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The Effects of Financialisation on Development in South Africa

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"I have one life and one chance to make it count for something... I'm free to choose what that something is, and the something I've chosen is my faith. Now, my faith goes beyond theology and religion and requires considerable work and effort. My faith demands-- this is not optional-- my faith demands that I do whatever I can, wherever I am, whenever I can, for as long as I can with whatever I have to try to make a difference." (President Jimmy Carter) May this paper stand as a testament of my faith. May it fulfil its GOD given purpose.

This journey has been long and hard with many critics not understanding the purpose or the desire to accomplish it. Winners don't quit, cause quitters don't win! To present this paper without firstly acknowledging God would be failure on my part. Psalm 66: 1-20. My creator, my redeemer, my pillar of strength I worship your glorious name. To my parents Hellen and Reuben Chipangila, I dedicate this paper to you. Your love, support and sacrifice in ensuring I started and finished this journey has made this victory all the more sweeter. May this paper reflect the son you have raised. To my sisters Melisa and Olga who both played a part in ensuring this journey, I am grateful. Your understanding, opinions and love made the journey all the more attainable. To my Uncle Nivel Karabassis I say thank you. The advice, encouragement and contributions made this journey possible. To my friend and supervisor Dr Ailie Charteris who sowed the idea and made sure to see me through, I can only say thank you as words fail me. Your countless words of encouragement, guidance, wisdom and unwavering effort have not gone unnoticed. The student I am today speaks to the person you have been over this long journey. To Dr Warren Nilsson and my fellow Mphil classmates I can only say thank you for having lived my 2017 Mphil journey with you. You all opened my eyes to the world of possibilities which exist within our communities. I truly believe that we hold the key to a greater tomorrow, may you continue to shake the world around you.

ABSTRACT

Interest in the concept of financialisation has gained traction in both developed and emerging markets. With roots embedded in the economic theory of neo-liberalism, the concept of financialisation can be broadly defined as the growing importance of financial instruments and the financial sector. A large body of empirical work in developed markets has generally indicated a negative association between financialisation and various socio-economic indicators. However, the limited empirical evidence in emerging markets has proved inconsistent. This study examines the presence of financialisation in South Africa since the start of the democratic era covering 1994 to 2017, and explores the relationship between financialisation and several key socio-economic factors in the country including economic growth, investment, inequality, unemployment and innovation. Financialisation is measured using two generally accepted proxies – the contribution of the financial sector to total value added in the economy and the percentage of people employed in the financial sector. In addition, two other measures are used based on the work of Krippner (2005) with the first the ratio of portfolio income generated by non-financial firms relative to revenue yielded by productive activities and the second the ratio of the financial sector's revenue contribution to the economy in relation to the non-financial sector. The Autoregressive Distributive-Lag (ARDL) model is used to examine the long-run and short-run associations between financialisation and the key development indicators.

The study finds evidence in support of the occurrence of financialisation in South Africa post 1994. The results of the statistical analysis reveal that for the generally accepted proxies for financialisation, financialisation has a positive effect on unemployment reduction and economic growth, no effect on inequality reduction and investment, while the evidence with regards to innovation is mixed. The additional results from the Krippner financialisation ratios indicate that financialisation has a positive effect on inequality reduction and economic growth, a negative effect on innovation and investment, while no effect on unemployment reduction. The findings of this study contradict theoretical expectations, as they point to some positive effects of financialisation on the South African economy although there are also some negative effects. In light of this, policy recommendations are provided so as to enhance these positive effects while also safeguarding against further negative effects.

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ADF: Augmented Dickey Fuller

AIC: Akaike information criterion

ARDL: Autoregressive Distributive-Lag

BEE: Black Economic Empowerment

BG: Breusch-Godfrey

BPG: Breusch-Pagan-Godfrey

CLRM: Classical linear regression model

CUSUMQ: Cumulative sum of squares

DSP: Development Strategy and Policy Analysis Unit

ECM: Error Correction Model

ECT: Error Correction Term

Empl_FIRE: Total employment in the financial sector as a percentage of total employment

EVA: Economic Value Added

FDI: Foreign Direct Investment

FIRE: Finance, Insurance and Real Estate

FIRE_VA: Financial sector as a percentage of total value added

FNFCF: Financial to Non-Financial Corporate Cash Flows

FNFP: Financial to Non-Financial Sector Profits

FNFPCF: Ratio FNFP to FNFCF

GDP: Gross Domestic Product

GEAR: Growth, Employment and Redistribution

HQIC: Hanna-Quinn criterion

IMF: International Monetary Fund

INET BFA: BFA McGregor

JSE: Johannesburg Stock Exchange

KPSS: Kwiatkowski Phillips Schmidt Shin

LEmpl_FIRE: Natural Log Empl_FIRE

LFIRE_VA: Natural Log LFIRE_VA

M-C-M: Money-Commodity-Money

MEC: Mineral-Energy Complex

MVA: Market Value Added

NDP: National Development Plan

NFC: Non-Financial Corporation

OECD: Organisation for Economic Cooperation and Development

PICCF: Portfolio Income to Corporate Cash Flows of non-financial firms

PP: Phillips Perron

R&D: Research and Development

SBIC: Schwarz Bayesian information criterion

UK: United Kingdom

US: United States

USA: United States of America

VECM: Vector error correction model

WIOD: World Input-Output database

1. BACKGROUND TO THE STUDY

1.1 Introduction

Since the first democratic elections in 1994, the government of South Africa has made massive strides in improving the lives of its citizens. This was achieved by implementing various socio-economic policies. These policies have seen the quality of labour in South Africa significantly improve, with the level of skilled and semi-skilled employment increasing by 107.6% and 66.3% respectively from 1994 to 2014 (Stats SA, 2014a). However, despite this positive change, the socio-economic impact of these policies has been limited to a select few within the economy (Ashman et al., 2011). For example, the country has experienced a substantial rise in the official (narrow) unemployment rate which excludes discouraged workers since 1994 from 22% to 26.7% in 2017, with unemployment highest amongst youths (Stats SA, 2017c). This escalated unemployment has exacerbated the poverty headcount ratio[1] in the country which stood at 55.5% of the total population with a Gini coefficient[2], which measures the level of inequality, of 0.65 in 2015 amongst the highest globally (Stats SA, 2017b). Poor economic growth in recent years has thus translated to only small improvements in Gross Domestic Product (GDP) per capita that amounted to a mere $5,274.50 in 2016, in comparison to $ 3,390.50 recorded in 1994 (The World Bank, 2018). Economic growth is viewed as critical in overcoming many of the social ills that South Africa faces (The World Bank, 2018). However, with -2.6%, -0.4% and 2.2% economic growth recorded for the first, second and third quarters of 2018 respectively (Stats SA, 2018), economic stagnation remains a reality and a threat to social progression. These socio-economic ills represent a lingering legacy of the apartheid regime.

In 2010, the then South African President Jacob Zuma appointed a working commission consisting of various government officials and stakeholders to establish policies better suited to solving socio-economic ills gripping the nation. In 2012, the commission drafted the 2030 National Development Plan (NDP) as a national vision for the South African economy with respect to socio-economic objectives (National Planning Commission, 2012). The underlying pillars of the NDP include achieving the following by 2030: a reduction of the unemployment rate to 6%, annual GDP growth of 5.4%, GDP per capita of R110 000 from the 2010 base level of R50 000 in 2010 constant prices, an increase in income earned by the bottom 40% of

[1] The poverty headcount ratio is the percentage of the population that lives below the poverty line. Stats SA refers to a person as poor if they live on less than R992.00 per month (2015 prices).
[2] Indicators of income inequality within society. 0 indicates total equality and 1 indicates total inequality.

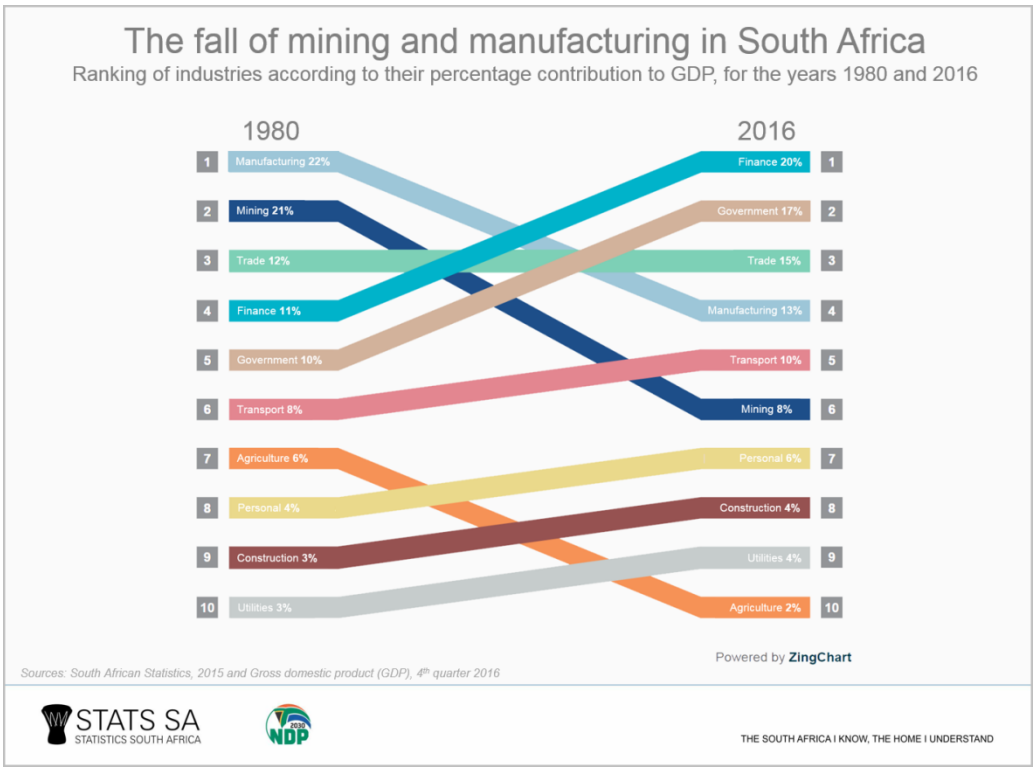
earners, an increase in assets owned by those historically disadvantaged, an increase in the population's access to the electricity grid with a minimum of 90%, access to clean and safe water for the entire population, reduction in green-gas emissions, as well as an increase in renewable energy produced, increase in intra-region and regional trade, upgrading of all informal settlements on more suitable land, more efficient public transport, improving early age education, 50% literacy rate (grade 9 standard) and 90% literacy rate (grade 3 standard), increase in tertiary enrolment to 70%, increase in innovative output, increase in life expectancy to 70 years old, reduction in infant and child mortality, equal access to quality healthcare, reduction in crime and a corruption free society, and a public sector free of political influence and with greater accountability (National Planning Commission, 2012).

The concept of development has traditionally been difficult to comprehensively define, yielding varying meanings to varying contexts and audiences (Abuiyada, 2018). For, instance Myrdal (1974) defines development as the ascending progression of the entire social system, which encompasses both economic and non-economic factors. According to Seers (1972:21) "Development means creating the conditions for the realisation of human personality. Its evaluation must therefore take into account three linked economic criteria: whether there has been a reduction in (i) poverty; (ii) unemployment; and (iii) inequality". Measures of development have traditionally focused on the growth of GDP and related concepts. However, economists have increasely highlighted the inadequacy of such measures in capturing development, and placed greater emphasis on the inclusion of meeting basic human needs and the eradication of poverty within the measure of development (Thorbecke, 2006). In South Africa, the Department of Planning, Monitoring and Evaluation uses the national development indicators as a means of gauging the country's performance annually against these long-term development objectives. A development indicator refers to the quantitative representation of the movement towards achieving a specific goal or value (McGranahan, 1972). They have traditionally been used to determine whether a nation is a "more economically developed country" or "less economically developed". Development indicators are frequently categorised as either social or economic; the former seek to ascertain the quality of an individual's life in a country, while the latter seek to capture the financial well-being of individuals residing within a country (Baster, 1972).

The apartheid era represented a challenging time for the average non-white South African, but an opportune period for big business within the country. The mineral rich nation, with an

abundance of cheap black labour, attracted a large inflow of foreign direct investment (FDI), which was willing to ignore the atrocities committed by the apartheid regime. From as early as 1870, western states pumped large volumes of FDI into the South African economy (Gelb and Black, 2004). In the wake of the international sanctions placed on various South African goods and services that saw a drastic reduction in FDI in the 1970s, the apartheid regime adopted inward looking policies that promoted the growth of domestic conglomerates (Ashman, Fine and Newman, 2011). This promoted the development of the manufacturing and mining sectors. As shown in Figure 1.1, in 1980, the manufacturing sector was the largest economic contributor, accounting for 22% of GDP. The mining sector had grown substantially since 1970, when it accounted for only 9% of GDP as shown in Figure 1.2, becoming the country's second largest industry and accounting for 21% of the economy's GDP (Dollery, 2003; Stats SA, 2017a). Given the labour-intensive nature of these industries, they represented a large percentage of domestic employment, with the mining sector's employment reaching a peak of just over 760 000 people in 1987, as shown in Figure 1.2 (Stats SA, 2017a). This resulted in the South African economy being highly dependent upon the mining and energy sectors, with most economic policies aimed at promoting these sectors. Ashman et al. (2011) characterised the South African economy as being Mineral-Energy Complex (MEC), in which all growth was driven by these sectors.

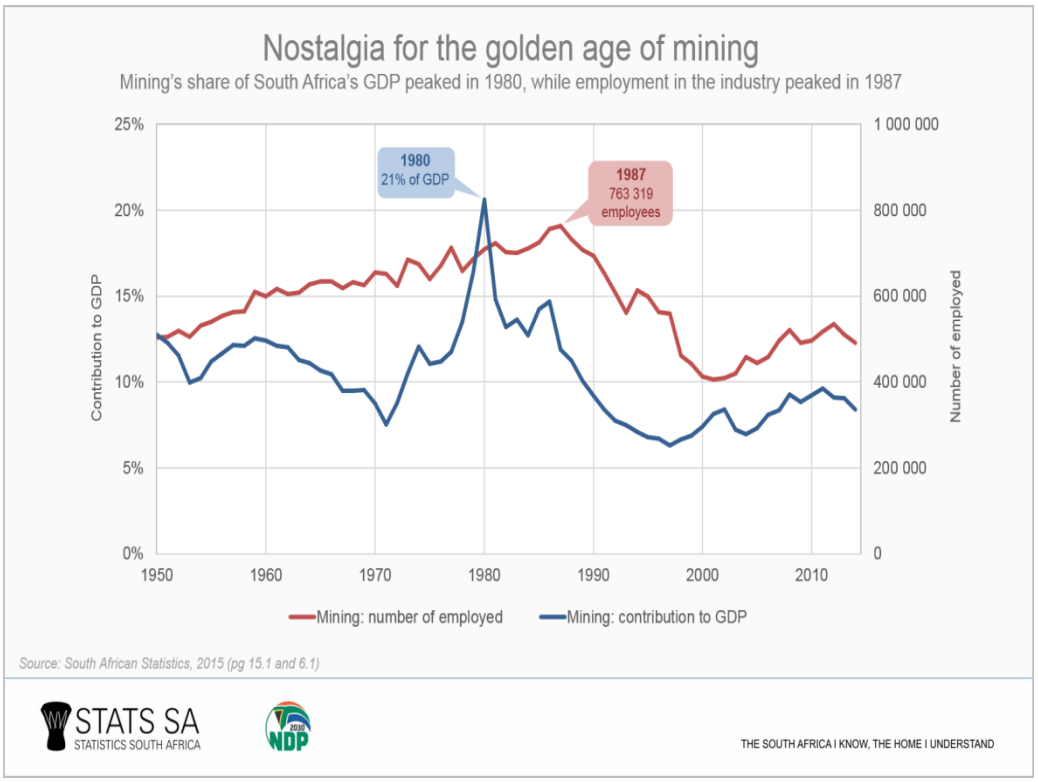
Figure 1.1 The Fall of Mining and Manufacturing in South Africa



(Sourced from: Stats SA, 2017a)

The South African economy has undergone major structural changes since the end of apartheid; in particular, the financial services sector plays a much greater role in the economy compared to the mining and manufacturing sectors which dominated historically. This can partly be explained by the various socio-economic policies adopted by the country post-apartheid such as the Reconstruction and Development programme (RDP) and Growth, Employment and Redistribution (GEAR) (Government Gazette, 1994; Nattrass and Seekings, 2010). A central component of these policies was on state intervention to redress past socio-economic injustices. This would be achieved through the dismantling, restructuring and diversification of key economic sectors (Nattrass, 1994). However, due to the economic demands of changing global trends as well as the growing pressure of fulfilling socio-economic promises, the country adopted more neo-liberal economic policies. This has seen the country pride itself on mirroring the financial institutions of western markets (Ashman et al., 2013).

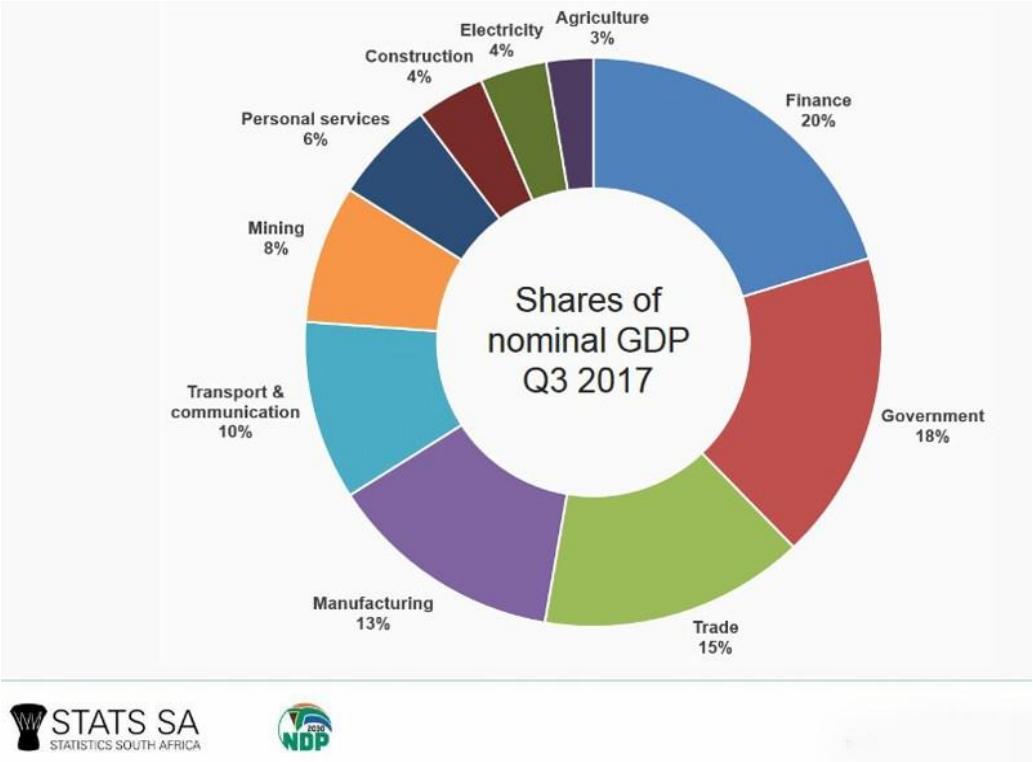
Figure 1.2 Nostalgia for the Golden Age of Mining



(Sourced from: Stats SA, 2017a)

These structural changes are evident in reviewing the current composition of South Africa's GDP in 2017. As outlined clearly in Figures 1.1 and 1.3, manufacturing has slipped to the 4th largest contributor at 13% of total GDP, while mining now only accounts for 8% of total GDP and is the sixth largest contributor. This decline in mining's contribution to GDP over time, which is shown in Figures 1.1 and 1.3, has resulted in inevitable job losses, with the sector only providing employment of 446 000 as at December 2017 compared to 763 319 in 1987. Year on year job losses of 14 000 were recorded over the same period (Stats SA, 2017c; 2017d). The relative shrinking or even demise of the manufacturing and mining sectors has coincided with the rise of the services sector, in particular, finance and business. As at the end of 2017, the financial sector accounted for the largest component of GDP of South Africa at 20% and as of December 2017, the financial and business sector created employment of 2 463 000 jobs domestically (Stats SA, 2017c:3).

Figure 1.3 Shares of Nominal GDP Q3 2017



(Sourced from: Stats SA, 2017d)

The growing significance of the financial sector at the expense of the real sector[3] of the economy is consistent with the process international scholars have termed 'financialisation' (Palley, 2007). More broadly, this structural transformation typically does not happen in isolation with the effects of financialisation witnessed in the greater emphasis placed upon the accumulation of financial assets by non-financial firms, while shareholder maximization is prioritised above all other goals. Consistent with this, the transfer of wealth from the real sector to the financial sector is typically witnessed under financialisation and is associated with the creation of new financial instruments, while placing greater significance on interest earning capital (Fine, 2010). The process of financialisation, however, not only affects firms but also the behaviour of individuals and households. As Stockhammer (2012) asserts, financialisation engages market participants at all levels of the economy, while altering their perspectives, objectives and challenges. Financialised behaviour, therefore, has consequences for everyday life, firms and the country as a whole.

[3] The real sector refers to all sectors that actively contribute to national GDP through trade and commodity production, excluding the financial sector (Krippner, 2005).

The process of financialisation remains a relatively new idea, with most scholars of the opinion that the process began in the early 1980s. Several studies have examined the effects of financialisation on developed countries. Stockhammer (2004), was amongst the first when he studied the United States of America (USA) and several European countries and identified a negative correlation between financialisation and the degree of capital accumulation (investment in capital), which ultimately channelled into a regression in economic growth. Further research by Tomaskovic-Devey and Lin (2011) in the USA also highlighted the change in corporate governance resulting from financialisation that has given rise to wage disparities amongst employees, fuelling inequality, as well as a reduction in domestic consumption (Onaran, Stockhammer and Grafl, 2011). However, financialisation has also been documented to cause an increase in gross household wealth, as well as greater accessibility to credit fuelling domestic consumption (Stockhammer, 2012).

The infancy of capital markets, in addition to the lack of available data, has left an empirical gap with respect to research on financialisation in developing nations. The little research that has been done, however, has yielded inconsistent results. A study by Demir (2007), on several developing countries, found that financialisation had a similar effect (increase) on speculative investment as it did in developed nations. This trend was also found to be true with respect to financial payouts and profitability of the financial sector. Bahçe, Cömert, Çolak, Erdem, Karaçimen, Köse, Orhangazi, Özgür and Yalman (2014) conducted an analysis of the Turkish economy and concluded that financialisation did have a positive effect on household consumption. However, they observed that households did not own more financial assets as a result of financialisation. Furthermore, they noted that an increase in financial payouts associated with financialisation did not occur. Developing nations have been observed to accumulate vast financial reserves, aimed at mitigating against financial downturns as well as maintaining their international competitiveness in the era of financialisation (Bonizzi, 2013). Yenkey, Doering and Aceves (2015) assert that the long-term effects of financialisation remain unclear, with financialised behaviour in developed nations tending to carry a negative connotation, while the opposite is true in developing nations.

1.2 Research Problem and Objectives

The limited research that has been conducted on financialisation in the South African context has predominately focused on the identification of financialisation. Ashman, Mohamed and

Newman (2013) observed general traits of financialisation at several key levels of the South African economy. They highlighted the increased consumption of financial assets fuelled by greater credit availability, as key signs of financialisation domestically. Ashman, Mohamed et al. (2013) documented a negative correlation between financialisation and employment. This negative association was supported by the findings of Mvelase's (2015) unpublished analysis of the South African mining sector. Mvelase (2015) also observed investment within the mining sector to be positively correlated to financialisation, contrary to theoretical underpinnings.

This research aims not only to build on the existing work with respect to financialisation in South Africa, but also to add to the growing body of literature on financialisation within a developing nation (South Africa). In particular, the goal is to ascertain the effects of financialisation on key development indicators, and suggest innovative policy reforms to ensure the likelihood of achieving the 2030 development plan. The main research question underpinning this study can be expressed as follows:

What are the economic and social effects of financialisation in South Africa?

This research question can be broken down into the following research objectives:

- to determine whether financialisation has occured in the South African economy;
- to examine the effects of financialisation on South Africa with specific focus on the following key development indicators: investment, economic growth, inequality, unemployment and innovation; and
- to advise government on appropriate policy and practices to enhance the positive effects of financialisation but limit the attendant negative side effects.

1.3 Data and Methodology

To adequately answer the first two research questions a quantitative analysis was undertaken. The outcome of this quantitative analysis was then used to inform the discussion on appropriate policy reforms. Secondary data from various databases was used to conduct this quantitative analysis. Data was sourced from Statistics South Africa, the South African Reserve Bank (SARB), United Nations Development Programme (Human Development Report), Standardized World Income Inequality Database, BFA McGregor (INET BFA) and the International Monetary Fund (IMF).

1.4 Scope of the Study

This study aims to examine the occurrence of financialisation in the South African economy, and the effects thereof on key development indicators in South Africa. Although the developed country evidence of the effects of financialisation has produced fairly consistent results; the developing country evidence has been exactly opposite to this as the effects of financialisation appear to be country-specific. As such, the results of other studies cannot simply be translated to South Africa without studying the country explicitly. With that in mind, it should be stressed that financial policies in South Africa tend to favour large corporations, with the spill-over effects rarely taken into account. However, with the state currently taking a different stance with regards to radical economic transformation, there is need to understand the workings of the economy and the existing financial playing field in the country. However, financialisation is a relatively broad concept that encompasses numerous facets ranging from increased international capital flows to greater significance of household investors. For the purpose of this study some aspects of financialisation shall be excluded, with greater emphasis being placed upon the structural shift in the dynamics of the economy. It is on that note that this study sought to identify the occurrence of financialisation in South Africa and its effects on key development indicators, with the goal of formulating financial policy that would make finance more socially inclusive.

1.5 Importance of the Study

In light of South Africa's history and the deep-rooted nature of the socio-economic challenges faced by the new democratic government, massive strides have been made in correcting past injustices. But, there is no doubt that much remains to be done given the inequality, poverty and unemployment still gripping the nation. With many western nations choosing to embrace neoliberal and capitalist orientated economies, there has been growing pressure to follow suit or risk falling further behind economically. As such, South Africa has undergone massive structural transformation of its economy post 1994 that are consistent with the process of financialisation. The evidence from international studies suggests that the effects of financialisation are largely negative especially on inequality, employment, investment and economic growth. Very little research has been conducted on the impact of financialisation in developing countries, which is critical as these nations are typically characterised by greater inequality to start with. While some studies have examined the structural transformation of the South African economy and its causes, to this author's

knowledge, no study has fully interrogated the economic and social ramifications of financialisation on the country. This is critical given that the effects of financialisation may be detrimental to the country's ability to achieve the NDP 2030 plans especially in terms of boosting economic growth, increasing employment, reducing inequality and promoting innovation. Should the government continue to drive the importance of the financial sector or should they seek to give greater support to the manufacturing and the mining industries as the bedrocks of the economy? Given the "new era" that the appointment of President Cyril Ramaphosa in 2018 ushered in, finding answers to this question is certainly timeous.

