morning, emerging from the jungle on to its airfield. Four hours later, following the directions of Mr Pillois, the search party located his friend.

"We found him on the ground, completely out of breath, extremely emaciated and dehydrated," said Martin André, from the gendarmerie of Cayenne, the administrative capital.

"To have found Guilhem at this place is nothing short of a miracle," said Thierry Le Guen, a doctor. "That forest is as thick as broccoli and the canopy shoots up 40 metres."

However, Mr Pillois's wife, Angélique, said she had never given up hope of finding her husband, an experienced trekker. She said they had walked in the area before and had been advised what insects they could eat.

For indigenous people, bird-eating spiders are a delicacy. They cook them over a fire, plunge them in hot water to remove the hairs, cut them up and eat the soft parts. Spider omelette is a favourite – indigenous locals squeeze out the eggs on to a leaf and smoke them over a fire.

Group B

Title: UK coronavirus recession 2020: what the biggest economic downturn in 11 years means - and what happened during the Great Recession

Body: The UK has officially entered a recession for the first time in eleven years after the corona virus pandemic caused the economy to shrink by 20%.

The Office for National Statistics (ONS) confirmed the UK's nosedive into recession – the deepest recession since records began.

And experts have warned that the country faces a long-road to recovery despite an 8.7% bounce-back in gross domestic product (GDP).

The grim second quarter figures showed the UK suffered the biggest economic hit from the pandemic in western Europe, even beating Spain's eye-watering 18.5% drop.

What is a recession?

A recession is defined as two successive quarters of decline in GDP.

Recessions can results in higher unemployment, lower wages and incomes, increased inequality and higher government borrowing.

What happened last time?

The last recession in UK history took place from the second quarter of 2008 to the second quarter of 2009 with the UK GDP declining by 6%, and was known as the Great Recession. It wasn't until 2013 that the UK economy recovered to its size pre-recession.

The recession was caused by the late 2000s financial crisis, the subprime mortgage crisis and a credit crunch, or the sudden tightening of restrictions to borrowing.

During the Great Recession unemployment in the UK rose by 857,000.

Over the past decade the UK has recorded low earnings growth, record low interest rates, record low productivity growth, record public borrowing followed by record cuts in public spending, all as a result of the Great Recession.

What are experts saying about the pandemic recession?

Experts have warned that hopes of a rapid v-shaped recovery are unlikely.

The Bank of England have warned that the UK economy would not jump back to pre-virus levels until the end of 2021.

Many have also been quick to point out that the UK has performed significantly worse than European peers.

Samuel Tombs at Pantheon Macroeconomics said: "The UK economy has underperformed its peers to an extraordinary degree."

"The underperformance can be attributed partly to the economy's greater reliance on consumer services spending and the high level of labour market participation by working parents, many of whom have left work to look after children," he added.

Melissa Davies, chief economist at Redburn meanwhile warned that the UK faces "a long road" to recovery.

She said: "There is a long road ahead for the UK economy to claw back its pandemic losses, all the while facing deflationary headwinds from large amounts of spare capacity and job losses.

"As the furlough scheme rolls off, more stimulus will be needed to support household incomes, not least if infection numbers rise in the autumn."

Group C

Title: Time for universal basic income now

Body: Like many other people, I found the first clap for NHS workers and carers a moving tribute.

Leaving aside issues around PPE equipment or staff testing, not to mention years of underfunding health and social care, it was in itself a fitting appreciation of the individuals doing incredible work for all of us.

There have also been moves to recognise the many others still working hard on the frontline. The list, after all, is considerable, taking in police, fire brigade, bus drivers, shelf-stackers, refuse collectors, shopkeepers, hospital staff, engineers, delivery drivers, and many others.

We should build on this sense of community togetherness and supporting each other through Covid-19. This is extremely challenging, however, when we continue to live in a very unequal society. The vast majority of the jobs listed above are amongst the poorest paid, some will be on zero hours contracts and will have few workers' rights.

To cover the huge number of people who have been sacked, furloughed or can no longer trade, the UK Government has brought in a package of protections. Although these will have helped, they do not go far enough - the Health secretary Matt Hancock MP admitted himself he couldn't live on the £92-a-week Statutory Sick Pay - nor do they cover everyone affected. The new measures introduced have also brought many complications, from long waiting lists to delayed payments.