1.6 Structure of the Study

The remainder of this study is structured as follows: Chapter 2 provides an in-depth examination of the concept of financialisation, as well as an analysis of the three schools of thought that have been proposed to explain financialisation. Furthermore, this chapter explores the various empirical studies that have examined the effects of financialisation at both an international and local level. Chapter 3 describes the dataset compiled for this study and outlines the methods employed to determine the effects of financialisation on key development indicators. In Chapter 4 the findings from the various tests conducted are presented and discussed drawing on the theoretical and empirical framework presented in Chapter 2. Chapter 5 examines remedial policies and practices aimed at addressing financialisation so as to enhance the positive effects and minimise the negative effects. Chapter 6 concludes this study, briefly summarising the results, highlighting limitations of the study and presenting ideas for future research in this area.

2. LITERATURE REVIEW

2.1 Introduction

As briefly highlighted in the previous chapter, financialisation can be characterised as the abandonment and altering of the traditional functioning of the economy in the pursuit of a more finance-orientated economy, which has widely been embraced in many developed economies. The term financialisation has also gained traction in various emerging markets as a means of explaining the rise in the importance of the financial sector. This chapter briefly explores the various economic policies that gave rise to the process of financialisation, examines the concept of financialisation, highlights the three schools of thought under the umbrella of financialisation, and reviews its effects in both developed and developing economies, including what is known about South Africa.

2.2 Keynesian and Neoliberal Economics

Traditional/classical economic theory of the early 1900s was based upon the principal that free markets would automatically correct and ensure full employment in the economy (Keynes, 1936). The traditional economic theory was rooted in the belief of minimal or no state intervention in the functioning of the economy, with capitalism being the driving force of the economy. Traditional economics is governed by the assumption that the self-interest of individuals regarding economic decisions will ensure that resources are best allocated within the market (Peters, Elliott and Cullenberg, 2002). Furthermore, value theory is used to determine the price paid for a resource; with wages, production and technology taken into account. Classical economists believe that the economy is prone to natural business cycles that gradually correct themselves on the basis that wages and prices are flexible to ensure equilibrium in the labour market. Additionally, investment in the economy is spurred by excess income being channelled into savings that are used for investment purposes. The rate of investment within the market is determined by the interest rate (Meng, 2006).

John Maynard Keynes in the 1930s theorised an alternative school of thought to that of the traditional school to explain the Great Depression, known as the Keynesian theory (Keynes, 1936). The Keynesian school of thought was founded on the assumption that wages and prices are slow to adjust to changes in supply and demand, resulting in phases of surplus and shortages of labour. This is attributed to labour being employed at the nominal rather than the real wage rate, which is difficult to adjust, as it results in greater unemployment during a period of recession (Jahan et al., 2014). Additionally, Keynesian economics is founded on the

assumption that there is an uneven relationship between investment and saving rates, which is determined by factors other than interest rates, such as disposable income and consumer expectation. Keynesian economics takes a more reserved stance with respect to the stock market as opposed to traditional economics. That is, Keynes maintained that high transfer and trading fees be imposed on equity trading, in order to limit accessibility and speculative trading on the stock market by the average citizen (Mini, 1995).

Keynes theorised that the solution to the Great Depression lay in the ability to stimulate investment by creating a multiplier effect in the economy (Jahan, Mahmud & Papageorgiou, 2014). Total output in the economy was a function of: consumption, investment, government expenditure and net exports. Keynes believed that investment could primarily be stimulated by the use of an expansionary fiscal policy. This could be achieved through two channels, namely; lower taxes and greater government spending which would stimulate greater consumption, greater production and ultimately greater employment (Keynes, 1936). Moreover, Keynes (1936) suggested that the use of an expansionary monetary policy could also achieve the desired outcome by lowering the interest rate on debt acquired in order to spur consumption and spending on consumer goods.

The collapse of the Bretton Wood system in the early 1970s marked the end of the post war boom and the Keynesian policies associated with it. At the same time, it ushered in the neoliberal era, which marked a mammoth shift in the policies governing western nations, with the USA and Britain forerunners in embracing this theology (Ashman, Fine & Newman, 2013). Grounded in Adam Smith's 1776 The Wealth of Nations, neoliberal economics rests upon a *Laissez Faire* approach. It follows the ideology of institutional and individual freedom, accompanied with market freedom and no state intervention in the running of the economy (Prechel, 2007). State intervention is viewed as counter-progressive to the natural law of order, creating more destruction than good. Neoliberal economists suggest that with the freedom of choice, comes the responsibility of the consequences of those choices. Neoliberal economics was founded upon the belief that the economy is naturally efficient in the allocation of resources to where they can best be utilised, thus eliminating the need for state intervention. Furthermore, neoliberal policy makers believe that this principal be applied to every aspect of daily living. Neoliberal economics regards the importance of entrepreneurs in the operation of the economy, as they ensure greater competition and innovation (Prechel, 2007).

In the early 1980s neoliberals believed the solution to the stagflation experienced in the west could be resolved with minimal state intervention as the market would naturally correct itself. However, in achieving this they advocated for: greater privatisation, tax reductions in order to increase capital availability, elimination of various social programs, creation of new commodities and the expansion of capital markets through the elimination of various policies (Prechel, 2007). In ensuring economic growth during the 1980s the adoption of neoliberal policies led to the altering and redistribution of resources among societal class structures. According to Harvey (2005), neoliberal policies ensured and safeguarded the economic status of the elite. It was these policies that created an environment conducive to greater speculative investment at the expense of conservative investments, which ultimately set the foundation for financialisation (Ashman et al., 2013).

Following the introduction of Keynesian economics by Keynes in the early 1930s, several questions and contradictions arose from various neoliberals. This gave rise to the post-Keynesian school of thought which aimed at addressing the short-comings of the Keynesian school of thought, as well as expanding its scope (King, 2002). Although similar, post-Keynesian economics varies considerably from traditional Keynesian economics. Building on the foundations set by Keynes, post-Keynesian economics holds to the premise that economic activity is demand-driven in a capitalist monetary economy. Furthermore, post Keynesian economists believe in the ability of state intervention, in form of fiscal policy, to combat business cycles (Aboobaker, Kohler, Prante and Tarne, 2016). According to post-Keynesian economics, the economy as a whole can be broken down into smaller market participants such as; firms, labour unions and government, which are linked based upon an asset and liability relationship. In this relationship, firms borrow funds from capital markets that are invested in the labour market, in order to produce goods and services that households consume. Returns generated from this process are used to repay capital markets their initial investment plus interest. This process tends to be highly productive but volatile, due to future uncertainties (Aboobaker et al., 2016). In periods of greater optimism by market participants, domestic investment increases spurring domestic production, consumption and employment and feeds into greater capital market returns. However, in periods of greater market scepticism domestic investment shrinks leading to greater unemployment and less capital accumulation. According to post Keynesian economists, booms and busts caused by market perceptions can be soothed by the use of fiscal policies (Aboobaker et al., 2016).

The majority of macroeconomists from the varying economic schools of thought have reached a general consensus with respect to the influence played by the financial sector in promoting economic growth (Hein, 2009). However, the degree of influence of the financial sector on the economy in ensuring growth remains debated. This is mainly due to the divergent opinions on the effects of financial markets on the growth and distribution of wealth within the economy (Hein, 2009). Conventional economics has lobbied for financialisation based on the underlying principle that the expansion of financial markets equates to great economic efficiency (Palley, 2007). Through the expansion of markets, resources are better allocated to future economic conditions, markets can better price future economic outcomes while agents in the market can better construct risk and return portfolios.

2.3 Defining Financialisation

Financialisation is an extensive concept that incorporates numerous facets, with scholars providing varying definitions thereof. Broadly, it can be defined as "the growing and systemic power of finance and financial engineering" (Blackburn, 2006:39). This view re-inforces an earlier description by Epstein (2005), as the increase in the influence of financial players (institutions, markets etc.) in the working of local and global economies. Financialisation can principally be seen in the change in the capitalist accumulation process, from the accumulation of physical assets to financial assets (Stockhammer, 2007) as well as in the increasing prominence of shareholder maximisation as the *sine qua non* goal of non-financial firms rather than full employment, industrialisation or technological innovation. Krippner (2005), however, provides a narrower definition of financialisation, as the amassing of profits primarily through financial channels rather than through conventional channels such as commodity production and trade. It has, however, been suggested that the multiple facets of the concept of financialisation reflect the various schools of thought on the subject. Three principle schools of thought are acknowledged on this front - the regulation school of financialisation, financialisation and shareholder value and lastly financialisation of everyday life (French, Leyshon and Wainwright, 2011). These views are examined in more detail in the following section.

Financialisation has been said to occur at both the macro and micro level (Palley, 2007). Typically it is seen in the growing importance of the financial sector at the expense of the real sector of the economy, the transfer of wealth and the increase in income disparity and wage stagnation (Palley, 2007:2). Additionally, financialisation has been characterised by the deregulation of the financial sector, increased exchange rate volatility and greater

international capital flows, changes in corporate culture that govern non-financial firms and greater access to credit by groups previously underserviced (Stockhammer, 2007). According to Fine (2010), the growing significance of interest earning capital and rational in altering the economic activity within a country characterises the process of financialisation. Ultimately financialisation has altered the challenges, objectives and perceptions of market players (Stockhammer, 2012). Financialisation occurs through three conduits which include the change in: the macroeconomic policy of a country, the operation and structure of the financial sector and market players, and the conduct of the real sector (Palley, 2007).

While financialisation and financial inclusion vary with respect to what drives them, they do share a commonality with respect to how people accrue and control their assets (Yenkey, Doering and Aceves, 2015). Since the end of the industrial revolution and the emergence of the financial era, the use of various financial concepts to describe events by non-financial personnel has become the norm. Terms such as financialisation and financial inclusion have been used loosely and interchangeably to describe similar yet contextually separate events. Financialisation, which has its roots embedded in the disengagement of state assistance (welfare) in advanced economies, is a stark contrast to financial inclusion, which is embedded in the protection of an individual's livelihood in less developed countries (Yenkey et al., 2015). According to Mahendra Dev (2006) financial inclusion can be defined as the provision of banking services (credit, savings and insurance) to the previously low-income and underserviced sector of society, at a minimal cost. Financial inclusion is, however, seen to manifest itself in the process of financialisation which is a multifaceted concept with several characteristics that encompass the process of financial inclusion.

The rapid spread of financialisation has been closely linked to the adoption of neoliberal practices. However, there is a growing debate amongst academics who are of the opinion that financialisation facilitates the process of neoliberalism contradicting the initial assertion that neoliberalism begot financialisation. Dumenil and Levy (2004) suggested that the growing power of financial markets caused by financialisation led to the adoption of neoliberal policies to benefit participants of financial markets. Kotz (2008) presents a contradictory opinion to that of Dumenil and Levy (2004) suggesting that the adoption of neoliberal policies spurred the restructuring of capital markets and ultimately financialisation. Some scholars such as Sweezy (1994) have a completely polar opinion as to the occurrence of financialisation and neoliberalism, suggesting that each occurred independent of each other. Sweezy (1994) further argues that the growing economic stagnation and monopolistic power

of the late 1970s, led to a channelling of funds from the real to the capital sector of the economy causing financialisation (Kotz, 2008). However, despite these varying opinions most scholars do conclude that financialisation and neoliberalism typically occur in tandem (van der Zwan, 2014).

This close association between financialisation and neoliberalism mirrors the intertwined relationship that exists between financialisation and globalisation. Firms in the 1980s experienced a general shift in the value creation chain that involved the dismantling of the production process, and either the outsourcing or off-shoring of this production aspect. This process was formally known as the globalisation of production and coincidently occurred in tandem to financialisation (Milberg, 2007). Globalisation of production was done in order to create greater value by cutting costs. According to Milberg (2007), globalisation has played a momentous role in the sustaining of inflated levels of financialisation. Likewise, financialisation has enticed firms into greater cost reduction and greater globalised production. The nature of "financialisation is a bit like globalisation- a convenient word for a bundle of more or less discrete structural changes in the economies of the industrialised world" (Dore, 2008:1097).

2.4 Schools of Thought on Financialisation

Three distinct interpretations on financialisation have been presented in the literature – the regulation view, the critical social accountancy view, and the financialisation of everyday life. Each of these explanations are described and the transmission mechanisms by which they manifest are discussed in the following sub-sections. Additionally, the effects of financialisation on unemployment, inequality, economic growth, innovation and investment are highlighted under each distinct school of thought.

2.4.1 The Regulation School of Thought

2.4.1.1 Background

Following the gradual decline of the Fordist regime of accumulation in the late 1960s due to rising wages and declining production, French regulationists began formulating a finance backed growth regime (Boyer, 2000). The accumulation approach to financialisation tends to have a close association with the regulation school of thought. However, this paper goes beyond this association and broadly explores the scholarly contributions made by both Post-Keynesian economists, economic sociologists and political economists. The regulation school of thought focuses on the way financial systems dismantle and build regimes of accumulation

of production and consumption systems (French et al., 2011). This is typically broken down into two: the accumulation regime and the mode of regulation. The former entails observing the growth patterns of the productive and consumption systems based on technological advancement, while the latter incorporates the formation of institutions that direct the accumulation process (Grahl and Teague, 2000). This school of thought also suggests that the relationship between money and finance can be partially attributed to the Marxism theory and its inherit interest in the significance of money in causing a financial crisis (French et al., 2011). According to Lipietz (1987), the regulation theory can be viewed as an inspired Marxist growth model that seeks to overcome the historical and contingency shortcomings of the Marxism theory. The Marxism commodity theory of money is built upon the premise of paper money (a commodity) taking the form of a universal denominator, through which value can be ascertained and a necessary gauge through which the enormity of a commodity's value can be expressed socially (Lucarelli, 2010).

Marx identifies three fundamental functions of money: (i) its use as a unit of account, (ii) its role in circulation, and (iii) its abstract representation of value. Any commodity that can perform these functions is defined as a monetary standard. When money takes on the role as a measure of value and a yardstick by which prices are assigned, it can then perform the role as a medium of circulation (Lucarelli, 2010). According to de Brunhoff (1979), when money becomes a medium of circulation, it is automatically backed and approved by government as legal tender and issued as fiat money. It is under these conditions that the ability of money to act as a measure of value is socially validated. During the process of circulation, money additionally embodies the role of a universal equivalent in the creation of prices (de Brunhoff, 1979). In order for the quantity of money in circulation to adjust to the sum of prices, there is need for the hoarding and dishoarding of money in circulation. It is under the above premise that Marx formulated the money-commodity-money (M-C-M) flow cycle, which begins with money that is dispensed to pay for labour capital. This labour capital is then engaged in the production process to yield goods and services that are then sold on the open market to generate a greater quantity of new money (Graziani and Vale, 1997). In the general M-C-M cycle, money facilitates the process of circulation in which the social character of production is absorbed by the action of buying and selling on the part of private individuals (Lucarelli, 2010).

A break or contradiction in the M-C-M cycle would be equivalent to a financial crisis which could manifest from a number of events. These range from a decline in profit rates,

overproduction in the market, under consumption, over accumulation of labour or disproportionality (Clarke, 1994). This is in direct contrast to the Keynesian school of thought which asserts a lack of effective demand in the market (fall in expenditure relative to output) as the cause of a financial crisis. Additionally, a collapse in the marginal efficiency of capital stemming from an unrealistic increase in the expected return on capital is also cited as a crisis causing factor according to Keynes (Ge and Liu, 2010). Post-Keynesian economics has suggested that the cause of a financial crisis is rooted within the complexities of private debt. For example, Minsky's financial instability hypothesis proposes that a continual accumulation of debt relative to GDP eventually culminates in an economic crisis (Keen, 2015). Post Keynesian economist Godley has also highlighted the role played by private debt, by showing the burden imposed on the private sector from the state (taxes) and external sector that forces the private sector into unsustainable continual borrowing. This unhealthy debt would eventually manifest into an economic downturn (Keen, 2015).

In more recent times, scholars from the regulation school of thought have taken a keen interest in the role of financial systems in the role of accumulation and investment as the driving force behind growth, which has seen the development of new institutions such as credit rating agencies as well as greater ownership of financial assets by the labour force. According to Boyer (2000), accumulation in this respect represents corporate governance and capital mobility aimed at growing the financial sector and creating a more flexible workforce, while maximising shareholder value. Boyer (2000) further asserts that only under such regulations would an accumulation regime sustain and replicate itself, arguing that the sustainability of a financialised regime is due to greater financial innovation that has allowed it to evolve. Aglietta and Reberioux (2005) describe the finance driven regime as a process driven by the growth in the capacity and liquidity of the capital market, as well as the growing importance of institutional investors. It is only under these regulations that financialisation may be sustained. However, in contrast to Boyer (2000), Aglietta and Reberioux (2005) have a less optimistic view of the longevity of financialisation.

2.4.1.2 Transmission Mechanism

Sociologists in the scholarship of the regime of accumulation have observed that the process of financialisation occurs when corporations (financial and non-financial) accrue profits primarily through financial activities, rather than through the traditional productive route (Krippner, 2005). Furthermore, they argue that with an increase in profits being accrued by NFCs, the percentage of payouts by these corporations to the financial sector has

subsequently increased. This twofold movement has given rise to a predicament for NFCs that channel accrued profits back into the financial markets, as it creates a crowding out effect that ultimately results in a reduction in available funding for these firms that can potentially be reinvested in tangible productive assets. This process inadvertently creates a slowdown in accumulation (van der Zwan, 2014). According to Marxist sociologist Arrighi (1994), financialisation represents a repetitive developmental phase in capitalism, which occurs when heightened international competition persuades capitalist elites into financial investments as opposed to industrial investments. This form of financialisation has been documented across America and most of Europe (Stockhammer, 2004).

Crotty (2005), along with other scholars such as Milberg (2008) and van der Zwan (2014), has suggested that the process of financialisation and globalisation are intertwined concepts that complement each other, rather than two separate analytical frameworks. According to Crotty (2005), the slowdown of accumulation is embedded in the concept of the neoliberal paradox, which states that the opening of markets has shifted the emphasis of firms from productive activities into the redistribution of funds to shareholders. Global competition, coupled with domestic demands, has pressured firms into off-shoring production in order to cut back on costs, with gains from productive activities being channelled to shareholders as opposed to being reinvested in productive activities and thus fostering unemployment (Assa, 2012).

Additionally, economists of unorthodox opinions in the scholarship of financialisation have suggested that financialisation has benefited institutions that accrue profits from financial instruments and transactions known as rentiers (van der Zwan, 2014). The declining economic contribution of the real sector relative to the financial sector comes at the expense of the real sector's middle-income workforce, who experience greater wage stagnation and lower wages (Gołębiowski, Szczepankowski and Wiśniewska, 2016). Furthermore, the greater economic contribution of the financial sector culminates into weakened bargaining power and economic policies aimed at protecting remuneration structures (Gołębiowski et al., 2016). Subsequently the growing wage stagnation and indebtedness by households has manifested into income inequality, with rentiers better-off in the current financial climate. Based on Keynes economic crisis, accumulation scholars have argued that there is a growing likelihood of economic downturns occurring leading to unemployment, with economic growth regimes overly reliant on debt consumption (Lapavitas, 2009). This is primarily due to the economic inequality that has been created by growing indebtedness coupled with asset

price volatility. Accumulation scholars argue that the 2008 financial crisis was a mere manifestation of the financialisation process, and thus dismiss other explanations (Lapavitas, 2009). Ultimately the process of financialisation has decreased the financial sovereignty of economies globally, with this being more apparent in developing economies. Furthermore, this has presented an alternative outcome to the underlying assumption that financial markets are efficient as proposed by neoclassic economics (van der Zwan, 2014). Financialisation, according to accumulation scholars, can be viewed as a political shift that has been closely associated to the rapid adoption of neoliberalism and financial dominance of the US.

2.4.1.3 Criticism

Critics of the accumulation regime of financialisation have cited assumptions of the theory of financialisation, such as the intent and efficiency of the wealth-maximising class, as a short-coming. Furthermore, financialisation is argued to be unclear due to its lack of historical underpinning to substantiate how it truly developed (van der Zwan, 2014). This has resulted in financialisation appearing abstract, such that finance is perceived as the driving force to the rapid growth of finance (Dumenil and Levy, 2005). However, works by Krippner (2012) and Stein (2011) have suggested that there exists a strong historical foundation for financialisation. According to Stein (2011), financialisation has foundations in the industrial/economic downturn of the 1970s that led to the de-industrialisation of the USA relative to her competitors. Stein (2011) further asserts that the inability of the USA to adopt more favourable economic policies as opposed to the stringent inflation regime of the Carter administration that was adopted, led to the flight of capital from the economy. This coincides with the adoption of neoliberal policies highlighted earlier. Along similar lines, Krippner (2012) suggests that the economic crisis of the 1970s within the American economy led to policymakers adopting domestic policies, which inadvertently supported the process of financialisation. Krippner (2012) claims that financialisation is an unintended outcome of American policymaker's narrow perspective of capital.

2.4.2 The Critical Social Accountancy School of Thought

2.4.2.1 Background

The critical social accountancy view of financialisation, also known as the financialisation and shareholder value approach, has a close association with scholars from the University of Manchester. This approach, which is primarily based on a political/economic perspective of financialisation, initially emerged in the 1980s, and led to the era of Economic Value Added

(EVA) and Market Value Added (MVA) in the USA (Froud, Haslam, Johal and Williams, 2000). In the 1980s, the initial focus of this approach was solely on measuring and maximising shareholder value through dividends and share price appreciation, while remunerating management for the attainment of this objective. According to Froud et al. (2000), the divergence between investor expectation and production market abilities with respect to real asset growth rates, led to financial innovation in order to bridge this gap.

Several key conditions need to be satisfied in order for financialisation to occur, these being: investors' willingness to invest in corporations, investment returns matching such investments, and corporations willing to restructure themselves with the objective of cutting costs (Froud et al., 2000). As a result, production decisions tend to be dominated by the maximisation of shareholder value, while seeking to reduce production costs and increasing stock prices without regard for the objectives of full employment, income equality, technological innovation, or deepening industrialisation (Levy-Orlik, 2014). This has led to a narrowing of perspectives by corporations that are willing to sacrifice long-term performance, in order to achieve short-term shareholder value. According to the critical social accountancy school of thought, this narrowing of perspectives by corporations has been the fuel to sustaining financialisation (French et al., 2011).

This approach further asserts that there is a strong middle class driven by the desire to generate long-term returns by investing excess savings. This form of modern financialisation has seen middle class investors entrusting institutions with the mandate of maximising their returns from invested savings. It is this investment sentiment that has shaped capital markets, while fuelling financialisation. However, this type of financialisation has been blamed for the collapse of the corporate world due to greater instability leading to unemployment and thus deepening social injustice (French et al., 2011).

2.4.2.2 Transmission Mechanism

The shareholder value approach to financialisation arises due to the pressure exerted on NFCs by financial markets to adopt a shareholder maximisation objective. Like the accumulation regime, the shareholder value approach views financialisation as a redistribution process, in which management, shareholders and employees represent a social class similar to that of rentiers (van der Zwan, 2014). However, under the accumulation regime, financialisation is considered a global phenomenon, while under the critical social accountancy school, the

financialisation of the shareholder is considered to be more an institutional practice at a national level.

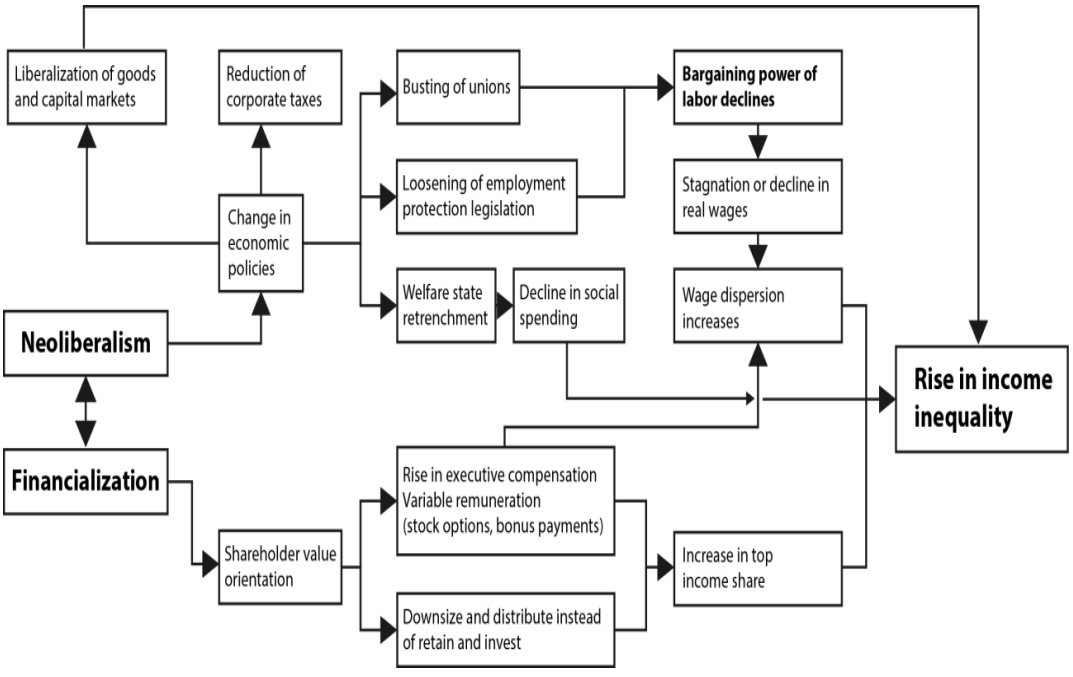
The shareholder approach has historically had a strong affiliation to corporate performance, and shares close ties to the corporate phenomenon known as agency theory. Proposed in the late 1970s by scholars such as Jensen and Meckling (1976), the principal agency theory refers to a contractual agreement between several parties, in which the principal (one party or more) engages another party, known as the agent, to render a service on their behalf. This contractual agreement requires that the principal delegates authority with respect to decision making on their behalf to the agent (Jensen and Meckling, 1976). In the corporate setting the principal represents shareholders while the agent refers to corporate management. In the ideal corporate environment, the management (agent) should act in the interest of shareholders (principal) in order to maximise shareholder value by taking corporate decisions that increase the profitability of the corporation. However, the principal agent problem arises when managements' desired objectives are in conflict with those of the shareholders, as management has its own utility maximising objective and risk appetite contrary to that of maximising shareholder value (Jensen and Meckling, 1976). Agency theory proposes that the remedy to this dilemma lies in aligning the objectives of management with those of shareholders by merging ownership and control. This can be achieved by remunerating management based on corporate performance, offering management an ownership stake in the corporation, as while as having shareholders take a more active role in the daily management of the entity (Shapiro, 2005).

In addition to the shareholder value and agency theory that dictates corporate culture, performance measures such as return on equity and performance outlook have been used more abundantly (Widmer, 2011). Given the corporate environment, management is faced with undue pressures to meet performance expectations given their remuneration packages. This, in turn, forces them into various forms of corporate restructuring such as departmental/workforce trimming, pay cuts and adjusted working hours in order to remain competitive while meeting shareholder expectations. Additionally, managerial perspectives change focusing narrowly upon areas of competency. Ultimately the pursuit of shareholder value maximisation increases social inequality between the management and the workforce, while reducing job security and workforce satisfaction. However, despite these challenges financialised corporations opt to redistribute financial gains generated to shareholders, as

opposed to reinvesting them back into the entity in order to maximise long-term stakeholder value (Lazonick and O'Sullivan, 2000).

A graphical illustration by Dünhaupt (2014) in Figure 2.1 depicts how the adoption of the shareholder value approach potentially culminates in higher inequality and unemployment, at the expense of capital accumulation. According to Dünhaupt (2014), financialisation and the adoption of neoliberal policies can be seen as corresponding concepts. The growth of neoliberalism has altered economic policies through the lifting of restrictions on goods and capital markets, while reducing corporate taxes and altering the traditional workforce structure. The neoliberal paradox (Crotty, 2005), as earlier detailed in section 2.4.1.2, places pressure on work structures, forcing the abandonment of traditional economic objectives such full employment and economic equality which strips the bargaining power of the workforce. Epstein (2006) proposed that neoliberalism and financialisation exhausted the profits of NFCs to which the majority of the working class belong, resulting in greater wage stagnation of the average worker relative to top management thus fuelling inequality.

Figure 2.1 Hypothesized Contribution of Financialisation to Income Inequality

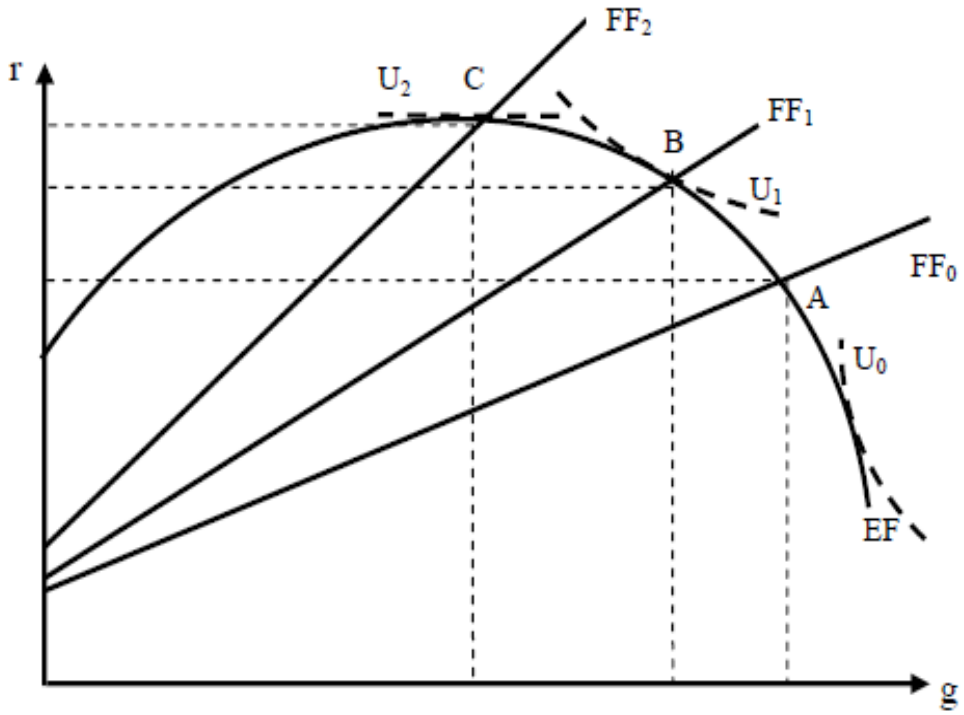


(Sourced from: Dünhaupt (2014:8).

Stockhammer's (2004) analysis of the contemporary changes of corporate governance experienced by firms in the post-Keynesian era, was one of the first examinations into the

effects of financialisation at firm level in the age of managerial capitalism. Stockhammer (2004) modelled the motivation and utility derived by both managers and shareholders of corporations, given the financial constraints experienced in the current corporate environment. He examined the change in utility functions of management in their pursuit of shareholder value, highlighting the trade-off between growth and rate of return. Hein and van Treeck (2008) have carried out the most recent systematic review of Post-Keynesian theory of the firm in light of financialisation, adding to the existing work on the matter. In light of Stockhammer (2004) and Hein and van Treeck (2008) modelling of the firm in Post-Keynesian era, the mechanism through which the critical accountancy approach to fininancialisation occurs can be depicted graphically, as shown in Figure 2.2. The two axes (g) and (r) represent the maximum rate of accumulation (growth) and rate of return a firm can earn respectively (Stockhammer, 2004). The lines denoted FF_i (finance frontier) reflect the financial constraints experienced by firm managers in their investment decisions.

Figure 2.2 Shareholder Value Orientation and Investment Decisions at the Firm Level



(Sourced from: Hein and van Treeck, 2008:4).

Firm investment (I) can either be a function of retained earnings or external finance and is inversely related to the distribution of profits as follows:

$$I = s_f(\prod - i_b k_b) + x_b I + x_s I \quad (2.1)$$

where $\prod$ represents firm profits, s_f is retained profits less dividend payments, i_b is the cost of capital or interest rate, k_b refers to firm loans/ bonds, x_s and x_b are the proportion of the investment funded by equity and bond issues/ bank loans respectively (Hein and van Treeck, 2008:4).

The rate of return (r) can be defined as $r = \frac{\prod}{k}$, while the leverage ratio can be expressed as $LEV = \frac{k_b}{k}$ (Hein and van Treeck, 2008:4). Furthermore, the rate of accumulation can be defined as $g = \frac{I}{K} = \frac{s_f(r - i_b LEV)}{1 - x_b - x_s}$ (Hein and van Treeck, 2008:4). According to Hein and van Treeck (2008), a firm can achieve a higher rate of accumulation for a given rate of return, provided the firm minimises cash outlays in the form of dividend and interest payments while increasing investment funded with external financing. Graphically this can be represented by a clockwise and downward shift of a firm's finance frontier FF_i. In addition to the finance frontier, firm managers are also faced with the constraint of trying to enlarge their expansion frontier EF, which refers to the profit rate that a firm can accrue given the growth strategy it adopts (Hein and van Treeck, 2008). The expansion frontier can either be downward or upward sloping if a firm experiences a higher or lower rate of accumulation respectively, which is influenced by a firm's economies of scale and scope in addition to its technological and logistical efficiencies (Lavoie, 1992:114-116). A firm's manager can choose to pursue growth and a greater market share at the expense of current profits, indicating a trade-off from within the expansion frontier constraint (Stockhammer, 2004). Managers of firms display different preferences with respect to the profit and growth trade-off, which is represented by the indifference curves denoted U_i (Hein and van Treeck, 2008).

Based on Post-Keynesian economic theory of the firm, the point at which a firm's expansion frontier and finance frontier intersect determines the firm's accumulation decision (Lavoie, 1992). Any accumulation decision chosen within the expansion frontier would not maximise both growth and profits given the firm's constraints (Stockhammer, 2004). According to Lavoie (1992), firms are driven by growth, with profit being a channel to achieve this objective. However, financialisation is expected to affect the indifference curves of managers faced with the profit and growth trade-off. Faced with the mandate of shareholder value maximisation, firm managers are expected to adopt higher dividend payout policies with

lower retention rates ($\Delta s_f < 0$), in addition to using fewer new equity issues to fund firm investments ($\Delta x_s < 0$). Furthermore, managers are also expected to display a weakened preference for growth due to financial performance linked remuneration packages and the persistent threat of hostile takeovers (Stockhammer, 2004). In general managers' display an overall shift towards greater distribution and downsizing of firms as opposed to the traditional retain and reinvestment strategy (Lazonick and O'Sullivan, 2000). This behaviour is expected to culminate in an (i) upward and counter-clockwise rotation of the firm's finance frontier, in addition to (ii) a flattening of the indifference curve. These outcomes could either occur simultaneously or individually.

Under the Post-Keynesian theory a firm is expected to display a weak shareholder value maximisation preference represented by an indifference curve U_0 in Figure 2.2, as well as an accumulation appetite dictated by weak financial limitations as reflected by FF_0 i.e point A. However, in the event of financialisation, firms are expected to display a change in their accumulation decision that could manifest in either: (i) new managerial preferences (FF_0U_1) or (FF_0U_2); (ii) new financial constraints (FF_1U_0) or (FF_2U_0); or (iii) new managerial preferences and financial constraints (FF_1U_1 point B) or (FF_2U_2 point C) (Hein and van Treeck, 2008). These points exhibit higher rates of return and lower growth.

In an exclusively private led economy any attempt by firms to increase their return on equity at the expense of growth, would result in a downward shift of the expansion frontier due to a decline in aggregate demand (Hein and van Treeck, 2008). However, the trade-off created by financialisation at the firm level does not necessary spill-over to the macroeconomic level. van Treeck (2009) has suggested that the degree to which financialisation (shareholder value) influences the macroeconomy and aggregate demand, is hinged upon the consumption propensity of firm shareholders.

In the event of firms adopting a shareholder value maximisation strategy, profits are channelled to shareholders in the form of dividends. This process is marked by a drastic decline in retained earnings and subsequently a regression in real investment. This is graphically represented by a leftward movement along the expansion frontier (upward shift of the finance frontier). The reduction in retained earnings forces firms into external financing, with some firms experiencing difficulty acquiring finance for investment purposes (van Treeck, 2009). However, a higher dividend rate spurs personal consumption that affects aggregate demand which is no longer driven by higher domestic savings. The degree to

which shareholders choose to consume this income determines the aggregate demand, and thus the macroeconomic direction of the country. If the aggregate demand fuelled by increased consumption is accompanied by an increase in credit based investment, then the economy is considered debt driven. However, if credit driven investments outweigh private consumption (poor aggregate demand) then the state is overburdened with debt (van Treeck, 2009).

Financialisation under the shareholder value approach highlights the discord that exists between financial market expectations and corporate performance. Although designed to protect the interests of shareholders, shareholder policies have inadvertently benefited corporate management at the expense of the domestic workforce and long-term shareholder value (Boyer, 2005). Scholars of the financialisation of shareholder value approach have suggested that countries that meet the preconditions of a financialised state tend to be more likely to adopt shareholder value policies. However, some scholars are of the opinion that this precondition does not have to be met for the adoption of shareholder policies (van der Zwan, 2014:107). They assert that a more complex relationship between shareholder value and financialisation exists than the traditional linear relationship.

2.4.2.3 Criticism

Critics of the shareholder value approach to financialisation highlight the over-emphasis placed by scholars on top-level management in determining financialisation, with minimal emphasis placed on other stakeholders in the corporate environment (Erturk, Froud, Johal, Leaver and Williams, 2007). Wang (2015), in an analysis of China, highlighted the monumental role played by the state in introducing financialisation through shareholder value management.

2.4.3 The Financialisation of Everyday Life

2.4.3.1 Background

The third school of thought – the financialisation of everyday life - was developed from a sociological perspective. The "penetration of finance and financial motives into social life has many dimensions – it can be considered in terms of financial inclusion and exclusion, the reliance of households on debt, the privatisation of pension provisions" (FESSUD, 2011:11). The focus of this school of thought is on how household finance and money defines the everyday life of people within the economy (French and Kneale, 2009). According to Martin

(2002), the manner in which finance has rooted itself within the lives of the average citizens represents financialisation. This school of thought extends beyond the quantifiable outcomes of financialisation with respect to society at large, to also consider the personal influence it has upon every individual's role in the political economy. By observing the life of the average American, Martin (2002) asserts that the current financial demands are such that households are now forced to bear risk that traditionally was borne by financial institutions and professionals. A new relationship between one's self and finance are being formulated, such that finance holds the key to realising one's self. For example, the ownership of a home is no longer seen as a basic necessity, but as an equity investment that enhances an individual's credit potential. Furthermore, it has been suggested that financialisation is rooted in the demise of Keynesian economics, as financialisation arises due to the state withdrawing from the economy which requires that the average citizen pay for the provision of services by the private sector, with the mandate of shareholder value being placed above all else (Martin, 2002). This mandate acts as the commonality and link that exists between the critical accountancy approach, and the financialisation of everyday life.

Earlier work by Dore (2000) reinforces the sentiment of Martin (2002) with respect to financialisation. According to Dore (2000) the void created by the state withdrawing from the economy is filled by Adam Smith's free market scenario ('invisible hand'), such that resources are best allocated to where they are most efficiently used. This prompts firms to discard all else in the pursuit of shareholder value, reinforcing the earlier sentiment of the critical accountancy approach. However, some scholars have suggested that the role played by the state in the formation of financialisation in everyday life remains under-defined (van der Zwan, 2014). Although the rapid growth of financialisation has occurred concurrently with the adoption of neoliberal policies and the subsequent withdrawal of welfare states, many countries have implemented various economic policies that have proactively shaped financialisation of everyday life, such as the privatisation of social security grants, and employment restructuring that seeks to promote greater employment flexibility (van der Zwan, 2014). Martin, Rafferty and Byran (2008) assert that financialisation is merely a channel through which the state assembles the population, such that some flourish while others languish within the population set.

2.4.3.2 Transmission Mechanism

Viewed as the cultural approach to the concept of financialisation, the financialisation of everyday life analyses the advancement of finance into the daily lives of the average citizen. It focuses on the diverse ways in which financialisation is integrated into the daily lives of households, as opposed to the traditional domestic and global emphasis of the other scholarships that focus on the financial elites (van der Zwan, 2014). An underpinning aspect of this approach is the fundamental belief that households have borne the individual responsibility and risk associated with financial management (Martin, 2002). This is attributed to the fact that states and employers have withdrawn services (welfare) previously given to households. Scholars assert that the rapid transition of finance into the daily lives of households has been made possible by the development of financial products and services best suited for mass consumption (French and Kneale, 2009). This entailed the development of pension schemes, mortgage plans, financial derivatives, credit schemes, as well as credit rating agencies that evaluate credit risk have allowed households to now bear the responsibility of securing their own well-being against future uncertainties. Various intermediaries such as banks, pension and mutual funds have all played their role in ensuring the encroachment of finance into the average household. Furthermore, twentieth century technological and institutional advancements have enabled the dissemination of retail investment banking, essentially making average citizens investors (van der Zwan, 2014). The creation of financial products and services has paved the way for the development and growth of various financial, economic and mathematical models to legitimise financial actions displayed (Mackenzie, 2006). The development of these intermediaries and their products has been able to bridge the gap between households and the world, while acting as the link between the accumulation approach and the financialisation of everyday life. Some scholars have also suggested that financialisation of everyday life has taken a step beyond the traditional realm of banking and has evolved into the sphere of images and texts through daily advertisements, marketing and politics (Clark, Thrift and Ticknell, 2004). It is upon this premise that financialisation of everyday life is considered a continuous and uneven development (Langley, 2004). Scholars have emphasised the fact that the creation of financial products and services has been necessary in the rapid spread of finance into the lives of the average household, they do however highlight other factors.

Scholars have also additionally emphasized the physiological shift necessary to spurring this behaviour. According to Culter and Waine (2001) the progression of society towards a self-

reliant people from the traditional welfare state, has been an underpinning to the financialisation of everyday life. The evolution of society has seen individuals set self-actualisation objectives that involve taking responsibility and embracing risk, with the end objective of securing an individual's long term financial well-being (van der Zwane, 2014). This has created a new subject matter for investment, in which each individual solely acts in the interest of themselves. However, for a household to fulfil the above stated objective, each household must accumulate the necessary financial literacy and self-control in order to make informed decisions. Fligstein and Goldstein (2015) suggested that a households appetite for risk and reward increases with a households economic status. Higher income households tend to be more active and engage in riskier management strategies.

2.4.3.3 Criticism

Critics of the financialisation of everyday life argument express their scepticism of the assumption that all households are non-elite investors who bear greater degrees of risk for greater financial return. Furthermore, it is also suggested that households are rational and possess the necessary financial knowledge to make informed financial decisions (van der Zwane, 2014). However, critics have highlighted the tendency of households to forgo greater return irrespective of their assumed financial knowledge, for less rewarding and risk-averse investments.

Further to this, critics have highlighted the lack of development of the role of the state in the financialisation of everyday life. As mentioned previously, the government has contributed to ensuring that households become more self-reliant and independent. However, the lack of clear analysis in terms of motivates, strategies and interests in the role of government in the process of everyday financialisation remains a source of concern (van der Zwane, 2014). De Goede (2005), for example, argues that financialised behaviour displayed by investing households in a neo-Foucauldian governmentality economic regime suggests the ability of the state to govern investment behaviours of households[4]. Critics have further questioned investment practices of non-elite actors that seek to exercise autonomy from traditional investment norms, in the hope of achieving change. Investment funds driven by socially responsible investments are required to yield a return. Additionally, investment funds are not immune to conflicts associated with the principal agent theory (Soederberg, 2009).

[4] A neo-Foucauldian governmentality refers to the execution of power by an individual over themselves, as opposed to the practices developed for the control of the conduct of others (MacKinnon, 2000).

The concept of financialisation is a very broad one that encompasses the interrelation of multiple processes (political, economic, cultural and technological), through which finance has been able to influence the socio-economic well-being of society beyond the confines of the market-place. The prominence and rapid growth of financialisation has been well documented with the vast amount of scholarly work as testament of this. The broadness of the concept is clearly evident in the three schools of thought. The regulation or accumulation approach seeks to establish the role of financialisation within the numerous regimes of national accumulation. In contrast, the critical social accountancy approach is primarily focused on the relationship between financial markets, corporations and various market players while the financialisation of everyday life is centred upon the sociocultural change brought about by finance within society. Although founded upon multiple disciplines and aimed at addressing different problems, the three schools of thought do share a commonality with respect to financialisation being a "structural transformation of contemporary capitalism" (van der Zwan, 2014:102). This can be observed in the overlapping of various mechanisms through which financialisation occurs as documented in the three approaches. However, these three approaches do lack an analytical framework in which the structural transformations of capitalism can be explained (Massó and Pérez-Yruela, 2017). Despite this shortcoming each school of thought has made valuable contributions to the scholarship of modern capitalism, by questioning some of the prevailing underpinning assumptions to Keynesian and neoclassical economics (van der Zwan, 2014).

2.5 Empirical Review of the Effects of Financialisation

Several studies of the effects of financialisation on key development indicators have been undertaken. These studies are reviewed in this section; firstly, those of developed countries, followed by developing countries and, finally, a review of what has been done in South Africa is presented.

2.5.1 The Effects of Financialisation in Developed Countries

Financialisation has been said to effect the functioning of an economy at both the macro and micro level (Palley, 2007). There has been a large body of work conducted with respect to the effects of financialisation on the macroeconomy in many developed countries. Stockhammer (2004) examined the relationship between financialisation and the accumulation of capital goods in the USA, British, French and German economies over the period 1960 to 1997, with

this time frame covering the Golden age[5] (1945 to 1970) and the onset of the neoliberal era (1970s). For the purpose of his analysis, Stockhammer (2004) defined financialisation as the increased participation of non-financial firms in financial markets. Stockhammer (2004) observed financialisation from a regulation perspective and linked it to a change in the internal control dimensions of a firm. He observed that financialisation did have an effect in the USA, Britain and France, but had no significant effect on the German economy. Financialisation was documented to have a negative effect on the accumulation of capital goods in the USA and France, with the negative effect in Britain not as significant as within the two former nations (Stockhammer, 2004). Stockhammer (2004) suggested that the lower significance in Britain could be explained by the already poor levels of growth recorded during the Golden age, while the insignificance in Germany was due to the infancy of the phenomenon in the country. Stockhammer's (2004) findings of financialisation across the USA and Europe have supported the accumulation regime's approach to financialisation.

Orhangazi (2008) conducted an examination of financialisation in the USA over the period 1973 to 2003. Based on the regulatory definition of financialisation, this analysis involved the examination of financialisation on real investment in non-financial corporations through two channels: (i) financial payout and (ii) financial profits. Orhangazi (2008) observed that financialisation had a negative (amplifying) effect on the financial payout ratio of corporations irrespective of their size and sector. However, the effect of financialisation on financial profits was subject to firm size, with larger firms experiencing a negative effect (increase) while the opposite was true for smaller firms. This can be explained by the nature of smaller firms in undertaking fewer financial investments, in addition to their need to withhold earnings in order to finance future investments. For larger firms, past financial investments had no bearing on current real investments. Orhangazi (2008) suggested that this negative relationship between real investment and financialisation is due to an increase in pressure for NFCs to make payouts and thus decrease the internal funds available to be reinvested in real investments.

This view has been reinforced by the results of the research of Onaran, Stockhammer and Grafl (2011), in which they observed the effects of financialisation on income distribution and aggregate demand in the USA from 1962 to 2007. Onaran et al.'s (2011) analysis focused

[5] Golden age refers to the economic period of prosperity in which the productive capacity of most states globally particularly the USA, grew to meet the mass production needs of World War II and the liberation of former colonial states. This period lasted from the end of the second World War 1945 to the early 1970's (Heilbroner and Milberg, 2012).

on the macroeconomic impact of financialisation by examining the effect of rentier income and housing wealth on consumption and investment behaviour. Their analysis suggests that an increase in financialisation results in a decrease in consumption in the economy due to an increase in dividend payouts (shareholder value maximisation), which subsequently reduces household wages. They further documented that an increase in financialisation had a negative effect on investment within the economy, as there was less investable funds available due to higher dividend payouts. However, Onaran et al. (2011) did ascertain that financialisation had a positive effect on gross household wealth that fuelled consumption. This ultimately resulted in a neutral effect on the total aggregate demand as the positive wealth effect cancelled the negative consumption and investment effects.

An examination of the institutional and income complexities of financialisation in the American economy conducted by Tomaskovic-Devey and Lin (2011), reveals that financialisation, in part, contributed to the global financial crisis of 2008. Analysing economic rents and income dynamics for the period 1949 to 2009, Tomaskovic-Devey and Lin (2011) documented a massive transfer of wealth from 1980 to 2008 in the form of employee compensation and profits of between 5.8 to 6.6 trillion dollars into the financial sector from the rest of the economy (equivalent to 73% of the US federal debt in 2010). More than half of this wealth transfer occurred between 2000 to 2008. This was evidently so with employees in the financial sector earning 60% more than the average American employee in 2000, with managerial and executives within the banking sector benefitting most from financialisation (Tomaskovic-Devey and Lin, 2011). The findings of this study reinforce Hacker and Pierson's (2010) assertion that financialisation played a pivotal role in the income inequality experienced in the USA. Tomaskovic-Devey and Lin (2011) also suggested that this wealth transfer manifested due to increased market power of a few market elites, but is more complex than the traditional rent theory suggests.

An investigation by Zalewski and Whalen (2010) across the USA, Japan, Canada and 15 European countries found that financialisation from the early 1990s caused an increase in income inequality as reflected by an increase in Gini coefficient values. Additional empirical work by Tomaskovic-Devey and Lin (2013) also sort to examine the connection between financialisation and income inequality. Their sample comprised of non-financial and non-agricultural industries over the period 1970 to 2008. Their results showed that as the general workforce income fell, top executives incomes drastically increased while income disparities

rose. These events were observed to have been driven by financialisation, with 10.2% of earning disparities over 1970 to 2008 accounted for by financialisation. An examination of 18 Organisation for Economic Cooperation and Development (OCED) countries spanning over 41 years by Godechot (2015), found that financialisation was a driver of global inequality based on the Solt's Gini index. Godechot (2015) observed that financialisation that emanated from the financial markets and financial sector contributed more to inequality than financialisation at the household and non-financial sector level.

Palley (2007) sort to examine the key features of financialisation in the USA and several other industrialised countries based on a regulation approach to financialisation. Over the period of 1960 to 2005, it was found that the financialised era (1980 to 2004) was associated with an increase in income inequality in the USA. This finding is consistent with conclusions drawn by Tomaskovic-Devey and Lin (2011). Palley (2007) further observed a regression in economic growth (per capita income) across all industrialised states except the United Kingdom (UK), during the financialised era. A study by Afsar, Afsar and Mecik (2014) on the G8[6] countries between the period 1990-2008 sought to examine the effects of financialisation on a number of key measures. Afsar et al. (2014) documented that financialisation had a positive effect on per capita income. Furthermore, financialisation was observed to have had a positive effect on GDP within these nations, as well as a stimulating effect on employment. Based upon their findings, Afsar et al. (2014) suggest that financialisation has played an influential role on the employment and production trajectory of these nations, and it would be beneficial to model policies in developed nations around financialisation.

An earlier study by Assa (2012), however, obtained contrasting findings to those of Asfar et al. (2014). Assa (2012) conducted a study on the industrialised member states of the OECD using panel data from 1970 to 2008 and found that these countries had experienced financialisation, as measured by the degree of employment in the financial sector relative to total employment, on a large scale. The analysis revealed that financialisation came at the expense of economic growth, equality and employment. Assa observed that a 1% increase in financialisation was associated with a 0.2% decrease in economic growth and an increase in inequality of between 0.49% to 0.81%, subject to the measure of financialisation used,

[6] G8 refers to the group of eight industrialised economies that annually convene to discuss matters pertaining to global issues being experienced. The G8 consists of the following nations; the United States, Germany, France, United Kingdom, Japan, Italy, Canada and Russia (Laub, 2014).

supporting earlier findings by Tomaskovic-Devey and Lin (2011). Lastly Assa (2012) observed that a 1% increase in financialisation manifested in a 0.12% to 0.74% increase in unemployment. A similar conclusion to that of Assa (2012) was reached by Stockhammer (2009) in an earlier examination of inequality and finanacialisation. Stockhammer (2009) observed 22 high income member states of the OECD over a period of 28 years (1979 to 2007) and assessed the effect of financialisation on the wage share. Stockhammer (2009) was able to find evidence of a negative and significant relationship between financialisation and wage share. Kus (2012), in a similar study to Assa (2012) on 20 developed states in the OECD, using times series data from 1995 to 2007, observed financialisation measured through three indicative variables was statistically significant and positively correlated with income inequality.

Examining industries in 38 countries across the European Union, USA and several emerging markets such as China, Russia and India for the period 1995 to 2009, Durand and Miroudot (2015) documented a negative correlation between financialisation and employment as per Assa (2012). Industries that placed greater emphasis on investment with regards to their operating surplus were observed to have greater levels of employment. This was observed to be the opposite of financialisation which manifested in the form of greater shareholder remuneration as opposed to investment. They further documented that this correlation displayed greater elasticity in emerging markets as opposed to developed countries (i.e. a small increase in financialisation resulted in a greater negative effect upon employment within emerging markets). Durand and Miroudot's (2015) findings also highlighted that financialisation had no bearing on the overall prospects of an industry in terms of yield, demand and profitability.

Stockhammer (2012) has taken a similar stance to that of Tomaskovic-Devey and Lin (2011) with respect to the effects of financialisation and the contribution this phenomenon played in the creation of the pre-economic crisis conditions. Observing the USA and several countries within the European Union and Asia over the period 1960 to 2009 (post the global financial crisis), Stockhammer (2012) documented the effects of financialisation within the household, financial and non-financial sectors. He observed that through financialisation, households had greater access to credit, subsequently increasing household debt. This trend was also found to be true for the non-financial and financial sectors. Furthermore, the USA was documented to have had a strong surge in consumption while European states displayed a more subdued

increase in consumption (Stockhammer, 2012). This finding contradicted earlier work by Onaran et al. (2011), who noted a decrease in consumption in the USA. The results of the analysis also brought to light an increase in income inequality associated with financialisation (Stockhammer, 2012). Stockhammer (2012) further highlighted the regressive effect of financialisation with respect to investment made by non-financial firms. Stockhammer (2012) concluded by stating that financialisation has inflated and increased the vulnerability of the financial sector.

Tori and Onaran (2015) examined the effects of financialisation on tangible investments made by publicly listed British non-financial entities (active and inactive) for the period 1985 to 2013. Their findings indicated that financialisation had a negative effect on tangible investments and ultimately growth, which was consistent with earlier studies of Stockhammer (2004), Orhangazi (2008) and Onaran et al. (2011). They attributed this negative effect to an increase in dividend payments, as well as to the servicing of external debt that reduced the availability of internal capital. Tori and Onaran (2015) noted that the effects of financialisation were most evident prior to the 2008 economic crisis and were most severe in the manufacturing sector. They found that the negative effects of financialisation outweighed any positive gains associated with increased sales and the adoption of less stringent financial constraints.