This is, of course, on the back of the disastrous welfare cuts program, which has brought misery to many.

Coronavirus has shown what many have been saying for a long time, that the current welfare system is seriously out of touch with modern day work-life practices. We need genuine safety nets to cover all in society. A universal basic income (UBI), often called a citizen's basic income, provides a great opportunity to deliver this.

Spain grabbed the headlines this week with its proposals for a universal basic income, but on closer scrutiny it looks more like targeted support for unemployed people. This measure may well bring benefit to some, but does not seem to be universal nor unconditional.

A UBI, if delivered properly with no conditions and universally, would mean everyone in society would have enough money to meet basic requirements to live a decent life and would be protected in a crisis.

Having a solid monthly income would provide opportunities currently not available to many to study and achieve a better work-life balance, as well as benefit the economy through people following their dreams of starting their own business. Workers would also feel better able to reject minimum wage, zero-hour contracts.

Having a universal service means it is far less likely to be removed on a whim by a government, and creates a stronger sense of resilience and community togetherness.

A universal basic income is something which has had many diverse supporters across Scotland and the wider UK. There are many groups in civil society who have been pushing

for this for a long time, as well as politicians at local and national level. A collective effort of Green, Labour and SNP councillors from Glasgow, Edinburgh, North Ayrshire and Fife, have been exploring the feasibility of a CBI, with a report due later this year.

It would be foolish to think a UBI would resolve economic inequality in our society. It must not be seen as a replacement to any other core services, such as proper support for those with disabilities, or other universal basic services, and needs a fairer tax system to complement it.

But a universal basic income is an idea whose time has come and its introduction would provide a simpler and far more comprehensive cover to those impacted by Covid-19 then the UK Government are currently doing

Group D

Title: How fund is benefiting families in time of need; extra support for parents as they wait for government income

Body: IT has been widely reported how the Covid-19 pandemic has pushed many people into unexpected, financial difficulties.

In many cases, the crisis has left households without a regular income and having to rely on the bare minimum.

During the first few weeks of the national lockdown, thousands of people applied for Universal Credit.

Among them was a family of five, from Leicestershire, who were among those left without any income. Both parents lost their jobs when their workplace closed due to the pandemic.

But they still had three children to feed and look after at home.

The parents applied for Universal Credit, but were left waiting for their claims to be processed as a result of high demand.

With no income, the household was struggling and the pair were unable to buy food or pay for utilities.

LeicestershireLive and the Mercury's There With You Fund was launched with such families firmly in mind. And the fund was able to provide the family with vouchers for food and utilities which were administered through Charity Link.

Elsewhere, another family who were already struggling found themselves in further hardship when their washing machine stopped working.

Before the Covid-19 outbreak, the family's dad-of-three was looking for a job. However, the effects of the pandemic meant he was now struggling to find work.

Universal Credit and Child Benefit were provided but the family were still unable to afford a washing machine. Meanwhile, laundrettes had closed under the lockdown rules.

Susan McEniff, director of marketing and fund-raising at Charity Link, said: "They were struggling to make ends meet."

It was already a stressful time for the family as the parents were also having to be supported after their youngest child was diagnosed with autism. Charity Link accessed the There With You fund - still receiving generous donations from Mercury readers - to supply the family with a washing machine.

Even when in receipt of Universal Credit and other welfare benefits, families and individuals are struggling to support themselves through the acute pressures of the lockdown.

One single mother, from Leicester, had to self-isolate for 12 weeks due to her weakened immune system.

The condition left her at high risk of contracting Covid-19.

On a low income, made up of Universal Credit and Child Benefit, she was struggling to pay council tax and applied for support. While she was waiting for approval on her application, she was unable to replace her broken fridge-freezer.

There With You funded a new fridge-freezer, which meant she could store enough food to feed her daughter while self-isolating.

As more people apply for welfare benefits, the wait for Universal Credit could leave people in an incredibly vulnerable position.

Group E

Title: Time for universal basic income now

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