One such investigation by Gleadle, Parris, Shipman and Simonetti (2012) sort to examine the effect of financialisation on innovation by observing the structural changes experienced in the biopharmaceutical industry in the UK and USA. Their initial point of departure outlined the traditional make-up of the biopharmaceutical industry, by making the assumption that large pharmaceutical companies undertook all aspects of the production process. This included the inception, research and development, trial testing and mass production. However, Gleadle et al. (2012) proposed that the financialisation of innovation had resulted in the outsourcing of various aspects of production by large pharmaceutical companies to small entities to remain financially viable to investors. To measure innovation, Gleadle et al. (2012) observed the final monetary value of equity invested into biotech companies for early stage development of products that has been raised on the equity market by large pharmaceutical companies. Despite an increase in financialisation Gleadle et al. (2012) observed funding of British biotech firms to have remained small, with innovation funding in the USA facing greater uncertainty and financing costs as a result of financialisation. Financialisation had further

resulted in the transfer of funding towards short-term investment opportunities, at the expense of long-term innovation opportunities.

An investigation conducted by Milberg and Shapiro (2013) into the implications of the 2008 financial crisis on firm innovation, also examined the effects of financialisation on innovation post 2000. Milberg and Shapiro (2013) analysed financialisation and innovation as an alternative explanation to the correlation between share price and innovation which has been the financial norm since the 1920s. In order to analysis this alternative explanation, Milberg and Shapiro (2013) examined the graphical movement of dividend payouts and stock buy backs, as well as share indexes relative to research and development (R&D) spending. Milberg and Shapiro (2013) employed R&D spending by US firms as a proxy for innovation, while dividend payouts and stock buy backs were used as a gauge of financialisation. They observed a negative association between financialisation and innovation post 2000, with NFCs opting for stock buy backs over R&D spending. Innovation expenditure that did occur post 2000 was centred on the engineering of financial products and services. A recent study by Botta (2016) analysed the effect of financialisation on inequality and innovation. An underpinning principle to Botta's (2016) analysis of the inequality and innovation interaction, hinged upon the belief that inequality was a manifestation of financialisation. Examining dividend payments, R&D expenditure, as well as financial asset data of NFCs in the USA over the period 1946 to 2014, Botta (2016) employed R&D expenditures from internal funds, as well as R&D expenditure on basic and applied research by NFCs as a gauge of innovation domestically. Botta (2016) suggested that this would be a better indication of innovation as patents do not necessarily equate to more novel discoveries as the two are spuriously related. R&D expenditure figures were used to graphically observe the trend between financialisation and innovation. Botta (2016) was able to conclude that innovation was negatively affected by financialisation. Dividend payments and share buy-backs had increased, while basic and applied R&D expenditure by NFCs had decreased. Botta (2016) further suggested that financialisation would redefine the inequality and innovation interaction, with higher inequality expected to manifest into a decline in future innovation.

Over the last few years there has been a growing body of work examining financialisation beyond the sphere of financial gain. However, there has been limited quantitative research conducted on the effects of financialisation beyond the borders of profit-seeking entities due to the lack of appropriate measures to adequately record financialisation, making the impact

of financialisation on social structures that govern the way state entities, non-profit institutions and households interact in the provision of social services relatively unknown. An analysis by Bayliss (2014) into the relationship between financialisation and water sort to ascertain the implications, of the recent surge of finance into the provision of water globally. He examined the private participation in infrastructure global report for the past 20 years. According to Bayliss (2014) the provision and delivery of water facilities globally have become financially skewed to the interests of private investors. Policy-making with regards to the provision of water has increasingly been influenced and designed by the financial elites. Bayliss (2014) also pointed to the privatisation of the provision of water facilities as an indicator of the financialisation of this sector. The findings by Bayliss (2014) show that financialisation in the water sector has benefited investors in developed countries but has failed to positively impact water related infrastructural developments in developing nations. Furthermore, financialisation has resulted in the prioritising of shareholder value at the expense of working conditions of employees of water companies, and is misaligned to the social objective of water delivery. However, Bayliss (2014) concluded that financialisation has had minimal effect on the price of water, with the state the greatest restriction to the progression of financialisation in water delivery.

Sinapi and Gagne (2016) analysed the transformational effects of financialisation on the global automotive industry over the period 2000 to 2015. For this purpose, Sinapi and Gagne (2016) gathered firm-level data for five of the largest car manufacturing companies (Toyota, Ford, Volkswagen, PSA and Renault) in developed countries, in order to test the hypothesis that financialisation played a pivotal role in the collapse of the automotive industry during the 2008 economic crisis. They observed the manifestation of financialisation in the automotive industry through the increased acquisition of financial assets, as well as the increased reliance on profits accrued from the financial sector by manufacturers. Additionally, Sinapi and Gagne (2016) suggested the automotive sector now faced the additional challenge of financial risk in addition to the inherent industrial risk due to the financialisation of the automotive industry. Sinapi and Gagne (2016) concluded their analysis by recommending greater supervision of industrial entities that advanced into the financialisation domain.

A recent study conduct by Eaton, Habinek, Goldstein, Dioun, Godoy and Osley-Thomas (2016) sort to examine the effects of financialisation on the tertiary education system within the US. Their research entailed gauging financialisation based on the financing and

transaction costs associated with debt and equity investment, as opposed to the traditional measure of profit. These costs referred to "investment returns from endowments, institutional borrowing by colleges, equity investment in for-profit colleges and student loan borrowing by student households" (Eaton et al., 2016:514). Their analysis built upon the existing accumulation approach, but had the additional benefits of encompassing a broader array of transactions as well as a greater sensitivity to the numerous roles played by the various actors in the financialisation process. They observed tertiary institutions (private and public) that offer degree programmes of two years and more that were eligible for funding under the federal higher education act for the academic years 2003 to 2012. Eaton et al. (2016) found the effects of financialisation manifested in higher financing costs that rose from 5% to 9% over this period. Their findings revealed that the financialisation of the education system came at a greater expense for households due to higher transaction costs, with the state being the greatest catalyst to this process. Additionally, Eaton et al. (2016) suggested that wealthy colleges remained the only beneficiaries to the financialisation process with higher tuition and student service costs paid for through student loans.

2.5.2 The Effects of Financialisation in Developing Countries

In addition to the studies of the effects of financialisation on an economy within developed countries, a few scholars have examined the effects in developing countries, with similarities and differences to the developed country evidence identified. Based on the regulation school of thought the level of accumulation is dependent upon institutions and policies. Post 1970 most developing countries adopted pro-liberalisation macroeconomic policies that shaped their economic and political economies (Bonizzi, 2013). According to Bonizzi (2013), financialisation is thus a non-linear process occurring in varying forms in developing countries as opposed to developed countries, as well as occurring non-generically amongst developing countries. For instance most developing countries that adopted high-interest rate policies to induce large capital inflows and inflation targeting, would likely experience financialisation via interest income (Bonizzi, 2013).

Research into the effects of financialisation on the real sector in Argentina, Mexico and Turkey was conducted by Demir (2007). Examining biannual data in order to capture associated risk and profitability on investment positions over the period 1990 to 2003 of industrial firms, Demir (2007) found financialisation encourages speculative investment in short-term rather than long-term real investment, similarly to that displayed in developed

nations. It was further observed that developed and developing nations share a commonality with respect to financialisation being a manifestation of rising interest costs, eroding the profit margins of NFCs. However, greater risk and uncertainty were found to be a motivating factor behind financialisation in developing nations but not in developed states. The financial sector within developing nations was observed to be highly profitability, an additional commonality shared with developed nations (Demir, 2007). Demir (2007) noted that the portfolio income of Turkish NFCs drastically increased by 40% over a 19 year period due to financialisation. Bahçe et al. (2014) (2014) also researched the effects of financialisation on the Turkish economy, including consumption, investment and income distribution. The results showed that financialisation did not have the same effects on macroeconomic variables in Turkey as it did in developed countries. In particular, Bahce et al. (2014) noted that NFCs owned more financial assets post 2001, but made no significant increase in payouts to shareholders, contradicting earlier findings by Demir (2007) who observed an increase in portfolio income. Furthermore, household consumption was documented to have increased due to greater household debt; however, this consumption did not lead to an increase in financial assets owned by households (Bahçe et al., 2014).

Karwowski and Stockhammer (2016) sort to compare the effects of financialisation across several emerging and developed states. They analysed the UK and the USA as the two benchmarks of financialised states and 17 emerging market economies from across Latin America (Brazil, Argentina and Mexico), Africa (South Africa), Asia (China, India, Malaysia, Indonesia, Thailand, Singapore and South Korea) and Europe (Russia, Czech Republic, Turkey, Poland and Hungry) over the period 1997 to 2015. Karwowski and Stockhammer (2016) found that the effects of financialisation varied across emerging countries based on six financialisation indicators. They documented greater pricing volatility in some emerging countries such as Russia, Hong Kong and Brazil, while others exhibited almost no volatility similar to the USA and UK. They further observed greater levels of corporate debt relative to GDP caused by financialisation in emerging nations, in comparison to the USA or the UK. This was most pronounced amongst the Asian countries, with the exception of Singapore. However, emerging markets did display lower household debt levels relative to the USA and the UK, with the only exceptions emanating from the Asian countries. Despite the trend of lower household debt levels, emerging markets have experienced exponential growth in this form of debt, especially in Turkey; a result consistent with the findings by Bahçe et al. (2014). Karwowski and Stockhammer (2016) concluded by

suggesting that Hong Kong had displayed more characteristics of a financialised state than the USA and UK.

Financialisation has also affected the relationship between developed and developing countries. An analysis by Lapavitsas (2009) into the contributing role played by financialisation into the 2007 economic crisis, found financialisation to negatively impact developing countries in comparison to developed countries. Lapavitsas (2009) observed that the adoption of more liberal financial policies by developing states intertwined them into the global phenomenon of financialisation, which resulted in large inflows of short-term capital into these countries. However, in ensuring the ability to repay the inflow of short-term capital, developing countries have been forced to sustain large reserves of foreign currencies mainly in the form of the United States (US) dollar. According to Lapavitsas (2009) developing countries achieve this by purchasing foreign public backed securities. The two way financial transactions between developed and developing nations created a deficit that resulted in a stream of net capital flows that stemmed from developing to developed nations, ultimately an inexplicit cost borne by developing nations due to financialisation (Lapavitsas, 2009).

Financialisation has also affected developing nations indirectly, through the impact it has posed on commodity trading and value chains. An examination by Newman (2009) that sort to analyse the structural changes experienced within the international coffee distribution and market chain, revealed that financialisation, through the process of market liberalisation had altered the traditional value chain process. Newman (2009) was able to conclude that financialisation had adversely affected the Ugandan and Tanzanian coffee industry, by supporting and enriching a few international coffee traders while insufficiently remunerating local coffee farmers. By examining the Ugandan and Tanzanian coffee industry in the early 1990s, Newman (2009) was able to identify a cooperative and bilateral process by various local producers to ensure price stability while mitigating potential risk. However, the liberalisation of the coffee industry in the mid-1990s brought with it new price risk management (PRM) strategies such as hedging that encouraged financialisation. According to Newman (2009), the uneven accessibility of hedging instruments has benefited and opened additional avenues of revenue for international coffee traders, thus fostering inequality along the coffee production value chain with local producers most affected.

Haruna (2012) analysed the Nigerian economy using data from 1986 to 2010, with the purpose of identifying the causal relationship between financialisation and economic growth. This entailed the use of value traded ratios and turnover ratios as proxies for financialisation, while economic growth was measured by GDP. The results of this investigation indicated that financialisation experienced in Nigeria had no bearing on economic growth in contrast to the findings of Assa (2012) and Afsar et al. (2014). Haruna (2012) suggested that this was due to financialisation being in its infancy in Nigeria.

Seo, Kim and Kim (2012), in an investigation into the effects of financialisation on innovation for NFCs in South Korea[7] from 1994 to 2009, observed that financialisation was negatively correlated with innovation. This analysis observed the effects of financialisation on intangible assets amongst NFCs in South Korea. Seo et al. (2012) based their analysis upon the theoretical principle that financialisation impedes R&D associated with investment. In order to gauge the impact on innovation, Seo et al. (2012) used R&D investment as a percentage of sales. They defined R&D investment as research expenses, ordinary R&D expenses, ordinary development expenses and amortization of development. Analysing R&D investment data, Seo et al. (2012) ascertained that the negative effect of financialisation on innovation occurred through two channels: (i) increased dividend payouts and share buy-backs; and (ii) increased financial investments by NFCs. It was observed that these two channels shortened the investment horizon for firm managers, as well as causing a crowding out effect on R&D investment. Seo et at. (2012) further indicated that the effects of financialisation were most evident after the Asian financial crisis of 1998, at which point financialisation was assumed to have fully commenced. The authors conclude by indicating that the growing association of NFCs with financial markets has resulted in a reduction in tangible and intangible investments by these firms. Recent research by Yenkey, Doering and Aceves (2015) looked at the financialisation of everyday life in Kenya, by observing the interaction between the use of mobile banking and finance in both the formal and informal sectors. By using saving, investment in assets (direct measure) and the use of financial products (indirect measure) by individuals as a measure of financialisation, Yenkey et al. (2015) found that the extensive use of mobile money resulted in financialisation in the

[7] According to a FTSE report South Korea meets all necessary standards and definitions to be classified as a developed market (Wood, 2013). However, according to the Morgan Stanley emerging market index (MSCI) South Korea can be classified as an emerging market (MSCI, 2018). Based on these varying opinions, South Korea can be seen to straddle both definitions.

informal sector. It was observed that mobile money allowed informal sectors more access to financial services (Yenkey et al., 2015).

2.5.3 The Effects of Financialisation in South Africa

Since the dawn of democracy, South Africa has made massive strides in ensuring social economic development. However, despite various social economic policies having been adopted over the years, none has been able to achieve the desired impact as yet. It was on this premise that the 2030 NDP was commissioned into effect. Moreover, the extent to which modern concepts such as neoliberalism, financialisation and globalisation have affected the effectiveness of these policies remains unclear. There has been limited research with respect to financialisation in the context of the South African economy, but some studies which have considered this issue include Mohamed (2009), Ashman, Fine and Newman (2011, 2013), Ashman and Bond (2013), Ashman, Mohamed et al. (2013), Bond (2013), Mohamed and Newman (2013), Mvelase (2015) and Karwowski and Stockhammer (2016). Most of the studies, with the exception of Mvelase (2015), have discussed financialisation and its effects based upon quantitative observations of general financialisation patterns cited in the financialisation literature. Mvelase's (2015) study, in contrast, empirically tested theory underpinning financialisation with the focus on the mining sector in South Africa.

The South African economy historically has been and remains heavily dependent upon the mining and energy sector for growth and development. As such the South African accumulation system can be characterised as being Mineral-Energy Complex (MEC) (Ashman et al., 2011). The 1970s to 1980s saw South Africa fall prey to the global financial plague of long-term economic stagnation which entailed failing corporate profits with over-accumulation of capital. It was these conditions that led to the adoption of a more neoliberal approach by the South African government (Bond, 2013). Ashman, Fine et al. (2013) argued that the process of financialisation in South Africa began prior to the end of the apartheid regime in 1977 with the De Kock commission advocating for the liberalisation of the financial sector, with comprehensive changes implemented in the mid-1980s. It was these changes that created the foundation for the growth of financialisation in South Africa (Ashman, Mohamed et al., 2013). This has been seen in the influx of short-term capital inflows accompanied by the outlay of large capital investments and the international listings of South African corporations abroad (Ashman et al., 2011). Furthermore, the adoption of higher domestic interest rates, as well as the relaxing of exchange rate controls highlighted

the extent of the neoliberal policies. According to Bond (2013), it was these policies that led to the flight of capital from the South African economy and ultimately contributed to the current account deficits. However, the flight of capital in and out of the South African economy does not only explain the general trend of financialisation, but also highlights the pattern of structural reforms faced by South African conglomerates during and post-apartheid (Ashman, Fine et al., 2011). Large inflows of speculative capital entered the South African market as foreign portfolios sort to diversify their asset holdings, while large outflows of capital left the South African market as conglomerates sort to unbundle and internationalise their operations with the fall of international sanctions (Ashman, Mohamed et al., 2013).

Ashman, Mohamed et al. (2013) highlight the presence of financialisation at several key levels of the economy - the financial sector, households and NFCs. Firstly, in the financial sector, there is evidence that South African financial institutions sort to emulate Anglo-American business practices due to their rapid growth and increasing rates of return giving rise to financialisation. Moreover, according to Ashman, Mohamed et al. (2013) the recent growth, depth and diversification of the South African financial and capital markets bears testament to the financialisation of the South African economy. Bond (2013), however, makes the important point that capital within the South African economy has speculatively been invested within the real estate and stock market as opposed to investment within the manufacturing and industrial sectors. Karwowski and Stockhammer (2016) found price volatility in the local housing market to have outpaced that experienced in Anglo-American states prior to the economic crisis of 2008, but subsequently subsided post the crisis mirroring the Anglo-American states. The reliance by the banking sector on non-deposit liabilities, as well as the composition of short-term assets and liabilities in the balance sheet of these institutions is further evidence of this financialisation process (Ashman Mohamed et al., 2013). Additionally, the growing sphere of influence of the financial sector has seen a greater role played by pension and insurance entities in the provision of financial services which traditionally were dominated by deposit-taking institutions. This allowed for greater flow of capital between financial markets and households.

Turning to the financialisation of households, Ashman, Mohamed et al. (2013) maintain that consumption by households, fuelled by borrowing as well as mortgage financing, has freed up savings and created additional financing that households have used to purchase financial assets. Additionally, this increased consumption has manifested into the inflation of local real

estate prices. Bond (2013) confirms the expansion of local credit to households, arguing that this has increased the vulnerability of the economy. In addition, financialisation has been seen to change the savings behaviour of households, with more households holding financial assets as a means of safeguarding future financial wealth. Since 1994 the gap between savings and capital formation has become wider as households channel more wealth towards the financing of financial assets as seen in Figures 2.3 and 2.4. This has seen the proportion of financial assets to all assets held by households increasing from 44% in the 1970s to an average of 70% over the period 2000 to 2010 (Ashman, Mohamed et al., 2013). However, Ashman, Mohamed et al. (2013) note that 85% of all assets owned within the South African economy belong to the top 10 percentile, which they suggest further aggravates the equality dynamics of the country, placing greater pressure on the state to intervene. However, the failure of the state to completely withdraw welfare from the economy would suggest the complex form of financialisation adopted by the South African economy (Bond, 2013). Consistent with Ashman, Mohamed et al. (2013), Bond (2013:570) suggests that financialisation has deepened the "uneven and combined development" of the economy.

Figure 2.3 Ratio of Household Savings to Disposable Income

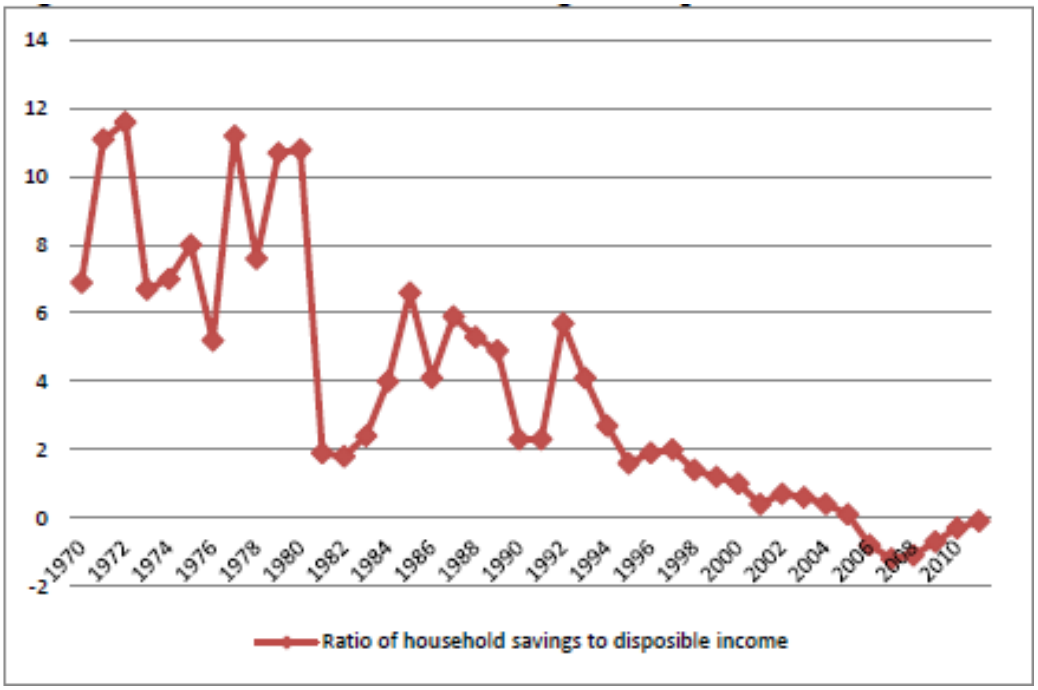
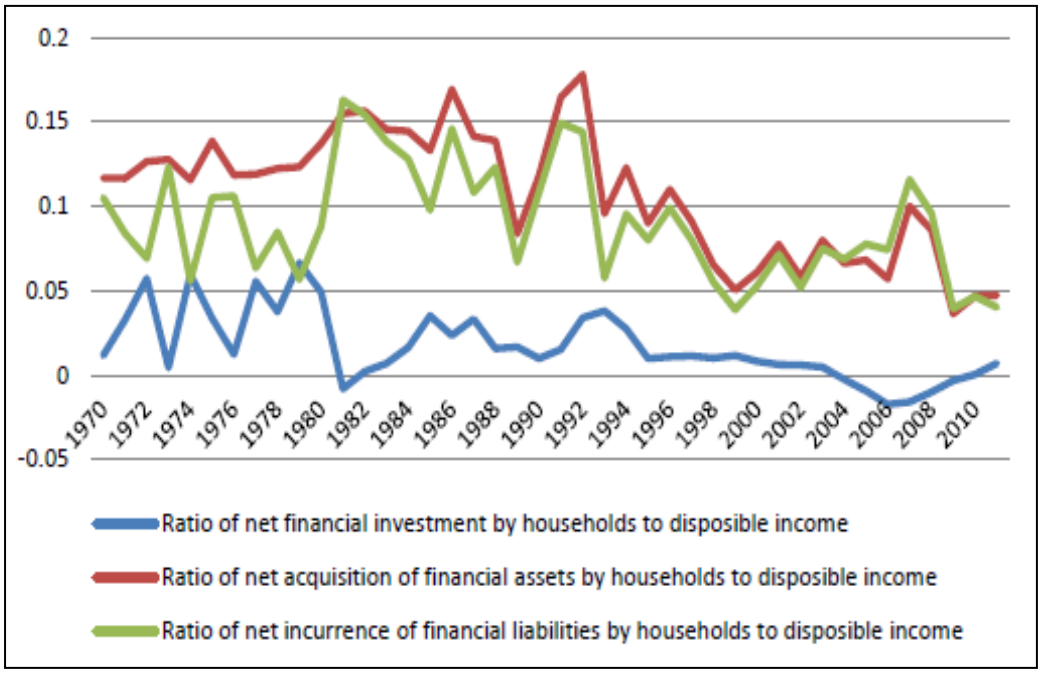


Figure 2.4 Aggregate Household Assets and Liabilities



(Sourced from: Ashman, Mohamed et al., 2013:16)

Thirdly, Ashman, Mohamed et al. (2013) provide evidence of financialisation in NFCs in South Africa. They highlight the increase in net corporate earnings generated from interest and dividend payments by NFCs have increased from as low as 1% to as high as 20% since 1994. Furthermore, they documented the trend of NFCs acquiring more financial assets at the expense of real capital investments since the 1980s. This has resulted in a change in the position of NFCs from net lenders to net borrowers, with external credit financing these acquisitions for all but three years since 1994. However, Karwowski and Stockhammer (2016) did observe the debt levels of NFCs in South Africa to be substantially lower than that of similar emerging and developed financialised countries. As additional evidence of the financialisation of the South African market, Ashman, Mohamed et al. (2013) examined the composition of the firms on the Johannesburg Stock Exchange (JSE). Prior to 1994 the largest five firms, as measured by their market capitalization, were mining/energy and finance entities. However, post democracy these entities have been replaced by more finance-related firms. Ashman, Mohamed et al. (2013) have thus characterised the South African economy as being a financialised MEC, where the mineral and energy sector dictate financial investment by NFCs. This represents a slight change in the economy that is now finance orientated, but still heavily entrenched within the resource sector.

Ashman et al. (2013) also examined the effects of financialisation on employment in the country and concluded that they were negatively related, with financialisation fostering an environment of greater employment volatility. They suggested that the increase in unemployment was due to greater pressure being exerted upon corporations to maximise returns, by minimising production costs. They further asserted the hindrance caused by financialisation in the diversification of the economy, as necessary investment to facilitate this has been diverted elsewhere.

An analysis carried out by Bond (2013) sort to observe the effects of financialisation in the recent Marikana disaster. He found that financialisation indirectly contributed to the tragedy that occurred at the Lonman mine in August 2012. According to Bond (2013) financialisation has been the driving force behind the sustained, uneven and combined development within South Africa, which was previously racially driven by the apartheid government. Financialisation has been seen to maintain the recent racial financial status quo of the apartheid regime.

A master's study by Mvelase (2015) into the effects of financialisation on the South African mining sector is one of the few empirical analyses of financialisation domestically. Financialisation was measured using Krippner's (2005) ratio of portfolio income to cash flows of non-financial companies; however, the numerator was modified with portfolio income measured only as interest income as opposed to interest income, dividends and capital gains. Mvelase (2015) deduced that financialisation has had an inverse relationship with employment in the mining sector; reinforcing the findings of Ashman, Mohamed et al. (2013). However, Mvelase (2015) found that financialisation with respect to shareholder value maximization has not taken place in the mining sector. Furthermore, it was observed that financialisation post-democracy has not had a negative effect on real investment within the mining sector, but rather a positive effect suggesting that political stability had a greater impact on investment than financialisation. Mvelase (2015) suggested that this trend could potentially be explained by the vast resource wealth still to be unearthed in the mining sector, thus warranting further investment in real capital in order to exploit this. Furthermore, the relative stability of policy governing the mining sector, in contrast to other sectors, has been able to attract real capital investment[8].

[8] Given recent developments and the draft formation of Mining Charter III, conclusions drawn by Mvelase (2015) regarding the mining sector may no longer be appropriate. According to the Council of Minerals the draft

2.6. Conclusion

Financialisation can be seen as a multifaceted concept that encompasses economic, social, cultural and political aspects of daily life at both a macro and micro level. The complex nature of the concept has yielded multiple definitions arising from three distinct schools of thought. Broadly this concept can be seen to encapsulate changes in the roles and objectives of financial markets, institutions and market participants. Although the three schools of thought vary with respect to the problem they address, they do, however, share a commonality with respect to financialisation being the observed structural transformation of capitalism (van der Zwan, 2014).

There have been numerous studies that have documented and detailed the varying effects of financialisation within developed markets. Research has observed the economic and social implications of financialisation, with most research supporting the notion of a negative association between capital accumulation, income distribution, employment, innovation, economic growth and financialisation. However, a study by Afsar et al. (2014) has suggested that financialisation does have a positive effect on economic growth. While the body of research in South Africa remains rather limited, basic quantitative trends of the effects of financialisation would support the general findings observed within developed markets. However, room for additional empirical research locally does exist in order to further identify the effects of financialisation. The following chapter outlines the methodology and data used to fully examine the extent of financialisation in the South African economy looking from both a financial sector and non-financial sector perspective and thereafter to test the effect of financialisation on five key development indicators.

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of the Mining Charter III will likely cripple investment, growth and transformation , creating greater uncertainty (Omarjee, 2018).

3. DATA AND METHODOLOGY

3.1 Introduction

As highlighted in the preceding chapters, financialisation is a multifaceted concept that incorporates economic, social, political and cultural aspects of daily life to explain the structural transformation of capitalism. This has seen the emergence of three schools of thought in an effort to adequately explain this conceptual phenomenon. Robust empirical analysis into the effects of financialisation in many developed nations has indicated a negative association between financialisation and several key socio-economic variables (Assa, 2012). However, empirical results amongst developing nations have been less consistent, with studies such as Demir (2007) and Karwowski and Stockhammer (2016) supporting the findings observed in developed countries, while findings by Haruna (2012) and Bahçe et al. (2014) contradict these observations. The limited empirical analysis conducted in the context of South Africa has left a gap that this analysis seeks to address. This chapter describes the data and methodology used to answer the research objectives drawing from similar studies that have been conducted in emerging economies such as Demir (2007) and Bahçe et al. (2014) while also employing some of the methodology used by earlier researchers in examining the effects of financialisation in developed nations. In particular, the hypotheses to be tested are outlined and the dataset and variables used are described. Thereafter, the method of analysis is discussed.

3.2 Hypotheses

The first objective of this study, as discussed in chapter one, is to determine whether financialisation has occurred in South Africa. This is expressed in the following hypothesis:

H_0 = Financialisation has not occurred in the context of South Africa

H_1 = Financialisation has occurred in the context of South Africa.

The second objective is to determine the effects of financialisation on various development factors in South Africa. This is translated into the following hypothesis:

H_0 = There is no statistically significant relationship between financialisation and the key development indicators

H_1 = There is a statistically significant relationship between financialisation and key development indicators.

The third objective entails providing policy and practice recommendations in light of the results of hypothesis two and thus, as it is qualitative in nature, does not warrant a hypothesis.

3.3 Model Variables and Data

The study uses annual data for the 23-year period 1994 to 2017 and thus focuses explicitly on the post-apartheid era. While ideally a longer time frame would have been used, the time period was restricted by the lack of data on various measures. The dependent variable in the models is financialisation while the independent variables are the key development indicators namely unemployment, inequality, economic growth, innovation and investment. The details of these variables are discussed in more detailed in the following sections.

3.3.1 Measures of Financialisation

3.3.1.1 Measures of Financialisation Used in previous Studies

As highlighted in chapter 2, numerous definitions of financialisation have been put forward by scholars, which has resulted in numerous measures thereof. This matter has further been compounded by the varying degrees and frequency to which financialisation occurs in different sectors (households, firms and the financial sector) of the economy, yielding a diverse range of social and economic effects (Karwowski, Shabani and Stockhammer, 2016). The various measures of financialisation can be categorised into (i) vulnerability or stock measures, and (ii) activity or flow indicators, with each category assessing different aspects of financialisation. Vulnerability measures seek to assess the financial fragility of the economy by placing emphasis upon the level of debt utilised relative to income, while activity indicators determine the significance of the financial sector relative to the real sector of the economy, by analysing financial revenues relative to total income (Karwowski et al., 2016).

Stockhammer (2004) analysed financialisation from a regulation perspective in his study of the financial cultural shift of non-financial firms and shareholders, as well as the development of rentier markets. He employed rentier income, which comprises dividend and interest payments, of non-financial entities as an indirect flow measure of financialisation. However this measure of financialisation suffers from the inability to distinguish between changes associated with the rate of return and the change in managerial culture (Stockhammer, 2004).

Krippner (2005) argued that financialisation has seen the rapid growth of finance beyond the traditional sphere of the financial and banking sectors to encompass non-financial sectors.

Thus, he maintained that any sectoral analysis of financialisation would fail to adequately depict the true extent of financialisation and as such, financialisation must examine the activities of both financial and non-financial firms. Krippner's (2005) approach gauges financialisation from two perspectives: (i) revenue (portfolio income) generated by non-financial firms relative to revenue yielded by their productive activities; and (ii) the financial sector's revenue contribution to the economy in relation to the non-financial sector. These two measures can be categorised as flow measures. Krippner's (2005) approach has been used in several other studies to gauge financialisation such as Lin and Tomaskvey-Devey (2015) as well as Mvelase's (2015) examination of the financialisation of the South African mining sector.

Lapavitsas (2009), in an analysis of several developing nations, utilised the financial assets held by banks relative to GDP, in order to measure changes within the banking system associated with financialisation. Typically financialisation is associated with commercial banks diverting from their traditional role as financial intermediaries in the financial system to asset securitisation (Szunke, 2014). In a study of financialisation and entrepreneurship in the USA, Kedrosky and Stangler (2011) examined the structural change of income generation associated with post-industrial economies. They employed a flow measure of financialisation by determining the contribution of the financial sector to total GDP. The study of Kus (2012) used three flow measures of financialisation namely: (i) the total value of stocks traded on the financial market as a percentage of GDP; (ii) the total income of banks before taxes as a percentage of GDP; and (iii) the total value of securities held as bank assets. An index was created using an average of all three to accurately capture the entire multifaceted concept.

In Assa's (2012) cross-country study of the effects of financialisation on OECD countries, two flow indicators of financialisation were used - value added in the financial sector as a percentage of total value added (FIRE_VA) and total employment in the financial sector as a percentage of total employment (Empl_FIRE). Finance in the national accounts refers to real estate, financial intermediation, renting and business activities, while value added refers to economic output (GDP) (Assa, 2012). Assa (2012) regarded a country to have been financialised if it displayed a 20% or greater share of finance with respect to total value added.

In a similar study to Assa's (2012), Gołębiowski, Szczepankowski and Wiśniewska (2016) examined the occurrence and effects of financialisation in multiple OECD countries from

both a regulation and critical social accountancy perspective. They employed four measures (including both flow and vulnerability) of financialisation, with the first two mirroring those of Assa (2012) – FIRE_VA and Empl_FIRE, the third measured the percentage of private debt to GDP (PRIV_DEBT) and the fourth was the ratio of stock market capitalisation to GDP (MARK_CAP). In addition, similarly to Kus (2012), Gołębiowski et al. (2016) created an additional measure comprising a combination of the four indicators to give a synthetic financialisation indicator.

In a cross country analysis of 17 OECD countries by Karwowski et al. (2016), the multifaceted nature of financialisation was investigated at all three sectoral levels of the economy using several flow and vulnerability measures of financialisation. To examine financialisation at the household level, Karwowksi et al. (2016) used household debt as a percentage of disposable income (vulnerability measure) as well as gross financial income as a percentage of total income (activity measure). To examine financialisation within the financial sector, Karwowski et al. (2016) used financial sector debt as a percentage of GDP (vulnerability measure) and the financial sector value added as a percentage of GDP (activity measure), with the latter measure similar to a measure employed by Gołębiowski et al. (2016). Lastly, Karwowski et al. (2016) observed financialisation at the firm level by employing the use of non-financial firms' debt as a percentage of total income (vulnerability measure) and gross financial income as a percentage of total income (activity measure).

3.3.1.2 Measures of Financialisation Used in this Study

As is clear from the preceding discussions, numerous measures of financialisation have been used in empirical studies. Moreover, it is evident that the use of multiple measures to examine financialisation is common practice in empirical studies. In this study, the two measures used by Assa (2012) were chosen as they are generally the most commonly accepted measures of financialisation and used in numerous studies. They focus explicitly on the phenomenon in the financial sector. However, given that financialisation is a multi-faceted concept that can manifest in several areas of the economy, to only measure financialisation from this angle was considered limiting. Thus, to ensure a more robust analysis, financialisation was analysed from another angle – the effects of finance on the non-financial sector – with Krippner's (2005) work informing and guiding these additional two measures. Although these ratios have been used in several other studies, this has been to measure the extent of financialisation rather than to examine the effects of the phenomenon;

however, this can be attributed to the fact that most studies on financialisation include multiple countries for which data may not be easily available. Karwowksi et al. (2016) confirm that these measures are best suited to examining financialisation from a single state perspective as is the case in this study.

In order to compute the first flow indicator of financialisation used in this study, FIRE_VA, data was needed on the value added for the financial sector and the entire economy in each year. Quarterly data was obtained from the SARB expressed at the basic current price of 2017. Due to both value added series being expressed in current prices as opposed to constant prices, all inflationary effects associated with each would cancel out. An annual estimate of the value added figures was obtained by computing the average across the year. The ratio was then computed for each year from 1994 to 2017, as follows:

$$FIRE\_VA = \frac{Value\ added\ in\ the\ financial\ sector}{Total\ Value\ Added} \tag{3.1}$$

To compute the second indicator of financialisation, Empl_FIRE, data on employment was needed. Employment figures for the financial sector and total employment were collected annually from 1994 to 1999 from Statistics SA's October Household Surveys and the Surveys of Total Employment and Earnings. From 2000 to 2007 the employment figures were collected semi-annual from Statistics SA's Labour Force Surveys. Annual estimates were obtained from the semi-annual data by computing the average of the two estimates per year. Finally, for the years 2008 to 2017, the required employment data was collected from Statistics SA's quarterly Labour Force surveys, with the average obtained to represent the annual estimate. The annualised FIRE employment and total employment datasets were then used to compute the ratio as follows:

$$Employ\_FIRE = \frac{Employment\ FIRE}{Total\ Employment} \tag{3.2}$$

The five-year moving averages were generated for both the FIRE_VA and Empl_FIRE series.

The first of Krippner's (2005) approaches measures financialisation by computing a ratio that compares portfolio income to corporate cash flows of non-financial firms. Portfolio income encompasses dividends, interest and capital gains realised by non-financial firms, while corporate cashflow refers to profits in addition to depreciation allowances (Krippner, 2005:182). This approach makes use of corporate cash-flow as opposed to profits as portfolio

income represents unadjusted revenues, while profits are determined less associated costs making comparisons inaccurate. In order to accurately compare portfolio incomes against corporate profits, costs associated with financial activity would have to be deducted from portfolio incomes. However, traditional accounting practices make the task of distinguishing financial costs from total costs unrealistic (Krippner, 2005). By using corporate cash-flows that accurately represent the total capital available to corporations, Krippner's approach is able to side step challenges associated with corporate profits. Additionally, the use of corporate cash-flow is associated with the management of depreciation allowances (Krippner, 2005).

Depreciation can be seen as a tool in promoting investment, but does have tax implications for corporations. Over the years tax practices have operated under the mandate of drastically shortening the life span of assets. According to Krippner (2005), this has seen the depreciation allowance and actual use of capital assets diverge. As such, the use of recommended depreciation allowances when calculating corporate profits could potentially lead to an inaccurate comparison between portfolio incomes and corporate profits. Corporate cash-flows avoid this by adding back depreciation allowances to corporate profits in the determination of corporate cash-flows (Krippner, 2005). Furthermore, Krippner (2005) ignores traditional accounting practices that report cash flows net of dividends payments and tax deductions. This is done as the underlying interest is in the ability to identify surplus, rather than the distribution capacity of corporate cash-flows. As such cash flows are determined prior to the deductions of dividends and taxes. Krippner (2005) regarded an economy as displaying a greater degree of financialisation if it had a greater share of revenue being generated from financial sources as opposed to non-financial.

The second approach employs the use of both corporate profits and cash flows for the financial and non-financial sector. These two variables are used to represent the upper and lower bounds of financialisation respectively (Krippner, 2005:188). This approach seeks to gauge the profits generated in the financial versus the non-financial sector of the economy. Krippner (2005) suggests that the growing trend of financial income generated by entities is a behavioural trend that applies to both financial and non-financial entities, and thus there is a need to accurately determine this. However, in gauging this relationship it is imperative that consideration is given to the impact that depreciation allowances have upon corporate profits. The uneven nature to which depreciation allowances are distributed between firms, in

particular amongst capital intensive firms, results in corporate profits depicting a more favourable image of financialisation amongst finance related industries. The use of corporate cash-flows to overcome the bias caused by corporate profits creates a new bias. By adding back depreciation allowances to corporate profits an inaccurate depiction of financialisation is created. This is due to the uneven nature of depreciation allowances amongst firms, with capital intensive industries being the biggest beneficiaries (Krippner, 2005). The use of corporate cash-flows would depict a subdued estimation of financialisation amongst finance related industries. It is upon these facts that Krippner (2005) bases his belief that a more accurate depiction of financialisation can be found between the boundaries of corporate profit and corporate cash-flows.

To employ Krippner's two approaches, data on portfolio income, corporate cash flows and corporate profits for financial and non-financial firms was needed. This, however, was only available from Statistics SA from 2001 onwards. The short duration of this annual data did not enable a sufficiently rich analysis and, as such, proxy measures for these measures were derived. For this purpose, a list of the largest 40 companies (comprising the JSE Top 40 Index) on the JSE, in each year of the sample, was obtained from the JSE. In line with Krippner's (2005) approach, all financial firms were then removed from this list to create a pool of non-financial firms. In the event that a firm delisted from the JSE during the course of the sample period, the firm was still included for the years it was listed. Moreover, new firms that listed during the course of the sample period were included in the pool of firms from the year in which they became one of the largest on the JSE. This process was done to ensure that the sample was not confined to firms that remained listed throughout the period of analysis, as analysing only "survivors" can induce survivorship bias in the sample (Bain, 1972).

From the list of non-financial firms, ten were randomly selected each year (starting from 1994 and ending in 2017) using the random number generation process in Microsoft Excel. That is, the 10 firms were used in the first year of the sample – 1st January 1994 to 31st December 1994 - were randomly selected from the pool of non-financial firms making up the JSE top 40. This process was repeated for each year till the year ending 31st December 2017. Portfolio incomes, corporate cash flows and corporate profits were then obtained for each of the 10 randomly selected non-financial firms from the financial statements of each company for every year from 1994 to 2017 from McGregor's BFA. In the event that financial statements for a given firm were presented in a foreign currency, the domestic equivalent was

computed based upon the last reported prevailing exchange rate for that given year, obtained from the SARB. The conversions were done at the calendar year-end rather than the firm's financial year-end, to ensure that exchange rate fluctuations during the year did not falsely represent the individual firm values depending on when their financial years ended. The individual portfolio incomes, corporate cash flows and corporate profits in Rand terms were then summed, on an equally-weighted basis, to form a single portfolio income, corporate cash flow and corporate profit value for the non-financial sector for each year.

Using this data, the first of Krippner's measures of financialisation, denoted PICCF, was therefore computed as shown in equation (3.3) along with also creating a 5-year moving average of the series.

$$PICCF = \frac{Portfolio\ Income}{Corporate\ cashflows} \tag{3.3}$$

The above described process for computing portfolio income, corporate cash and corporate profit was then repeated for financial firms. That is, ten companies from the largest 40, which operated in the financial sector, were selected each year, and combined so as to obtain single portfolio income, corporate cash flow and corporate profit figures for the largest financial firms listed on the JSE. This information was combined with that for the non-financial firms so as to compute the upper and lower boundaries for financialisation, with the former, the ratio of financial to non-financial sector profits in each year from 1994 to 2017 as per equation (3.4) denoted FNFP, while the latter is the ratio of financial to non-financial corporate cashflows, denoted FNFCF, for each year, as in equation (3.5). The five-year moving averages for each of the two ratios were generated. For the purposes of the empirical analysis, the mid-point between the two boundaries is used as the fourth measure of financialisation, which is denoted FNFPCF.

$$FNFP = \frac{Financial\ Profit}{Non\ Financil\ Profit} \tag{3.4}$$

$$FNFCF = \frac{Financial\ Cashflow}{Non\ Financial\ Cashflow} \tag{3.5}$$

3.3.2 Development Indicators

The second component of the study will entail analysing the relationship between financialisation and key development indicators. All four measures of financialisation will be used to ensure that any conclusions drawn are robust to the measurement of this phenomenon. As highlighted earlier, the key development indicators that were used include: unemployment, inequality, innovation, economic growth and investment, which were all measured annually from 1994 to 2017. The development indicators of unemployment, inequality and economic growth were chosen to replicate the analysis by Assa (2012) which sought to examine the consequences of financialisation, while innovation was included to examine the structural change associated with financialisation (Gleadle et al., 2012). Investment was also examined given the extensive literature and research between the financialisation and capital accumulation (Orhangazi, 2008). Collectively these indicators were chosen as they capture critical aspects of society's overall development rather than solely at a macro- or micro-economic level as highlighted by Seers (1972) in chapter 1. Each of these is explained in the following sub-sections.

3.3.2.1 Unemployment

Based on financialisation theory, a positive association is expected between financialisation and unemployment meaning that increased financialisation results in higher unemployment. This, according to Assa (2012), can be attributed to diminished capital accumulation, increased automation of financial transactions and the increased likelihood of economic recessions. As indicated in chapter 2, there has been limited research with respect to examining the direct correlation between financialisation and unemployment, with statistical analysis on unemployment inferred from the effects of financialisation on income inequality albeit that they are two different measures. However, a few empirical studies such as Assa (2012), Afsar, Afsar and Mecik (2014) and Durand and Miroudot (2015) have examined this relationship using various measures of unemployment. Assa (2012) and Afsar et al. (2014) both used the annual unemployment rate for this purpose; however, Durand and Miroudot (2015) challenged this, arguing that this measure does not capture the complexity of the global labour market caused by part-time and temporary employment and as such, creates a false impression of employment. Consequently, Durand and Miroudot (2015) used the hours worked in a given industry and country as a measure of employment. However, to restrict the scope of their analysis, they excluded data from five sectors of the economy (education,

health, public administration and defense, and private households and social and personal services), on the basis that these sectors represented non-market services.

Stats SA (2017e) considers permanent, temporary and casual employees as full-time employees provided they work a minimum of 40 hours a week or an agreed number of hours. This failure in the distinction of permanent, temporary and casual employment does have the potential to misrepresent employment levels. Furthermore, Stats SA (2017c) categories a person, within the age bracket of 15 to 64, as employed if they work for a minimum of one hour within a given week under observation, or were temporarily absent from a business they operated or job they held. The apparent distinction between the two employment definitions does possess the potential to either understate or overstate employment statistics, based on the definition employed. Despite the criticisms of the traditional measures of employment, in this study the total unemployment rate is used given data availability as well as the fact that it provides a holistic view across all industries as no sectors are excluded.

Stats SA records two definitions of unemployment – broad and narrow. The narrow definition of unemployment refers to all jobless persons that want to work and have actively searched for a job, while the broad definition encapsulates all jobless persons that want to work regardless of whether they have actively searched for a job (Kingdon and Knight, 2004). According to Kingdon and Knight (2006), the broad definition should be used to ensure that discouraged workers who are excluded from the labour force in the narrow definition are captured so as to highlight the true extent of unemployment within South Africa (Suryadarma, Suryahadi and Sumarto, 2007:543). This information is available from Stats SA under the umbrella of the expanded definition of unemployment. Stats SA (2017c) defines an unemployed person as one that is between the ages of 15 to 64 years who: (i) has tried starting a business or actively sort employment a month preceding their participation in a Stats SA interview, (ii) was not employed in the week under observation, (iii) would be able to start a business or start work within the week under observation.

Using this expanded definition of unemployment that focuses on the working age of 15 to 64 years, data was collected on an annual basis from 1994 to 1997 from Statistics SA's Unemployment and Employment in South Africa: 1998 report. Statistics SA's October Household Survey report was used to source the 1998 annual expanded unemployment rate, while the 1999 annual rate was sourced from Statistics SA's The South African Labour

Market report. From 2000 to 2004 unemployment data was retrieved on a semi-annual basis from Statistics SA's Labour Force Survey. The annualised unemployment figures were computed from the semi-annual data by averaging the two unemployment figures for each year. From 2005 to 2007 Statistics SA took the decision to stop publishing the expanded unemployment rate and solely focused on the official unemployment rate that excluded discouraged workers (Stats SA, 2017c). However, Statistics SA did continue publishing the relevant statistics required to compute the expanded unemployment rate. The annual expanded unemployment rates for the years 2005 to 2006 was computed by adding the annual discouraged workers estimate to the annual unemployment and labour force estimates for each given year, with this data sourced from Statistics SA's Labour Force Survey. The same process was repeated for the year 2007 using semi-annual data sourced from Statistics SA's Labour Force Survey, with the annual expanded unemployment rate computed by averaging the two unemployment estimates for the year 2007. Finally, unemployment data for the years 2008 to 2017 was collected from Statistics SA's Quarterly Labour Force Surveys on a quarterly basis, with the annualised unemployment rates obtained by averaging the quarterly estimates for each year. It must be noted, however, that unemployment statistics amongst the African population were greatly underestimated by the apartheid state, while the methodology used in the earlier survey instruments has also been criticised. This brings into question the reliability of aggregated unemployment statistics prior to 2002 (South Africa. The Presidency, 2014). However, this study continued to use this data but with this caveat in mind.

3.3.2.2 Inequality

Equality can be viewed as both an economic and social phenomenon defined by the Development Strategy and Policy Analysis Unit (DSP) of the United Nations (2015) as how the resources from an income, consumption or wealth perspective are distributed among nations, a collective of people or individuals. Since the 1980s various labour economists have put forward theories to explain the sudden increase in inequality observed in the labour market. This includes the adoption of technology that fostered the reduction in capital-intensive jobs (Kristal, 2011). However, empirical tests have proved this theory inconsistent as global regions that experienced the same technological growth rates had different levels of inequality. Additionally, some academics such as Harrison (2002) and Kristal (2011) have suggested that globalization has led to inequality, as an outflow of capital and outsourcing

has reduced the bargaining ability of trade unions in developed regions of the world. However, studies by Kaplan and Rauh (2010) have disputed this argument by showing that skilled workers have greater bargaining power. According to financialisation theory the economic transformation that embodies financialisation would, by all accounts, manifest into greater economic inequality spurred on by the wealth transfer from the real to the financial sector (Palley, 2007). It is on this premise that financialisation is expected to negatively affect inequality i.e lead to an increase in inequality.

There are numerous indicators of inequality, with Gołębiowski, Szczepankowski and Wiśniewska (2016) highlighting three such measures. Firstly, income can be used as it traditionally captures inequality based on individual/household income prior to tax and subsidy deduction. This measure's close association to economic growth, globalization and social economic progression has made it a robust measure of inequality. However, some critics point to varying degrees of subsidy assistance, credit availability and generational wealth that an individual may have that could potentially influence this measurement (Gołębiowski et al., 2016). Secondly, consumption can also be used as a significant indicator of inequality, but tends to be lower than income measures and thirdly, economic inequality can be captured by observing household wealth, which tends to be the highest form of inequality. However, critics point to the subjective manner in which wealth may be measured (Gołębiowski et al., 2016).

In the financialisation literature, several studies have made use of income-based measures of inequality. Epstein (2006) used the wages of the general workforce as a measure thereof, with Stockhammer (2009) taking a similar view in the use of the distribution of employee remuneration. A 2013 panel data study by Lin and Tomaskovic-Devey used three measures: (i) labour's share of national income; (ii) top level executive's share of compensation; and (iii) earning disparities among employees (computed as the variance of logged annual earnings of full-time employees).

Several studies have also used the Gini coefficient as the measure of inequality (Zalewski and Whalen, 2010; Assa, 2012). The Gini coefficient can also be seen as an income-based measure, as it captures the distribution of disposable household income. However, the use of the Gini coefficient is not without controversy with respect to the treatment of tax payments, with Assa (2012) employing pre-tax Gini coefficient values as taxed Gini coefficient values

tended to reduce the degree of inequality experienced in the economy. Lagoa, Leao, Mamede and Barradas (2014), in a study of the Portuguese economy, also used Gini coefficient values before tax and social transfers were added onto personal income figures. Kus (2012) argues that the tax issue is important in developed countries with effective taxation and government grant programs which can cause the two measures to diverge and, as such, yield varying outcomes. He favoured the net GINI index as opposed to the gross coefficients for his analysis of developed countries. However, he argued the same is not true for developing countries because of the lack of effective tax and grant systems, and thus the choice is likely to be immaterial.

Following the dominant trends in the literature, inequality in this study was analysed from a personal income perspective, with the pre-tax Gini coefficient index used (Wan, 2001:365). Furthermore, given the fact that South Africa is a developing state the use of gross or net Gini coefficient values would have no material impact on the outcome according to Kus (2012). This data was sourced from the United Nations Development Programme (Human Development Report), Stats SA (poverty trends South Africa), Luxembourg Income Study Database (LIS) and from the Standardized World Income Inequality Database (Solt, 2016). Despite the multiple sources used in collecting inequality data, data related to several years was unavailable. Thus to ensure the integrity of this study a cubic spline in EViews 10 was employed to estimate the missing data values. A cubic spline is a relatively accurate technique that is commonly used in economics for interpolating missing values (Kushnirksy, 2009). A spline ensures the smooth fitting of a function by determining the functions coefficients through the use of polynomials between each data point observed (Brooks, 2014). The use of the spline ensured the interpolation of inequality estimates from 1994 to 2015 that were relatively accurate. However, data for the years 2016 to 2017 still could not be estimated due to insufficient observations. Despite the data gap the Gini coefficient index was still used as opposed to other traditional inequality measures such as the Theil index, which is difficult to understand and translate (University of Cape Town, 2010).

3.3.2.3 Economic Growth

Scholars such as Stockhammer (2004) and Palley (2007) have shown that financialisation has adversely affected economic growth and increased the financial fragility of economies. However, Boyer (2000) and Aglietta and Reberioux (2005) have suggested that a financial

led regime has the potential to spur growth as was highlighted in section 2.4.1. Thus the expectations of the relationship between growth and financialisation remain ambiguous.

The analysis of the relationship between financialisation and economic growth has been examined in numerous studies, with GDP growth most commonly employed as the measure of economic growth (e.g. Palley, 2007; Assa, 2012; Haruna, 2012; Afsar et al., 2014). One exception to this is Stockhammer (2004), who used real investment as a proxy for growth arguing that it is a major contributor to growth. However, Assa (2016) raises some concerns about the use of GDP in an analysis of financialisation.

Traditionally GDP was designed as a measure to determine production output (Assa, 2016). However, as economies progressed GDP was viewed as inadequate in reflecting social, political and environmental progression. In order to address these shortcomings, national accounting frameworks have updated the GDP measure to go beyond production parameters in order to adequately reflect these non-output related variables. One such update involved a change in the manner in which financial activities were classified, progressing from non-productive to productive activities. As a consequence of this, Assa (2016) has referred to GDP as being financialised and argues that the inclusion of finance in the broader measure of GDP has inflated the representation of a nation's economy, and thus resulted in its inaccuracy as a measure. Furthermore, it has been suggested that the inclusion of finance within the GDP measure has resulted in the divergence of the mean income and unemployment trends. It is on this premise that Basu and Foley (2013) have suggested the exclusion of income generated from Finance, Insurance and Real Estate (FIRE) from GDP, creating a measure known as non-financial value-added (Assa, 2016). Assa (2016), however, views this as an inaccuracy in accounting for GDP and rather suggests that income generated from FIRE not be excluded from GDP measures, but rather be deducted as they represent an opportunity cost to which productive output could have been spent on. Thus FIRE income should be treated as a production cost as they are an intermediate input to other output industries. Despite these concerns, the traditional measure of GDP growth was used to capture economic growth in this study in order to be able to compare the results meaningfully to other studies which have used the same. Furthermore, the use of the traditional GDP measure was necessitated by the limited availability of GDP component in South Africa for the whole period.

A choice was required with respect to the use of constant or current GDP. GDP at constant prices (real GDP) measures GDP taking inflation into account while GDP at current prices (nominal GDP) measures GDP without any inflationary considerations (World Bank, 2018). Following Haruna (2012) in his analysis of the causal relationship between GDP and financialisation, this study used the real GDP compound growth rate as a measure of economic growth. Compound growth refers to the rate of change in the variable between two points in time on a continuous data set (Altinay, 2004) and was also used by Assa (2012) in his analysis. The quarterly growth rate figures were sourced from SARB, with all quarterly figures from 1994 to 2017 seasonally adjusted to reflect the inflation level. The annual real GDP growth rate figures for each given year were computed by averaging the quarterly growth rate figures for a given year.

3.3.2.4 Innovation

Measuring innovation is a relatively new concept and even more in the context of a study on financialisation. Despite this fact, financialisation has been said to negatively impact innovation due to the adoption of a shareholder value maximization policy by firm managers (Lazonick and O'Sullivan, 2000). Most studies have indirectly examined the effect of financialisation on innovation (intangible assets) by observing the impact of investment on sectors of the economy associated with innovation. In their analysis of the biopharmaceutical industry in the UK and USA Gleadle et al. (2012) measured innovation as the monetary value of equity invested into biotech companies for early stage development of products by large pharmaceutical companies.. Seo et al. (2012) measured innovation as R&D investment as a percentage of sale, with R&D investment including research expenses, ordinary R&D expenses, ordinary development expenses and amortization of development. Similarly to Seo et al. (2012), Milberg and Shapiro (2013) also focused on R&D spending as the measure of innovation. Botta (2016) also focused on R&D expenditure to capture innovation in their analysis of financialisation on innovation.

Initially the Global Competitive Index, which ranks a country based on 12 pillars of creativity and innovation, (Hoelscher and Schubert, 2015) was to be used as the measure of innovation. However, data on this series was only available from 2008 from the World Economic Forum. Furthermore, due to methodological changes in the Global Competitive Index designed at better reflecting developmental changes and growth, the Global Competitive data is not strictly comparable over time. Consequently, an alternative measure had to be sought. For

this purpose, innovation was gauged based on R&D expenditure, as has been done in several studies such as Milberg and Shapiro (2013) and Botta (2016). This was achieved by randomly selecting 10 firms from the JSE Top40 index each year in the sample. The R&D expenditure for each of the 10 firms were then extracted from their income statements sourced from McGregor's BFA and recorded in Rands (converted from the foreign currency, where necessary, as was done with the financialisation measures). The R&D expenditures for each firm were then summed, on an equally-weighted basis, to form a single research and development expenditure figure for each given year, as per Milberg and Shapiro (2013).

3.3.2.5 Investment

The effect of financialisation on investment has been well-studied, with evidence pointing to a negative impact on capital accumulation (tangible investment) due to the adoption of rentier like mannerisms, by prioritising investment in capital markets at the expense of growth related projects (Stockhammer, 2004) as was highlighted in section 2.4.2. A wide array of measures of investment have been used in these studies, with the choice thereof dependent upon whether a macro or micro perspective is adopted.

In one of the few studies that have gauged the effects of financialisation on investment from a micro perspective, Demir (2007) used the ratio of financial to fixed assets to represent the firm's appetite to investment. An increase in the ratio represented a decrease in accumulation, while a decrease in the ratio represented an increase in accumulation. Tori and Onaran (2015) also examined the correlation between financialisation and investment from a microeconomic Post–Keynesian perspective. They employed a measure that sought to ascertain investment in physical capital (growth), financial relations and effects of profitability and demand. This was achieved by using fixed assets, net capital stock, retained earnings, sales and interest on debt and lastly dividend and interest payments as a fraction of net capital stock which were all lagged, to yield a rate of accumulation measure.

Stockhammer (2004) and Arestis, González and Dejuán (2012) analysed the relationship between financialisation and firm investment from a macro perspective by deriving investment functions comprising capital accumulation derived from the profit share, the proxy of financialisation (rentier income) and capacity utilization in Stockhammer's (2004)

study and exchange rates, oil prices, capacity utilization, interest rates, the rate of growth demand and stock market index returns in the study of Arestis et al. (2012).

For the purpose of this analysis, the relationship between real investment and financialisation was examined from a macro-economic perspective. However, gathering data for a long enough period to estimate an investment function similar to that of Stockhammer (2004) or Arestis et al. (2012) was not possible. As such, drawing from Orhangazi's (2008) study, real investment was defined as capital expenditure by non-financial corporations. This is also consistent with Tori and Onaran's (2015) measure. Following the same approach as used in computing the Krippner (2005) financialisation measures, 10 non-financial firms were randomly selected from the JSE Top40 for every year in the sample and information on their investment expenditure was collected from their cash flow statements from McGregor's BFA. The individual portfolio investment expenditure in Rand terms were summed, on an equally-weighted basis, to form a single portfolio real investment estimate for each given year.

The expected sign on the coefficient of financialisation from each key development variable is summarised in Table 3.1 below.

Table 3.1 Expected Effect of Financialisation on the Development Indicators

Expected Effect of Financialisation on:	
Unemployment	Increase (+)
Inequality	Increase (+)
Economic growth	Increase (+) or Decrease (-)
Innovation	Decrease (-)
Investment	Decrease (-)

3.3.3 Control Variables

For the purpose of analysing the relationship between financialisation and key development indicators, no control variables were employed so as to allow for the exclusive association to be tested. This is consistent with Assa (2012) while also follows the approach used by studies in other areas, such as the relationship between economic growth and energy (Odhiambo, 2008; Ozturk and Acaravci, 2010). Further to this, the small sample of this study necessitated

the exclusion of control variables that affected the key development indicators. The exclusion of control variables, however may overstate/understate the relationship between financialisation and the key development indicators.

3.3.4. Data Adjustments

The natural logs of inequality, innovation, investment, FIRE_VA, Empl_FIRE, PICCF and FNFPCF were obtained while the remaining series, measured in percentages, were not adjusted. This was done to allow the existence of non-linear relationships between the dependent and independent variables which could be statistically analysed (Tori and Onaran, 2015). In order to obtain the natural logged values of the investment series, the IMREAL function was employed in Microsoft Excel in order to obtain the real coefficient of a complex number as some of the observations were negative and the natural log of a negative number cannot be computed.

3.4 Research Method

3.4.1 Theoretical Model

The long-run relationship between the selected development indicators described above and financialisation can be expressed as follows:

$$DI_t = \beta_0 + \beta_1 Fin + \varepsilon_t \tag{3.6}$$

where: DI_t refers to each of the selected development indicators and Fin refers to the financialisation measure. Thus, there is a separate equation for each development indicator against each financialisation measure. β_0 is the intercept and β_1 is the coefficient estimate capturing the relationship between financialisation and the development indicators (Brooks, 2008:290).

In order to determine the appropriate method to estimate the relationship depicted in equation 3.6, it is necessary to understand the characteristics of the data, most notably whether the series are stationary. The stationarity of the data is critical, as if non-stationary variables are regressed on each other, a spurious regression results, which according to Elder and Kennedy (2001), amounts to inaccurate t- and F-statistics, inflated R^2 values and incorrect Durbin-Watson statistics for the test of autocorrelation. As such, Ordinary Least Squares (OLS) estimation cannot be used and alternative estimation techniques have to be considered (Elder and Kennedy, 2001). Thus, the first step in this analysis was to determine the stationarity of data so as to then determine the most appropriate modeling technique for this analysis.

3.4.2 Unit Root/ Stationarity Tests

To test for the presence of a unit root (non-stationarity), the Augmented Dickey Fuller (ADF) test was used. However, to ensure the robustness of the conclusions drawn from the test, this was supplemented with an additional unit root test, namely the Phillips-Perron (PP) test, as well as the Kwiatkowski-Phillips-Schmidt-Shin (KPSS) stationarity test. According to Marjanovic and Mihajlovic (2014), the use of the KPSS test in conjunction with either the ADF or PP tests yields the most robust stationarity conclusions. Hence this multiple-testing approach was adopted in this study.

Initially unit root tests were conducted using the standard test proposed by Dickey and Fuller (1979). However, this test proved to be invalid if the autocorrelation of the dependent variable was not accounted for. As such, the ADF test was derived, which overcame this shortcoming by using ρ number of lags of the dependent variable to incorporate the effects of autocorrelation that may be present (Gervais and Khraief, 2007).

According to Brooks (2014) the determination of optimal number of ρ lags in the unit root test is critical to the success of the test as the inclusion of too few lags will fail to adequately remove all autocorrelation creating a bias, while too many lags will increase the standard errors of the coefficient resulting in a less efficient unit root test. The information criterion can be used to determine the optimal number of lags with the Akaike information criterion (AIC) (Akaike, 1973), Schwarz Bayesian information criterion (SBIC) (Schwarz, 1978) and Hannan-Quinn criterion (HQIC*)* (Hannan and Quinn, 1979) the most commonly used for this purpose (Brooks, 2014). The AIC is advantageous in determining lags selection for small sample data, while also exhibiting good out of sample forecasting properties of a model. However, the AIC has been criticised as it is inconsistent and therefore yields little benefit in a large sample and also over-fits models because of its lenient penalty term for the inclusion of additional parameters (Ayalew, Babu and Rao, 2012). In contrast, the SBIC is a consistent criterion meaning that in a large sample, it will select the optimal lag order, but lacks the efficiency of AIC. The HQIC (1979) is viewed as being objective and automatic in the selection process of the number of lags, but it does lack consistency in the selection process (Ayalew et al., 2012). Thus based on the above factors no selection criteria can be viewed to be superior (Brooks, 2014). To adequately determine the amount of lags used in the ADF test, the AIC was used in this study given the small sample size. The optimal number of lags is identified when the lowest value of the AIC is obtained (Nkoro and Uko, 2016).

The equation for the ADF test can take one of three forms, where the choice of the specification may have a material impact on the outcome of the test. In particular, the inappropriate inclusion or exclusion of the trend term can affect the accuracy of the conclusion reached from the unit root/ stationarity test (Campbell and Peron, 1991). Consequently, this test (and the PP and KPSS tests) were estimated with both the random walk with an intercept term but no trend, and the random walk with an intercept and trend to ensure the reliability of the conclusions drawn regarding the stationarity of the series.

The null hypothesis of the ADF test is that the series contains a unit root/ is non-stationary/ integrated of at least order one, $I(1)$, in its level form. The alternative hypothesis is that the series is stationary and thus is integrated of order zero, $I(0)$, in its level form (Brooks, 2014). The null hypothesis is rejected if the test statistic is more negative than the critical value at a given level of significance (Brooks, 2014). The MacKinnon (1996) one-sided critical values are used for this purpose. If the null hypothesis is rejected, then it can be concluded that the series is non-stationary. If the null hypothesis is not rejected it can be concluded that the series is integrated of at least order one. This result gives rise to the possibility that the series could potentially have more than one unit root, and as such, a subsequent unit root test has to be performed with a null hypothesis that the variable is integrated of order two, $I(2)$, meaning that the series has two unit roots, or stated differently, the first differences are non-stationary and contain a unit root. The alternative hypothesis is that the series is integrated of order one $I(1)$, or stated differently, the first differences are stationary. This process continues with the integration ordering of the null hypothesis until the null hypothesis is rejected.

Similarly to the ADF test, the PP test allows for autocorrelation but this is done by incorporating an automatic correction to the Dickey and Fuller test statistic. In addition, the PP test also has the same hypotheses as the ADF test. The null hypothesis is also rejected if the test statistic is more negative than the critical value (using MacKinnon's (1996) critical values). Given their similarity, these two tests typically yield very similar outcomes (Brooks, 2014). The PP test also exhibits the same shortcomings as the ADF test, with both tests suffering from poor deciphering accuracy when the root approaches the non-stationarity threshold, even though the process is stationary (Brooks, 2014). In addition, both tend to perform poorly in small samples (Hoang and Mcnown, 2006).

The KPSS test seeks to mitigate the first shortcoming of the ADF and PP tests by reversing the null and alternative hypothesis under the ADF and PP tests (Brooks, 2014). In the KPSS test, the rejection of the null hypothesis would indicate the presence of a unit root within the series, while the failure to reject would suggest the stationarity of the series. The null hypothesis is rejected when the test statistic is greater than the critical value at a given level of statistical significance. The Kwaitowski et al. (1992) critical values are used for this test.

These statistical tests, along with the remainder of the analysis, was performed in EViews 10. Moreover, all computed test statistics were compared to the 10%, 5% and 1% critical values. However, emphasis was placed on the 5% and 1% critical values as the 10% presents a rather weak criterion (Fisher, 1950).

3.4.3 The Autoregressive Distributed Lag (ARDL)

As the results presented in the following chapter demonstrate, some of the variables were found to be non-stationary and contained one unit root $I(1)$ while others were found to be stationary. As highlighted previously, the use of non-stationary variables is not appropriate in an OLS specification as they would yield a spurious regression that would ultimately lead to inaccurate conclusions reached. Given the non-stationarity outcome reached traditional econometric procedure would suggest conducting a cointegration analysis on the variables in question. According to Ruxanda and Botezatu (2008), cointegration can be defined as the process in which two or more non-stationary variables can be linearly combined to yield a stationary outcome i.e. $I(0)$. Non-stationary variables are said to be cointegrated if a long-run relationship exists between these variables (Brooks, 2014).

There are several methods used in testing for cointegration. The first of these is the two-step procedure of Engle and Granger (1987). This approach determines the cointegration of a series by running an OLS regression in order to estimate the residual (error) terms of the series, provided all variables under observation are $I(1)$. Despite the simplicity of the approach, it does possess several shortcomings namely: (i) a simultaneous equation bias; (ii) lack of adequate knowledge with respect to the number of long-run relationships when the cointegration model consists of more than two variables; (iii) the unit root and cointegration tests lack sufficient power to estimate stationarity and cointegration accurately; (iv) procedurally inaccurate to perform a hypothesis test with respect to the cointegration relationship determined at stage one of the Engle-Granger procedure (Mostafavi, 2012).

An alternative method to testing for cointegration is that of Johansen (1988), which procedurally overcomes some of the Engle-Granger shortcomings, including that it allows for the testing of more than one cointegration relationship in addition to resolving the ordering problem. The Johansen procedure is a likelihood ratio test based on a Vector error correction model (VECM). There are two different tests that Johansen puts forth to test for cointegration, namely the trace test and maximum eigenvalue test (Hjalmarsson and Österholm, 2007). Despite overcoming the shortcomings of the Engle-Granger procedure the Johansen approach is prone to generating high variance levels as well as outliers, in addition to displaying high levels of sensitivity to the number of lags employed in the VECM (Deo, 2014). Furthermore, the Johansen procedure is said to perform poorly with small sample data (Hasanov, Al Rasasi, Al Sayaary and Al-Fawzan, 2017). Lastly the Johansen procedure like the Engle-Granger requires that all data be integrated of the same order i.e. $I(1)$.

An alternative cointegration technique is the Autoregressive Distribution Lag (ARDL) model which was first proposed by Pesaran and Shin (1995) to analyse the long-run relationship between variables. The ARDL model was designed to contain lags of both the explanatory and explained variables, while yielding the short and long run relationship between variables in a singular model (Brooks, 2014). The use of the ARDL cointegration technique is advantageous as it can be run with variables that are either non-stationary $I(1)$, stationary $I(0)$ or a combination of both. Moreover, the ARDL technique yields consistent, unbiased and robust conclusions when dealing with small samples (Nkoro and Uko, 2016). However, the ARDL technique yields inaccurate conclusions in the presence of non-stationary $I(2)$ variables. Furthermore, if there are multiple long-run relationships amongst the variables then the use of the ARDL technique would not be applicable. Despite these shortcomings, the ARDL cointegration technique was used by Stockhammer (2004), as well as by van Treeck (2007) in the analysis of the relationship between profit and investment in a finance-centred economy. Thus this paper utilised the ARDL modelling technique in analysing the long-run financialisation relationships given the small sample size and the fact that only a singular relationship was tested for under each model.

The following ARDL equation was used to test the long run relationship between the variables:

$$\Delta DI_t = \beta_0 + \sum_{i=1}^{n} \alpha_1 \Delta DI_{t-i} + \sum_{i=0}^{n} \alpha_2 \Delta Fin_{t-i} + \delta_1 DI_{t-1} + \delta_2 Fin_{t-1} + u_t \qquad (3.7)$$

where α_1 and α_2 are the short-run coefficients, δ_1 and δ_2 are the long-run coefficients, Δ is the first difference order and u_t the disturbance (white noise) (Nkoro and Uko, 2016). The optimal number of lags for the first differenced variables was determined using the AIC as was done for the ADF tests.

From this equation, the bounds test, which is based upon the Wald/ F-test, is used to determine whether a long run relationship exists between the variables (Pesaran, Shin and Smith, 2001). The null hypothesis for the bounds test indicates that no long-run cointegration relationship exists between DI_t and Fin_t ($\delta_1 = \delta_2 = 0$) while the alternative equates to the existence of a relationship amongst the variables ($\delta_1 \neq \delta_2 \neq 0$).

Although the bounds test is based on an F-test, it does not follow the traditional F-distribution. Rather, a set of critical values for a set level of statistical significance have been derived by Pesaran et al. (2001). The upper set of critical bound values assume that all variables in the ARDL equation are $I(1)$, indicating cointegration amongst the variables while the lower set of critical values assume the variables are $I(0)$, indicating no cointegration amongst the variables (Nkoro and Uko, 2016). If the computed F-statistic is greater than the upper critical value for a given level of significance, then the null hypothesis of no cointegration is rejected meaning that a long-run relationship exists amongst the variables. On the other hand, if the F-statistic is below the lower critical value for a given level of significance, then the null hypothesis cannot be rejected indicating the absence of a long-run relationship amongst the variables (Nkoro and Uko, 2016). If the F-statistic lies within the boundaries of the upper and lower critical bound values for a given level of significance, then the results of the test are inconclusive (Pesaran et al., 2001).

If the variables are found to be cointegrated, then equation (3.6) represents the long-run model and the coefficients can be interpreted to gauge the sign and magnitude of the relationships. However, the long-run coefficients cannot be tested for statistical significance as the regression still comprises of non-stationary variables.

Once cointegration amongst variables has been established, then the short-run relationships can be examined including short-run deviations from the long-run relationship. This is achieved through the Error Correction Model (ECM) (Nkoro and Uko, 2016). The ECM makes use of a combination of cointegrated variables that have been first differenced and lagged (Brooks, 2014). The ECM of a given ARDL model can be derived as follows:

$$\Delta DI_t = \beta_0 + \sum_{i=1}^{n} \alpha_1 \Delta DI_{t-i} + \sum_{i=0}^{n} \alpha_2 \Delta Fin_{t-i} + \varphi ECT_{t-1} + u_t \quad (3.8)$$

where: ECT_{t-1} is the error correction term (Ozturk and Acaravci, 2010). The error correction term (ECT) depicts how much of the disequilibrium in the previous period is being corrected for in the current period and is derived from the long-run model in equation (3.6) (Nkoro and Uko, 2016). The term should be significant and negative to indicate a convergence towards equilibrium (Ozturk and Acaravci, 2010). A coefficient of between 0 and -1 is anticipated. α_2 measures the influence of financialisation on the development indicator in the short-run.

In the event that no long-run cointegrating relationship is exhibited between the key development indicators and financialisation, the short-run relationship cannot be determined using the ECM. However, an alternative equivalent short-run model can be estimated which effectively is the ECM excluding the error correction term (ECT).

3.4.4 Granger Causality Test

To further understand the relationship between financialisation and the development indicators, causality tests were also run to ascertain whether directional causality exists between the two variables (Brooks, 2008:298). The general causality test was first proposed by Granger (1969) and operates on the premise that if a given variable X_t is the cause of a variable Y_t, then past values of X_t can explain the current values of Y_t (Jiang and Bai, 2017). In this case, there is unidirectional Granger causality from X_t to Y_t. Similarly, if past values of Y_t can explain the current values of X_t, then Y_t Granger causes X_t and there is unidirectional causality. If both these conditions hold then there is said to be bidirectional causality between X_t and Y_t. However, for the purposes of the tests undertaken in this study, the focus is on unidirectional causality from financialisation to the development indicators as the research question is centred on the effects of the phenomenon and not the causes.

Despite the resourcefulness of the Granger causality approach, it does suffer from fundamental methodological short-comings. In the event that the variables under analysis are non-stationary, differencing of the variables to induce stationarity is required before conducting the usual Granger causality test. However, this approach only yields the short-term causality as the level form long-run information is lost (Odhiambo, 2008). An alternative approach, provided a long-run cointegrating relationship exists between the variables, is to run the causality tests on the error correction model that includes the lagged error correction term and the lagged differenced variables. The inclusion of the error

correction term ensures that long-run causal information that is cancelled out through differencing is recaptured in a mathematical manner that is acceptable (Odhiambo, 2008). In this ECM framework, under the ARDL model (as per equation (3.8)), three causal relationships can be examined for the cointegrated variables; the long-run, short-run and strong Granger causality tests (Ozturk and Acaravci, 2010). This approach was thus utilised in this study because it enabled more information to be obtained.

Firstly, if a long run cointegrating relationship exists between variables, then a minimum of a unidirectional long-run causal relationship must exist between them. The direction of the causal relationship can be assessed by testing the significance of the lagged error-correction term in equation (3.8) (Odhiambo, 2008). Thus, more information can be gathered about the long-run causality from the error correction term than only the speed of adjustment to equilibrium, as outlined in the preceding section. Secondly, short-run causality can be assessed in the same manner as per the traditional Granger causality test by testing the joint significance of the lagged explanatory variables in equation (3.8) (Ozturk and Acaravci, 2010). An F-test is used for this purpose. Finally, strong causality is a combination of long- and short-run causality which tests the joint significance of the error correction term and the lagged differenced explanatory variables in equation (3.8). Therefore, if a variable strongly Granger causes the dependent variable it means that both the short- and long-run causality are jointly significant (Ozturk and Acaravci, 2010). Again, an F-test is used for this purpose.

If no long-run cointegrating relationship was found in the bounds test, only the short-run causality test can be performed using the short-run model outlined previously and testing whether lags of the differenced dependent variable are jointly equal to zero as per the traditional Granger causality tests.

3.4.5 Diagnostic Tests

The classical linear regression model (CLRM) is founded upon several fundamental assumptions. This includes the assumption of zero correlation between the error terms of the regression over time (no serial correlation) and that of constant variance of the error terms (homoscedasticity) (Cai and Hayes, 2008). Error terms that display non-constant variance are known as heteroscedastic (Cai and Hayes, 2008). According to Brooks (2014) the use of autocorrelated or heteroscedatic data leads to an inefficient regression and hence the reason why tests for violations of these assumptions are so important so that corrective action can be taken if necessary. Lastly, the CLRM implicitly assumes that all parameters within the

regression model are constant, and any such derivation from this assumption can be tested using a stability test (Brooks, 2014). As such, to ensure the validity and accuracy of the results obtained from the empirical analysis, three diagnostic tests were run to ensure that these assumptions held.

To test for autocorrelation, the Breusch-Godfrey (BG) test for serial correlation. The BG test was chosen over the Durbin-Watson test due to the restrictive and stringent conditions required in running the Durbin-Watson test and the inability to test for higher orders of autocorrelation (Godfrey, 2007). The BG test for autocorrelation was also used by Onaran et al. (2011) in their analysis of financialisation. The null hypothesis of the test states that the current error term is not related to any of the r previous values of the error term (no autocorrelation), while the alternative states that the current error term is related to at least one of the r previous values of the error term, where r refers to lags of the error term (Brooks, 2014). In this study four lags were used. While both an F-test and a Lagrange Multiplier (LM) test can be used; for the purpose of this analysis the F-statistic was favoured as the results from the F-distribution supersede results yielded by a Chi-squared distribution that is used with the LM test (Sun, 2012).

The Breusch-Pagan-Godfrey (BPG) was used to test for heteroscedasticity. The null hypothesis of this test is that the error terms have a constant variance (homoscedastic), while the alternative hypothesis is that the variance of the error terms is not constant (heteroscedastic) (Breusch and Pagan, 1979). As with the BG test, the BPG test can be conducted either using the F-test or LM statistic from the auxiliary regression, with the former favoured for this purpose as it yields more reliable results.

Lastly, to test for model instability the cumulative sum of squares test (CUSUMQ) was employed. This tests for random movements of the coefficients that cannot solely be attributed to structural changes in the coefficient (Farhani, 2012). This test was favoured over the Quandt likelihood ratio test for this purpose primarily due to the uncertainty surrounding the date of any potential structural breaks which are required in the Quandt test (Brooks, 2014). The null hypothesis of the CUSUMSQ test is that of parameter stability, while the alternative hypothesis is that of parameter instability (Brooks, 2014). The null hypothesis is rejected when the CUSUMSQ test statistic which is derived from the normalising of the sum of squared recursive residuals, exceeds a set of ± 2 standard error bands or a corridor at a given date (Farhani, 2012). This occurs when the CUSUMSQ statistic which is zero under the

parameter of stability displays a random rupture exceeding the standard error bands (Brooks, 2014).

3.5 Conclusion

This chapter has outlined and detailed the methodology followed in order to adequately address the research hypotheses presented in section 3.2. A detailed description and justification of the dataset used was provided in this chapter including the four measures of financialisation and the five development indicators – unemployment, inequality, economic growth, innovation and investment. The theoretical model was described as well as the ARDL modelling technique which was used to estimate the model. This model allows for the testing of cointegration and the analysis of short-run relationships using the Granger causality tests. Finally, the three diagnostic tests that were implemented to assess the validity of the analysis were discussed. The following chapter presents the results of the tests described in this chapter.

4. RESULTS AND DISCUSSION

4.1 Introduction

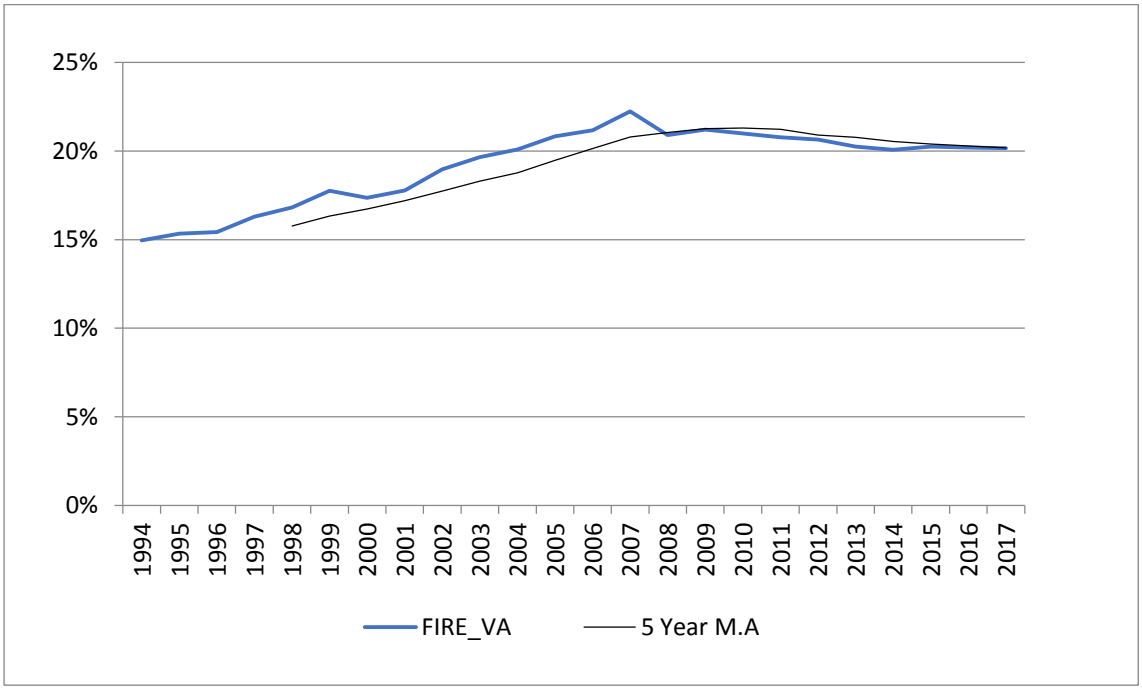
This chapter presents a detailed analysis and discussion of the results of the empirical tests described in the preceding chapter. The results are compared and contrasted to the findings from international and local literature, where applicable. Firstly, the characteristics of the financialisation measures are examined, followed by the correlation matrix of the independent and dependent variables and the stationarity/ unit root tests of all the variables included in the regression analysis. Thereafter, the results of the tests of the long-run relationship between financialisation and the key development indicators are presented, followed by the causality tests and finally the diagnostic tests. From the results obtained, conclusions regarding the hypotheses detailed in section 3.2 are drawn.

4.2 Measures of Financialisation

The first measure of financialisation, FIRE_VA, is shown in Figure 4.1. As explained in chapter 3, this captures the proportion of value added in the financial sector to the total value added in the economy. The results show a gradual increase in the ratio from 15% in 1994 to 20% in 2003, with the exception of the year 2000 when a slight 1% decline was observed. The FIRE_VA ratio peaked at 22 % in 2007 before declining to 21% from 2008 to 2012, and then remained constant at 20% from 2013 onwards. The 5-year moving average depicts the general upward trend of the FIRE_VA ratio that peaks from 2008 to 2011 before slightly declining, and eventually levelling out thereafter. These results are consistent with the observations presented in chapter 1 that highlighted the increased role of finance in GDP in South Africa since 1994.

According to Assa (2012), the 20% threshold suggests South Africa is a financialised state based upon the economic contribution of the financial sector to total value added. Furthermore, the FIRE_VA figures of 2008 for South Africa would have ranked it among the 28 OECD countries that Assa (2012) found to be financialised (FIRE_VA in excess of 20%). This list included countries such as the USA, United Kingdom and Luxembourg which are finance-orientated nations.

Figure 4.1 Value Added in Finance as a Percentage of Total Value Added (FIRE_VA)



The second series used to assess the extent of financialisation in the South African economy is the level of employment in the financial sector. As shown in Figure 4.2, in 1994 only 2% of total employment emanated from the financial sector but by 2000 this figure had more than quadrupled to 9%. At the turn of the century the Empl_FIRE ratio had increased to double figures, with the highest Empl_FIRE figure of 16% recorded in 2002 thereafter gradually decreasing to 13% in 2005. From 2006 to 2013 the ratio fluctuated between 12% and 13%, before increasing to 15% in 2017. The 5-year moving average depicts a steep increase in the ratio until 2004 followed by a gradual decline until 2009, and slow growth thereafter.

The results depicted from the Empl_FIRE analysis mimic those documented by Assa (2012) across several OECD states. In the early 1990s most countries had an Empl_FIRE ratio of less than 5% including the USA and United Kingdom. By 2008, however, 23 countries had an Empl_FIRE ratio of greater than 10%, ranking South Africa amongst these financialised nations. Thus, in 2008, South Africa ranked amongst an elite few nations including Japan, Finland and Italy that had increased their contribution to employment from the financial sector by more than four times (Assa, 2012). These results support Ashman et al.'s (2013) assertion that South Africa prides itself on mirroring the financial practices of western states.

Figure 4.2 Employment in Finance as a Percentage of Total Employment (Empl_FIRE)

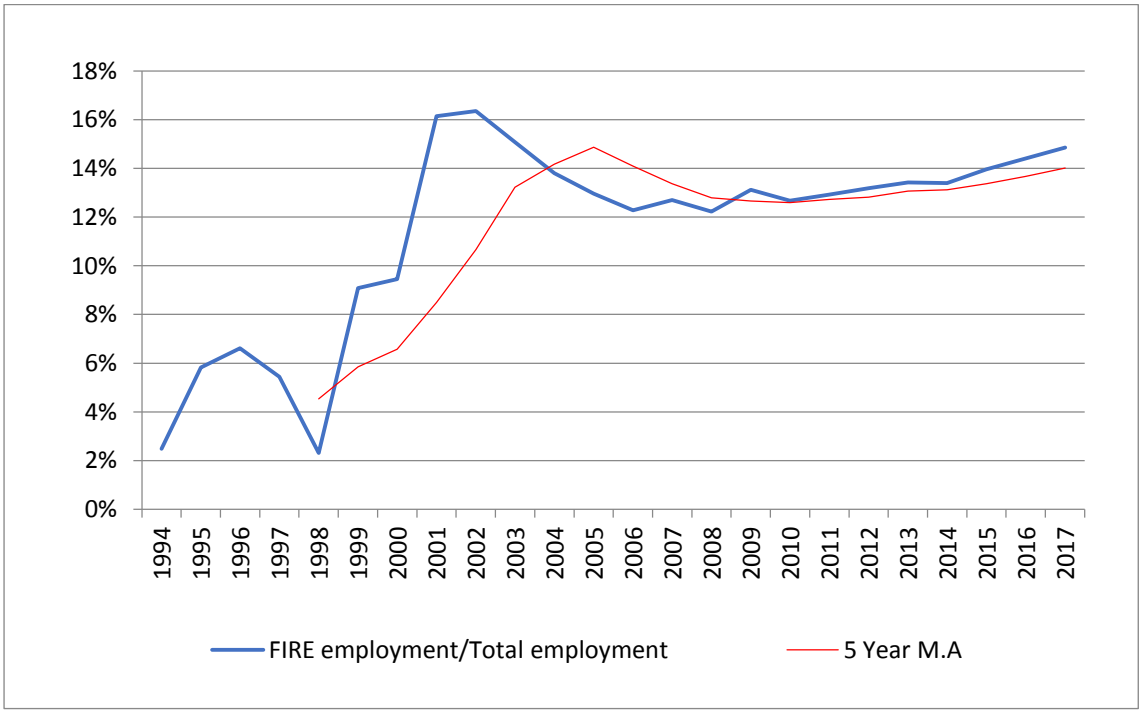
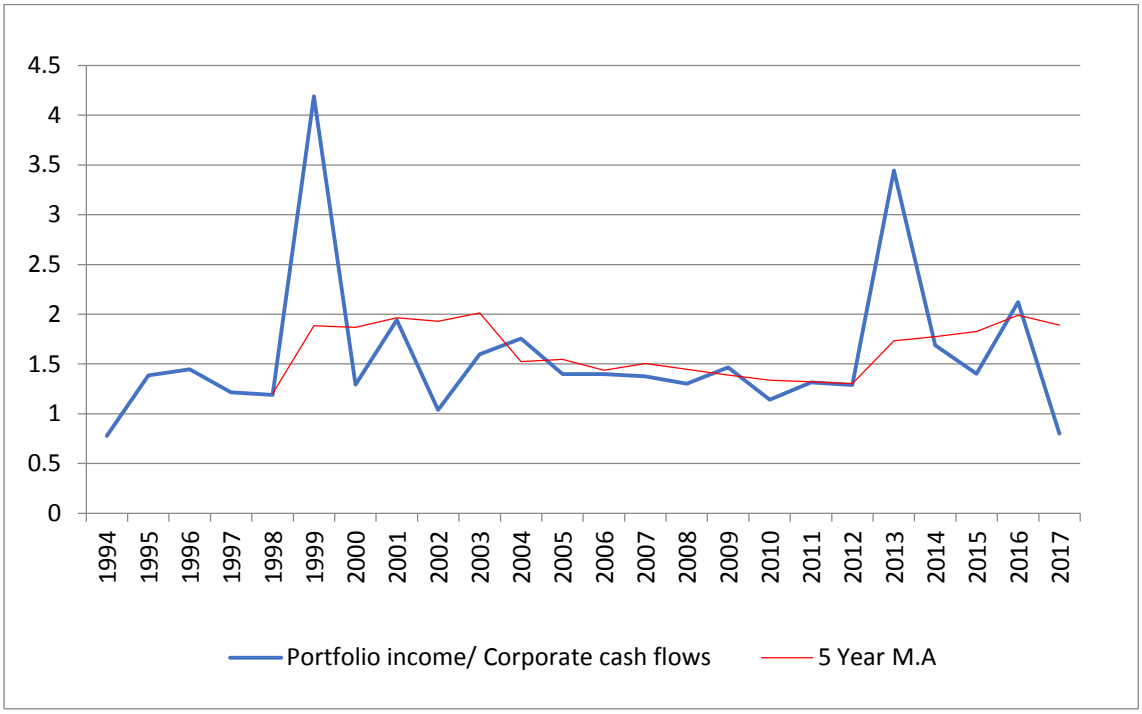


Figure 4.3 shows the results of the third approach to measuring financialisation, PICCF, which measures the ratio of portfolio income to corporate cash flows for NFCs, based on Krippner's (2005) method. The ratio displays an upward trend throughout the 1990s, except over the years 1997 to 1998, where a decline was recorded. This pattern mirrored the trend documented by Krippner (2005) across the USA (the most financialised economy) over the same period. Over the course of the early 2000s, the extent of financialisation remained fairly constant albeit that there was some variability. In fact, by 2011, the PICCF ratio for South African firms was approximately the same as in 1999, as shown in the graph. Phenomenal growth was documented in 2013 but declined thereafter although there was an increase again in 2016 before a substantial falloff in 2017.

Major financial institutions tend to retreat from financial actives in the midst of unfavourable economic periods in a bid to safeguard wealth, while taking a more pro-active financial approach during more favourable economic periods. As such the trend displayed across the 2000s can be attributed to the early economic recession (2001) experienced in the local market (Bhundia and Ricci, 2006), as well as the global economic crisis of 2007, while the slight resurgence in the ratio across this period, can be attributed to the hosting of the 2010 soccer World Cup (Gleeson, 2010). Political manoeuvring experienced domestically, as well as economic shifts in global economic powers such as China can substantiate volatility in the

ratio experienced from 2012 to 2017 (Omarjee, 2017). The increasing trend of the 5-year moving average across the 1990s and late 2000s indicates a higher portion of revenue generated from financial sources relative to non-financial sources of income by NFCs. This finding is consistent with observations made by Ashman, Mohamed et al. (2013) for South Africa as well as by Krippner (2005) in the USA. According to Krippner (2005:184) this finding "is consistent with a greater degree of financialization".

Figure 4.3 Portfolio Income/ Corporate Cash Flows

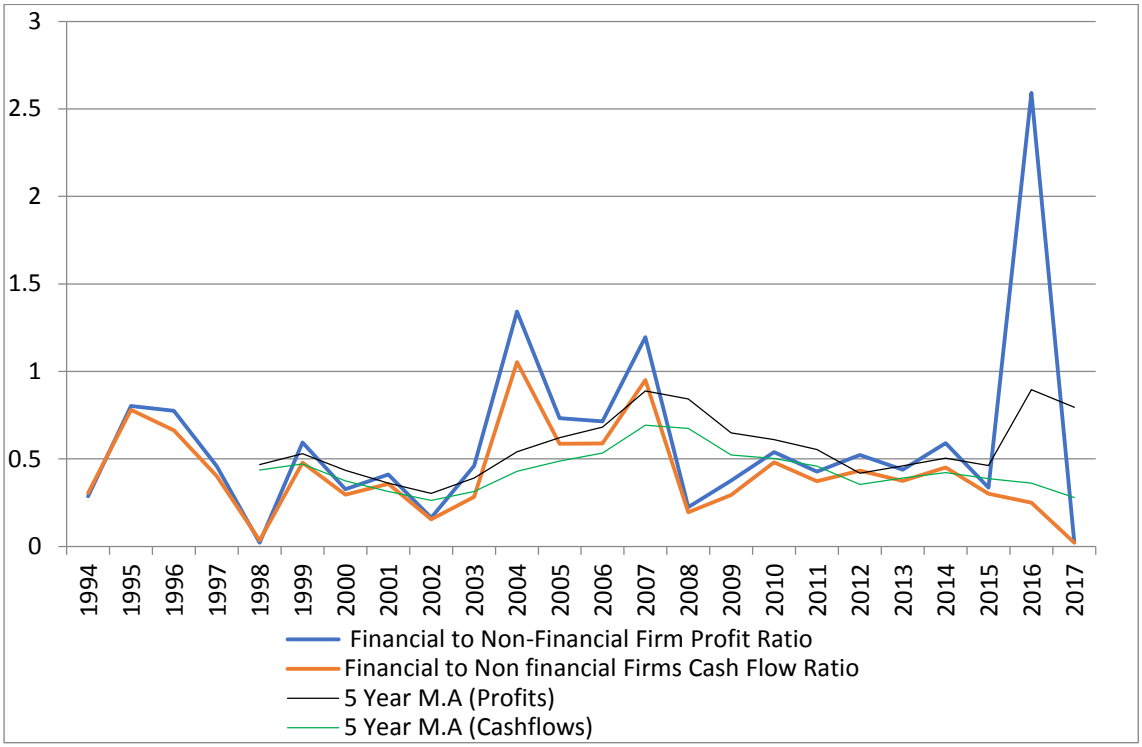


The final measure of financialisation comprises two ratios, FNFP and FNFCF, which measure the ratios of firm profit and cash flow respectively for financial to non-financial firms. These are shown in Figure 4.4. Consistent with Krippner's (2005) findings for the USA, the graph illustrates that the two series moved in unison throughout the period, with the exception of 2016. In this year, the profit ratio increased substantially which was followed by a sharp decline in 2017. In contrast, over this period the cash-flow ratio exhibited a gradual decline. This would suggest greater cash-flow generation by non-financial firms in comparison to financial firms during this period.

The two ratios were volatile over the period. Both ratios increased in the mid-1990s followed by a severe decline in 1998 but with a subsequent resurgence the following year. This behaviour mirrors the trend documented by Krippner (2005) in the USA during the same period. The early 2000s saw both ratios displaying slumps followed by two robust recoveries

in the mid-2000s (2003 to 2004 and 2006 to 2007), which ultimately resulted in a sharp decline in both ratios in 2008. The period 2008 to 2010 saw both ratios exhibit a steady recovery followed by a period of relative volatility from 2010 to 2015. The general volatility of both ratios throughout the 1990s and 2000s can be attributed to key events globally and locally, as was earlier indicated in the examination of Figure 4.3 when financial institutions adapt their financial approaches to best suit the given economic climate. The 5-year moving averages of both ratios display general declines over the course of the period under analysis, except from 2002 to 2007 when a strong incline was displayed. According to Krippner (2005) only during this period would a greater degree of financialisation be exhibited, as was observed in the USA.

Figure 4.4 Ratio of Financial to Non-Financial Profits and Cash Flows



The findings from the four measures show evidence of financialisation in South Africa since 1994. The first two approaches, FIRE_VA and Empl_FIRE showed robust evidence of financialisation in South Africa. The third measure PICCF revealed evidence of financialisation from 2003 onwards, while the last measure FNFPCF showed that financialisation has characterised the country since the turn of the century. Based on these results which capture a holistic approach of the multifaceted phenomenon of financialisation, the null hypothesis of the first research problem can be rejected, indicating the occurrence of financialisation in South Africa. This reinforces earlier assertions by Ashman, Fine et al.

(2013) and Ashman, Mohamed et al. (2013). In light of these results, the analysis then proceeded to test the second research question which sort to determine the statistical significance of the relationship between financialisation and the key development indicators.

4.3 Correlation Matrix

As an initial step in the examination of the relationship between financialisation and the key development indicators, the correlation coefficients between the variables were computed, with the results shown in Table 4.1. A strong positive correlation of 0.7636 was found between FIRE_VA and Empl_FIRE suggesting that employment in the financial sector and the contribution of the financial sector to GDP move together closely. The two non-financial sector measures of financialisation, PICCF and FNFPCF, are less strongly correlated with a value of 0.2537. A weak positive linear correlations of 0.1535 and 0.2032, was found between FIRE_VA with PICCF and FNFPCF, while Empl_FIRE with PICCF and FNFPCF was also observed to display weak positive linear relationships of 0.3349 and 0.4406 respectively.

FIRE_VA was found to have a weak positive relationship with unemployment and inequality but very little association with economic growth. These outcomes are consistent with the literature highlighted in sections 3.3.2.1, 3.3.2.2 and 3.3.2.3 respectively. However, a strong positive relationship between FIRE_VA with innovation and investment was found which is contrary to the findings of previous empirical studies. Consistent with the findings for the first financialisation measure, the second measure, Empl_FIRE, had a weak positive linear relationship with unemployment, a limited association with economic growth and a positive relationship with innovation (albeit that the latter was not as strong) and investment. In contrast to FIRE_VA, however, Empl_FIRE was found to be negatively associated with inequality.

PICCF was observed to have positive weak linear relationships with all the key development indicators, with the exception of economic growth where a weak negative linear association was noted. FNFPCF exhibited a moderate and weak positive linear association with economic growth and innovation respectively, while weak negative linear relationships were observed with inequality, investment and unemployment.

Table 4.1 Financialisation Correlation Matrix

	LFIRE_VA	LEmpl_FIRE	LPICCF	LFNFPCF	Unemployment	Linequality	Eco growth	Linnovation	Linvestment
LFIRE_VA	1.0000								
LEmpl_FIRE	0.7636	1.0000							
LPICCF	0.1535	0.3349	1.0000						
LFNFPCF	0.2032	0.4406	0.2537	1.0000					
Unemployment	0.1147	0.1707	0.0393	-0.0497	1.0000				
Linequality	0.1826	-0.2805	0.1478	-0.0828	-0.0410	1.0000			
Eco growth	0.0249	0.0724	-0.2396	0.4839	0.1866	-0.0149	1.0000		
Linnovation	0.5471	0.3673	0.1746	0.2251	0.0333	0.3262	-0.0507	1.0000	
Linvestment	0.7506	0.5471	0.1605	-0.2643	-0.0998	0.2286	-0.3084	0.3728	1.0000

The patterns identified from the correlation matrix between FIRE_VA and the development indicators unemployment and inequality mirror the results obtained by Assa (2012) for his sample of OECD countries, while also predominantly reinforcing the theory underpinning financialisation, as highlighted above. Moreover, the correlation between FIRE_VA and Empl_FIRE was also documented by Assa (2012). However, the conclusions drawn did not match those of Assa (2012) with respect to the relationships between Empl_FIRE and unemployment, economic growth and inequality, but the results for unemployment and economic growth were consistent with theory. Furthermore, the results of FIRE_VA, Empl_FIRE and PICCF with investment and all four financialisation measures with innovation contradicted the theoretical expectations. The findings for PICCF with inequality, economic growth and unemployment and FNFPCF with investment were consistent with the literature while FNFPCF yielded some contrasting results for most variables including unemployment, inequality and economic growth.

Unemployment was observed to exhibit a negative weak linear relationship with inequality and investment, while a positive weak linear association with economic growth and innovation. These findings contradicted those drawn by Assa (2012). Additionally, inequality was found to have a weak positive linear association with innovation and investment, but a weak negative linear association with economic growth supporting the observation documented by Assa (2012) with respect to inequality and economic growth, but contradicting Botta (2016) with respect to inequality and innovation. A weak negative linear association was found to exist between economic growth with innovation and investment respectly, while a weak positive linear relationship was observed between innovation and investment.

4.4 Stationarity Tests

A fundamental step in the examination of the long-run relationship between financialisation and the key development indicators is to determine the stationarity of the variables under analysis. As was detailed in section 3.5, the use of non-stationary data results in a spurious regression and inaccurate conclusions and hence an alternative estimation technique has to be considered. The ADF and PP unit root tests as well as the KPSS stationarity test were conducted for this purpose. The results of these tests are presented in Tables 4.2, 4.3 and 4.4 respectively.

The ADF test on the level form of the variables including only the intercept in the test equation showed that the null hypothesis for Empl_FIRE, PICCF, FNFPCF, inequality and economic growth were all rejected at the 5% level of significance (or higher). These variables were thus observed to be stationary (no unit root), as their ADF test statistics were more negative than the critical value. In contrast, the test statistics for FIRE_VA, unemployment, innovation and investment were all greater than their critical values at the 5% level of significance respectively. Thus the ADF unit root tests failed to reject the null hypothesis for these variables at the 5% level of significance, indicating that these variables were non-stationary and contained at least one unit root, $I(1)$. For the ADF test including both the intercept and trend, the null hypothesis could not be rejected for all variables except for PICCF, FNFPCF and innovation, suggesting that all of these contain at least one unit root while PICCF, FNFPCF and innovation are stationary. As such, the specification of the test equation had a material impact on the outcome of the ADF test.

Turning to the tests of the non-stationary variables in first differences, when including only an intercept, as shown in Table 4.2, for all the variables the null hypothesis was rejected at 5%. The variables are thus stationary in first differences and contain only one unit root, $I(1)$. The ADF test for first differenced variables including the intercept and trend yielded similar results to that of the first differenced variable inclusive of only the intercept term as all variables were found to be stationary in first differences except inequality Despite being insignificant, the ADF test statistic for inequality boarded extremely close to the critical value at the 10% level of significance. Thus despite some mixed evidence across the two forms of the ADF test, it is clear that all the variables meet the requirement of the ARDL model that they must be integrated of less than order 2.

Table 4.2 ADF Test Results

	Level		First Differences	
	Intercept	Intercept and trend	Intercept	Intercept and trend
LFIRE_VA	-2.6045	-0.7280	-4.1022***	-5.4870***
LEmpl_FIRE	-27.8482***	-1.5206	-	-8.0842***
LPICCF	-5.7774***	-5.4918***	-	-
LFNFPCF	-4.7972***	-4.5456***	-	-
Unemployment	-2.3600	-2.3391	-5.4617***	-5.4960***
Linequality	-3.1036***	-3.1812	-	-3.2632
Economic Growth	-3.1031**	-3.1991	-	-5.2462***
Linnovation	0.0254	-6.8890***	-5.6507***	-
Linvestment	-0.2229	-2.0666	-4.0472***	-3.9365**

Note: *, ** and *** indicate the rejection of the null hypothesis at the 10%, 5% and 1% significance levels respectively. The critical values are based on the MacKinnon one sided p-value distribution given the number of observations for each variable respectively.

As shown in Table 4.3, the results of the PP tests on the variables in their level form inclusive of an intercept indicate that for FIRE_VA, unemployment, inequality and investment, the null hypothesis of a unit root could not be rejected at the 5% level of significance as the test statistics were not more negative than the critical value. Thus these variables are non-stationary and contain at least one unit root. The test statistics for Empl_FIRE, PICCF, FNFPCF, economic growth and innovation were, however, more negative than the critical value at the 5% level of significance meaning that the null hypotheses could be rejected with the three series being considered stationary. Despite being insignificant at the 5% level of significance, FIRE_VA was stationary at the 10% level as the computed PP statistic was more negative than the critical value. However, for the purpose of this analysis the more stringent 5% level of significance was considered. When the trend was also included in the test regression, all variables were identified to be non-stationary in levels at the 5% level, with the exception of PICCF, FNFPCF and innovation. Additionally, Empl_FIRE was shown be stationary at the 10% level of significance.

The results from the PP tests of the variables in first differences are similar to those of the ADF tests as with an intercept only, all are stationary in first differences while with the inclusion of an intercept and a trend term in the test specification, all variables are stationary except inequality. As detailed in the earlier ADF test, the inequality test statistic boarded the 10% critical value. Thus, these results serve to confirm those of the ADF tests that all the

variables, meet the model requirement of being either I(0) or I(1). These results showed that the two differenced series were non-stationary and contained more than one unit root $I(1)$.

Table 4.3 PP Test Results

	Level		First Differences	
	Intercept	Intercept and trend	Intercept	Intercept and trend
LFIRE_VA	-2.6688*	-0.6196	-4.1507***	-5.5082***
LEmpl_FIRE	-3.2208**	-3.3380*	-	-7.4519***
LPICCF	-5.8109***	-5.5126***	-	-
LFNFPCF	-4.7979***	4.5456***	-	-
Unemployment	-2.3600	-2.3687	-5.4617***	-5.4960***
Linequality	-2.8100	-2.1032	-3.2474**	-3.1393
Economic Growth	-3.0868**	-3.1853	-	-8.5309***
Linnovation	-3.0423**	-3.3744**	-	-
Linvestment	0.0399	-2.0666	-4.0472***	-3.9365**

Note: *, ** and *** indicate the rejection of the null hypothesis at the 10%, 5% and 1% significance levels respectively. The critical values are based on the MacKinnon one sided p-value distribution given the number of observations for each variable respectively.

As a final robustness check, the KPSS stationarity test was performed, with the results thereof displayed in Table 4.4. FIRE_VA and Empl_FIRE were found to be non-stationary in the tests including only the intercept and intercept and trend as the null hypothesis was rejected at the 5% level of significance, while the null hypothesis was rejected for the first test but not the second for innovation and investment. This result indicates that these series have at least a unit root $I(1)$ as their test statistics exceeded the critical values. In contrast, the other variables were found to be stationary as the null hypotheses could not be rejected because their test statistics did not exceed their critical values at the 5% level of significance. Notably, the KPSS test thus gives evidence of inequality being stationary as opposed to the ADF and PP tests suggesting that it may contain two unit roots.

For those variables found to be non-stationary in levels, the KPSS test in first differences was estimated. The null hypothesis of stationarity could not be rejected for Empl_FIRE, innovation and investment under both specifications at the 5% significance level while the null was also not rejected for FIRE_VA when the trend term was included in the test equation. Thus, these variables contain only a single unit root. Overall, therefore, the KPSS test results point to all variables satisfying the model requirement of being integrated of less than order two.

Table 4.4 KPSS Test Results

	Level		First Differences	
	Intercept	Intercept and trend	Intercept	Intercept and trend
LFIRE_VA	0.5430**	0.1830**	0.5352**	0.0803
LEmpl_FIRE	0.4896**	0.1689**	0.2012	0.0993
LPICCF	0.0837	0.0678	-	-
LFNFPCF	0.0954	0.0986	-	-
Unemployment	0.1343	0.1139	-	-
Linequality	0.1310	0.0695	-	-
Economic Growth	0.2096	0.0993	-	-
Linnovation	0.5946**	0.0666	0.0895	-
Linvestment	0.6645**	0.0872	0.1834	-

Note: *, ** and *** indicate the rejection of the null hypothesis at the 10%, 5% and 1% significance levels respectively. The critical values are based on the Kwiatkowski-Phillips-Schmidt-Shin (1991) table.

While some differences were observed in the conclusions of the unit root and stationarity tests, overall the results provided support for the fact that the series are either I(0) or I(1); thus legitimising the application of the ARDL modelling technique.

4.5 The ARDL Model

The examination of the long-run relationship between each development indicator and each of the four financialisation measures was conducted using the ARDL modelling technique. The results thereof are presented in the following sub-sections.

4.5.1 Bounds test

The F-statistics from the bounds tests are presented in Table 4.5. For FIRE_VA they show that the null hypothesis was rejected for unemployment and economic growth, and innovation at the 1% and 5% significance levels respectively as the F-statistics exceeded the upper bound critical value. This indicates that there is a cointegrating long-run relationship between each of these development indicators and financialisation when the latter is measured using value added in the financial sector relative to total value added. For inequality and investment however, no long-run relationship was found with financialisation as the test statistics fell below the lower bounds critical value.

Table 4.5 Bounds Test F-Statistics

	Unemployment	Linequality	Eco growth	Linnovation	Investment
LFIRE_VA	12.0610***	4.8537	16.2756***	8.4462**	2.6413
LEmpl_FIRE	2.3961	6.0713	6.4764	9.3763**	2.8299
LPICCF	2.6571	13.4278***	5.5617	10.9290**	4.5643
LFNFPCF	6.8023	15.8979***	15.7476***	9.2424**	23.7410***
		I(0)	**I(1)**		
Critical Values	10%	6.01	6.78		
	5%	7.36	8.265		
	1%	10.605	11.65		

Note: *, ** and *** indicate the rejection of the null hypothesis at the 10%, 5% and 1% significance levels respectively.

The results for the relationship between financialisation and each development indicator are quite different when the former is measured according to the employment metric. The null hypothesis could only be rejected for innovation at the 5% significance level, meaning that a cointegrating relationship does exist. For economic growth and inequality, the test statistic fell between the two critical values at 10% suggesting a lack of definitive evidence of the existence of cointegration. But, given that this was at the lowest level of significance, the overall results point to the absence of a long-run relationship between financialisation and these two indicators. For unemployment and investment, the statistics fell below the lower bound critical value such that no relationship exists.

Turning to the results for PICCF in Table 4.5, the null hypothesis for both inequality and innovation were rejected at the 5% level, indicating a long-run cointegrating relationship between these development indicators and the ratio of portfolio income generated by non-financial firms relative to revenue yielded by their productive activities. However, for unemployment, economic growth and investment no cointegrating relationship with financialisation was found to exist.

Lastly, for the relationships between financialisation, as measured by the financial sector's revenue contribution to the economy in relation to the non-financial sector, and the development indicators, with the exception of unemployment, evidence of cointegration was found at the 5% level of significance or higher. However, no long-run cointegrating relationship was found to exist between unemployment and FNFPCF as the F-statistic failed to exceed the lower bound critical value at the 5% level of significance.

Innovation was found to be cointegrated with financialisation across all four measures of financialisation, while inequality and economic growth across two measures. Unemployment and investment were found to be cointegrated only across one measure of financialisation. The long-run co-integrating relationship between FIRE_VA and the development indicators is consistent with the findings of Assa (2012), as well as financialisation theory. The same is true with regards to the findings of a long-run relationship between economic growth and unemployment and Empl_FIRE in South Africa and the OECD countries examined by Assa (2012). The lack of a long-run relationship between inequality and both the first two financialisation measures, however, differs from the findings of Assa (2012) as well as financialisation theory suggesting that financialisation has had little impact on inequality in South Africa. This may be symptomatic of the high inequality the country already exhibits compared to the sample of countries included in Assa's study. The financialisation measure of PICCF exhibited long-run cointegrating relationships with; inequality and innovation, while FNFCCF manifested long-run cointegrating relationships with all the development indicators except unemployment. These co-integrating relationships reinforced financialisation theory. The financialisation measure of FNFCCF collectively exhibited the most co-integrating relationships with the development indicators, while Empl_FIRE displayed the fewest. For those models where a long-run relationship was identified, the long-run coefficients are analysed along with the ECM in the following sub-sections.

4.5.2 Long-run Coefficients in the ARDL Model

Table 4.6 details the long-run coefficients for the cointegrating relationships. A 1% increase in financialisation measured by FIRE_VA led to a 14.46% decrease in unemployment, an 11.07% increase in economic growth and a 2.51% increase in innovation. Further to this, a 1% increase in the second measure of financialisation, Empl_FIRE, resulted in a 0.49% decrease in innovation. A 1% increase in PICCF resulted in a 1.06% and 2.48% decrease in inequality and innovation respectively while a 1% increase in FNFPCF led to a 0.19%, 0.19% and 1.05% decrease in inequality, innovation and investment respectively, but a 2.00% increase in economic growth.

Table 4.6 Long-run Coefficients for the Cointegration Relationships

	Coefficient
LFIRE_VA	
Unemployment	-14.4616
Economic Growth	11.0739
Linnovation	2.5116
LEmpl_FIRE	
Linnovation	-0.4944
LPICCF	
Linequality	-1.0623
Linnovation	-2.4810
LFNFPCF	
Linequality	-0.1948
Economic growth	2.0040
Linnovation	-0.1910
Linvestment	-1.0486

As highlighted in chapter 3, the long-run coefficients for innovation and investment were expected to be negative, inequality and unemployment were expected to be positive while the expectation for economic growth remained ambiguous. The coefficients for innovation with Empl_FIRE, PICCF and FNFPCF as the dependent variables were consistent with this theory indicating that greater financialisation inhibits innovation; but the opposite was found to be true for FIRE_VA. For inequality the coefficients were inconsistent with theory suggesting that financialisation results in less inequality, while for economic growth the coefficients are both positive meaning that financialisation has had positive repercussions for the South African economy. Similar positive effects of financialisation are witnessed with regards to unemployment, as the negative coefficient is inconsistent with theory. The negative effect suggests that the greater level of financialisation has contributed to a decrease in unemployment in South Africa over the period. The negative investment coefficient reinforced theory, indicating that financialisation had adversely affected domestic investment.

As discussed in section 2.5.1, the findings of Assa (2012) showed that a 1% increase in FIRE_VA and Empl_FIRE were associated with a 0.34% and 0.74% increase in

unemployment respectively. Additional findings by Durand and Miroudt (2015) covering more than 40 countries found that a 1% increase in financialisation led to a 0.02% decrease in employment. In contrast to these two studies, the results of Asfar et al. (2014) show that a 1% increase in finance value added leads to a 0.26% increase in total employment. The results presented in Table 4.6 thus reinforce the finding of Asfar et al. (2014), suggesting that financialisation has resulted in a reduction in unemployment and thus contrast the conclusions reached by Ashman et al. (2013) and Mvelase (2015) for South Africa.

Assa (2012) also found that a 1% increase in FIRE_VA and Empl_FIRE led to 0.57% and 0.81% increase in inequality across OECD countries respectively, while a similar study by Kus (2012) indicated that a 1% increase in financialisation led to between 0.65% to 0.88% increase in inequality across OECD states. However, Gołębiowski et al. (2016) documented a 1% increase in FIRE_VA and Empl_FIRE yielded a 0.61% and 6.37% decrease in inequality respectively. The results for South Africa therefore reinforced the findings of Gołębiowski et al. (2016), when the financialisation measures of PICCF and FNFPCF are employed. However, this study has also suggested that financialisation measured by FIRE_VA and Empl_FIRE had no impact on inequality domestically.

Additionally Assa (2012) noted that a 1% increase in FIRE_VA and Empl_FIRE caused a 0.12% and 0.2% decrease in the GDP growth rate respectively. In contrast to Assa (2012), results obtained by Asfar et al. (2014) in developed nations show that a 1% increase in finance value added led to a 0.20% to 0.24% increase in economic growth. However, Asfar et al. (2014) also documented that a 1% increase in financialisation as captured by a measure of bank profitability yielded a minor decrease (0.01%) in economic growth. The results for South Africa obtained in this study thus support the findings of an increase in economic growth associated with financialisation as was documented by Asfar et al. (2014), contrasting the insignificant relationship observed in the emerging state of Nigeria by Haruna (2012).

As detailed in section 2.5.1, Stockhammer (2004) indicated that on average a 1% increase in financialisation led to 0.02% and 0.01% decrease in investment in France and the USA respectively, while a 0.003% increase in Germany. This finding was reinforced by the evidence presented in Table 4.6 of a reduction in investment locally due to an increase in financialisation as measured by FNFPCF. However, the alternative financialisation measures were observed to have no bearing on investment locally as no significant cointegrating relationship was exhibited.

These findings support the rejection of the null hypothesis of the second research problem posed in section 3.2, as significant long-run relationships between financialisation and all of the key development indicators have been identified dependent upon the financialisation measure employed. Despite the theoretical expectations set, the highlighted studies by Asfar et al. (2014) and Gołębiowski et al., (2016) have all documented contrasting and mixed results across developed nations. These have, in turn, substantiated the mixed results reached in this analysis. However, of greater importance is the magnitude of the long-run coefficients (economic growth, unemployment and innovation) which translate into greater socio-economic impact from financialisation. As such the policy implications of these findings will be discussed in chapter 5.

4.5.3 Error Correction Models

Given the long-run cointegrating relationships detailed in section 4.5, the ECMs from the ARDL model were estimated so as to examine the short-term relationships between financialisation and the development indicators while also capturing the speed of adjustment towards equilibrium within the long-run cointegrating relationships. The error correction term and the R^2 from each model are shown in Table 4.7. The differenced dependent and independent variables are not detailed, as they are analysed as a component of the causality tests in the following section.

The error correction term in all four relationships were negative and significant at 1%. This outcome indicated that the cointegrating relationships would converge to a state of equilibrium in the long-run while these results can also be effectively used to forecast future values for the development indicators. The error correction term of the long-run cointegrating relationship between unemployment with FIRE_VA, indicated that any disequilibrium in the long run relationship from the previous year was corrected at a speed of 0.56% for every 1% of disequilibrium. This represents a relatively fast adjustment as more than half of the disequilibrium from the previous period is corrected in the current period. A similar value was obtained for the correction of investment to disequilibrium in the long-run relationship with FNFPCF with a coefficient of 0.47%. Faster correction terms were documented for the cointegrating relationships between inequality and innovation with FNFPCF, as 0.85% and 0.94% of every 1% of disequilibrium are corrected for respectively.

Table 4.7 Error Correction Terms for the Cointegrating Relationships

	ECT	T-Statistic	R^2
LFIRE_VA			
Unemployment	-0.5626	-5.0626***	0.6642
Economic growth	-1.3276	-5.9591***	0.8175
Linnovation	-1.1923	-4.3324***	0.7880
LEmpl_FIRE			
Linnovation	-1.7562	-4.5072***	0.6884
LPICCF			
Linequality	-0.8504	-5.4626***	0.7789
LInnovation	-0.9436	-4.8517***	0.6484
LFNFPCF			
Linequality	-1.5639	-5.9140***	0.8876
Economic growth	-1.0451	-5.7658***	0.6368
Linnovation	-1.4281	-4.4750***	0.6818
Linvestment	-0.4705	-3.0999***	0.3545

Note: *, ** and *** denote statistical significance at the 10%, 5% and 1% level respectively based upon the T-distribution function.

The error correction terms for economic growth and innovation with FIRE_VA, innovation with Empl_FIRE and inequality, economic growth and innovation with FNFPCF were in excess of 1 (1.33%, 1.19%, 1.76%, 1.6%, 1.1%, 1.4%) in absolute terms meaning that for every 1% disequilibrium, more than 1% was corrected for each period. An error term in excess of 1 in absolute terms tends to occur in statistical modeling fairly frequently and does not invalidate the model. According to Narayan and Smyth (2006) and Olczyk and Kordalska (2016), an error correction term of between -1 and -2 results in an equilibrium process that oscillates around the long-run equilibrium value in a gradually diminishing manner towards equilibrium. Once this gradual correction of disequilibrium has occurred, the complete convergence to equilibrium occurs rapidly. The corrections of these three relationships thus represent a gradual correction followed by a rapid adjustment to any previous disequilibrium in the current period.

The explanatory power for all the models exceeded 64% with the exception of the relationship between investment and FNFPCF, as shown in the last line of Table 4.7. The R^2 value from the regression of FIRE_VA and unemployment indicates that 66.42% of the variation in unemployment in the short-run can be explained by changes in financialisation

and unemployment in the previous periods and the adjustment to the long-run equilibrium. For economic growth with FIRE_VA, the explanatory power was 81.75%, with the current, first and third lagged values of FIRE_VA significant in explaining economic growth along with the lagged value of economic growth.

The R^2 value from the regression of PICCF and inequality indicates that 77.89% of the variation in inequality in the short-run can be attributed to changes in financialisation and inequality in the previous periods and the adjustment to the long-run equilibrium between the two variables. The first, second and third lagged values of LPICCF were instrumental in explaining inequality.

4.5.4 Short-run Models for Non-Cointegrating Relationships

Despite not having long-run cointegrating relationships, the short-run models were still estimated, with these models identical to the ECM but without the error correction term. The R^2 values shown in Table 4.8 range from a low of 0% to a high of 81%. However, most exhibit very low explanatory power. The exceptions to this are inequality and Empl_FIRE where 81.26%, with the first lag of the Empl_FIRE variable significant. The only other regression with an R^2 value in double figures (37.55%) was unemployment and Empl_FIRE, where lags of Empl_FIRE were significant.

Table 4.8 R^2 Coefficients for the Non-Cointegrating Relationships

	R^2
LFIRE_VA	
Linequality	0.0514
Linvestment	0.0443
LEmpl_Fire	
Unemployment	0.3755
Linequality	0.8126
Economic growth	0
Linvestment	0.0443
LPICCF	
Unemployment	0.0008
Economic growth	0.0000
Linvestment	0.0443
LFNFPCF	
Unemployment	0.0526

4.6 Granger Causality Tests

As explained in section 3.4.4, the use of the traditional Granger causality tests in ascertaining causality would be fundamentally flawed if some of the series are non-stationary. Given that this was found to be true, as shown in section 4.4, the causality tests were estimated using the ECM for those variables that were found to be cointegrated while for those where no cointegration was found, the short-run model was used as the basis for the causality tests. However, in many instances tests could not be performed for these short-run models as the optimal lag order did not include lags of the dependent variable (i.e. there is no causality). The results for the long and short-run causality for the cointegrated relationships are shown in Table 4.9 and the short-run relationships for the non-cointegrated relationships in Table 4.10.

The results in the preceding section of the significance of the error correction terms in all the ECMs, means that there is evidence that the measure of financialisation Granger caused the development indicator in question in the long-run. That is, FIRE_VA Granger caused

unemployment in the long-run and the same is true for FIRE_VA with economic growth and innovation, Empl_FIRE with innovation, PICCF with inequality and innovation, and FNFPCF with inequality, economic growth, innovation and investment. This finding of causality confirmed the research by Haruna (2012) that financialisation Granger caused GDP.

Based on the F-statistics for the test of the joint significance of the lagged differences of the explanatory variables short-run Granger causality was identified from financialisation, as measured by the value added to GDP by the financial sector, to economic growth and innovation. Financialisation, as measured by the ratio of portfolio income to corporate cashflows, was observed to Granger cause innovation in the short-run but this evidence was weak as the null hypothesis could only be rejected at the 10% level. For the remaining relationships, no short-run causality was evident.

Table 4.9 Granger Causality Test Results for the Cointegrated Relationships

	Long-run causality T-Statistic	**Short-run causality F-Statistic**	**Strong causality F-Statistic**
		LFIRE_VA	
Unemployment	-5.0626***	N/A	N/A
Economic growth	-5.9591***	6.6831***	7.2048***
Linnovation	-4.3324***	7.0420***	3.5315*
		LEmpl_FIRE	
Linnovation	-4.5072***	N/A	N/A
		LPICCF	
Linequality	-5.4626***	1.3612	3.7233**
Linnovation	-4.8517***	3.5937*	6.6973**
		LFNFPCF	
Linequality	-5.914***	N/A	N/A
Economic growth	-5.7658***	N/A	N/A
Linnovation	-4.475***	N/A	N/A
Linvestment	-7.0697***	N/A	N/A

Note: *, ** and *** denote statistical significance at the 10%, 5% and 1% level respectively based upon the F-distribution function.

For those relationships where short-run causality could be tested, it was also possible to test for strong causality, which is a joint test of no short-run or long-run causality. As the results in the last column of Table 4.9 indicate, for FIRE_VA and economic growth, the null

hypothesis could be rejected at the 5% level suggesting that financialisation does strongly Granger cause economic growth. However, the evidence was only weak with respect to FIRE_VA strongly Granger causing innovation, despite the fact that there is evidence of causality in both the short-run and long-run. For PICCF, the results indicate that this measure of financialisation does strongly Granger cause inequality and innovation.

Finally, the short-run Granger causality for the variables which were not cointegrated were conducted. As the results in Table 4.10 demonstrate, it was only possible to test three relationships, with evidence of short-run causality from financialisation to the development indicator only evident when the former was measured as employment in the financial sector and the development indicator being inequality. There was weak evidence that Empl_FIRE also Granger causes unemployment in the short-run at the 10% significance level.

Table 4.10 Short-run Granger Causality Test Results excluding ECT

	Short-run causality F-Statistic
LFIRE_VA	
Linequality	N/A
Linvestment	N/A
LEmpl_Fire	
Unemployment	2.7523*
Linequality	12.3237***
Economic growth	N/A
Linvestment	N/A
LPICCF	
Unemployment	N/A
Economic growth	N/A
Linvestment	N/A
LFNFPCF	
Unemployment	0.2255

Note: *, ** and *** denote statistical significance at the 10%, 5% and 1% level respectively based upon the F-distribution function.

4.7 Diagnostics Tests

The following section presents the results of the three diagnostic tests (the Breusch-Godfrey LM test for autocorrelation, the Breusch-Pagan-Godfrey test for heteroscedasticity and the

CUSUMSQ test for stability) that were used to ensure the validity and reliability of the results obtained. The results are discussed in the following sub-sections.

4.7.1 Autocorrelation Test

The results of the BG tests for each measure of financialisation with each of the development indicators are presented in Table 4.11. The null hypothesis could not be rejected for all the development indicators with all measures of financialisation, except for Empl_FIRE with innovation at the 10% significance level and FNFPCF with innovation at 5%. As such, bar these two exceptions, there is no evidence of autocorrelation in the models estimated. The Empl_FIRE with innovation regression only provides weak evidence of the violation of the assumption of serial correlation as the null hypothesis could not be rejected at the more stringent level of 5% and thus is not a cause for concern. The finding for LFNPCF suggests a violation of the assumption and that the results cannot be used for reliable hypothesis testing.

Table 4.11 Serial Correlation Test Results

Independent Variable	**F-Statistic**	**Independent Variable**	**F-Statistic**
LFIRE_VA		*LPICCF*	
Unemployment	1.7949	Unemployment	0.2493
Linequality	0.5713	Linequality	0.6117
Economic growth	1.3977	Economic growth	0.5828
Linnovation	1.8041	Linnovation	0.4932
Linvestment	0.5510	Linvestment	0.4262
LEmplo_FIRE		*LFNFPCF*	
Unemployment	1.0130	Unemployment	0.8901
Linequality	2.4029	Linequality	0.3377
Economic growth	0.6918	Economic growth	0.4010
Linnovation	3.3052*	Linnovation	9.7722**
Linvestment	0.2674	Linvestment	1.0758

Note: where *,** and *** denote statistical significance at the 10%, 5% and 1% level respectively based upon the Chi-square distribution function.

4.7.2 Heteroscedasticity Test:

The results of the heteroscedasticity tests are presented in Table 4.12. As is evident, the null hypotheses of homoscedasticity could not be rejected for any of the key development indicators with either of the four measures of financialisation. As such, these tests prove that the regression results are reliable and do not suffer from heteroscedasticity.

Table 4.12 Heteroscedasticity Test Results

Independent Variable	F-Statistic	Independent Variable	F-Statistic
LFIRE_VA		*LPICCF*	
Unemployment	0.6656	Unemployment	0.8406
Linequality	0.8029	Linequality	0.4485
Economic growth	1.3717	Economic growth	0.1705
Linnovation	0.6579	Linnovation	0.7388
Linvestment	1.9097	Linvestment	2.0293
LEmpl_FIRE		*LFNFPCF*	
Unemployment	0.0885	Unemployment	1.3280
Linequality	0.7537	Linequality	0.8553
Economic growth	0.1902	Economic growth	1.0857
Linnovation	0.4132	Linnovation	0.9967
Linvestment	1.2360	Linvestment	1.7304

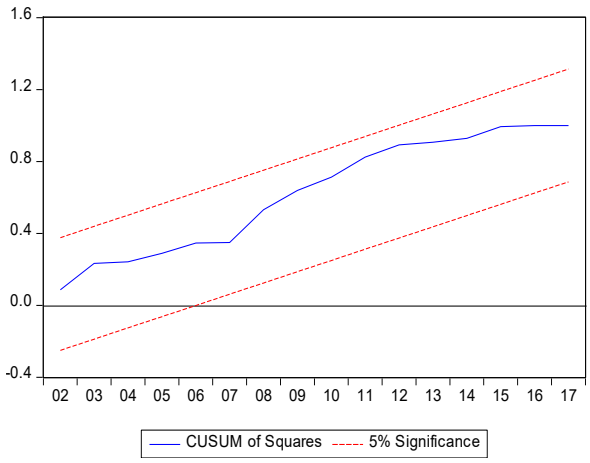
Note: where *,** and *** denote statistical significance at the 10%, 5% and 1% level respectively based upon the Chi-square distribution function.

4.7.3 CUSUMSQ Test

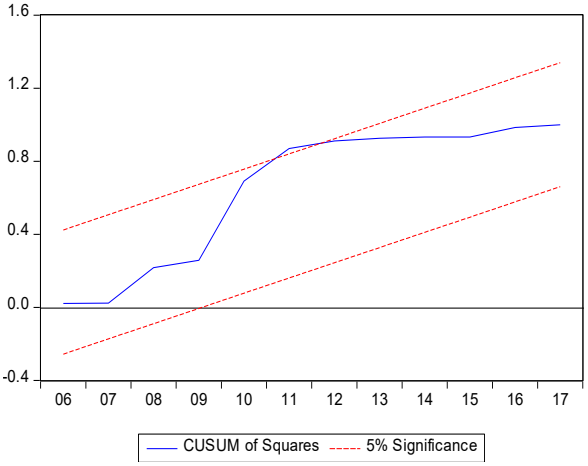
The CUSUMSQ test was used to examine the parameter stability of the models, with the results thereof presented in Figure 4.5. For ten of the regression models (FIRE_VA with unemployment, economic growth and innovation; Empl_FIRE with unemployment and innovation; PICCF with inequality and innovation; and FNFPCF with inequality, innovation and investment), the CUSUMSQ plotted line lies within the 5% significance boundary throughout the period. Therefore, these models can be considered stable. For the remaining models, the line exceeded the 5% significance level at certain periods. However, in seven of these (Empl_FIRE with unemployment and economic growth; FIRE_VA with inequality; PICCF with unemployment and economic growth and FNFPCF with unemployment and economic growth), the periods of instability were short as the CUSUMSQ line reverted back to a state of stability quickly thereafter. Thus overall, the relationships can still be considered stable. The remaining three models FIRE_VA, Empl_FIRE and PICCF with investment all demonstrated periods of longer instability before then reverting back. This is a cause for concern for the investment results and hence any conclusions drawn from these regressions must be interpreted with caution.

Figure 4.5 CUSUMSQ Test Results

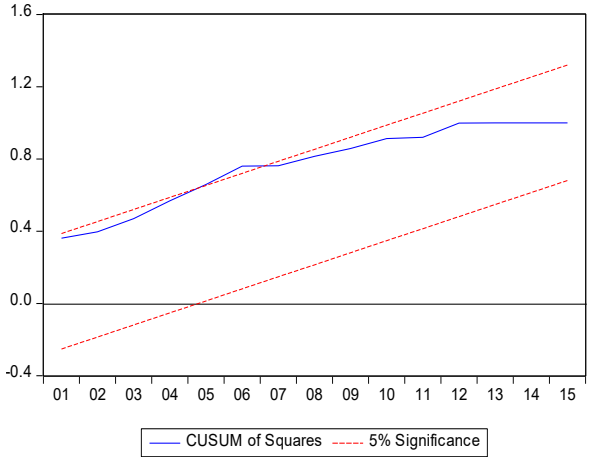
A: Unemployment with LFIRE_VA



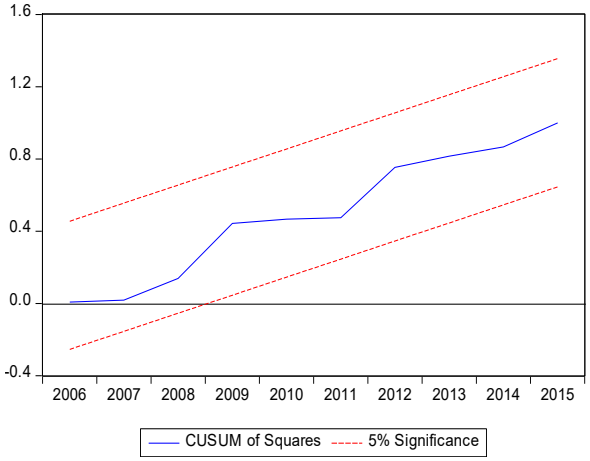
B: Unemployment with LEmpl_FIRE



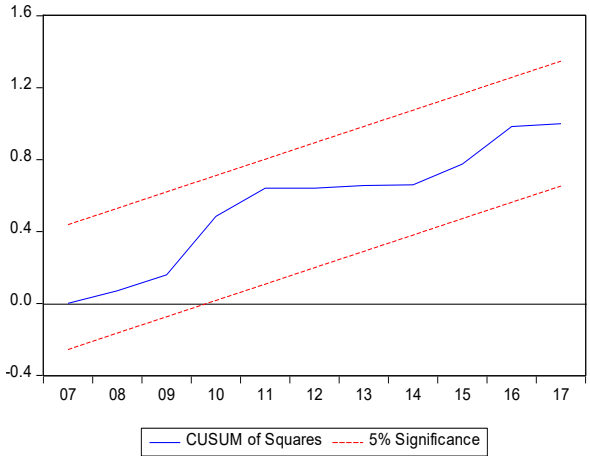
C: Linequality with LFIRE_VA



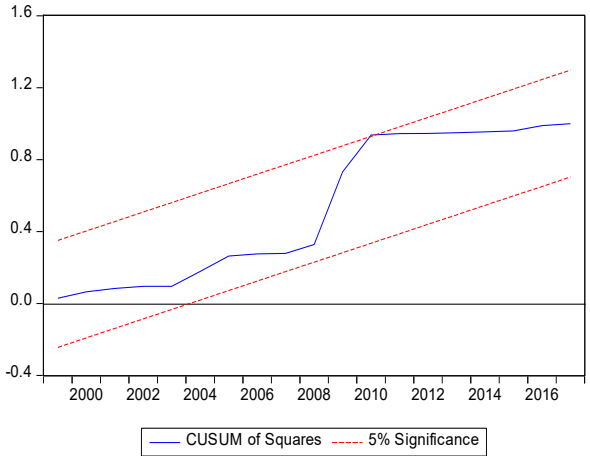
D: Linequality with LEmpl_FIRE



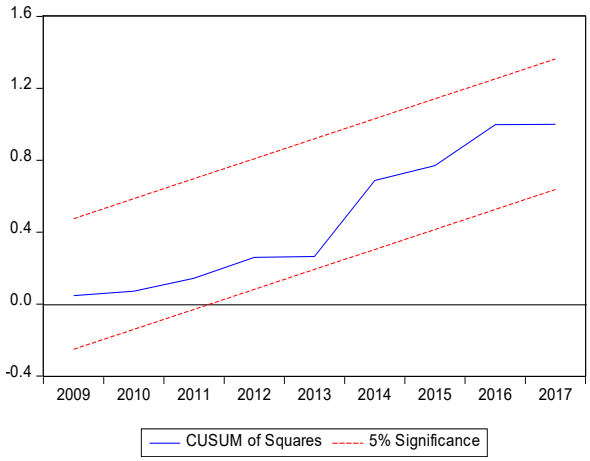
E: Economic growth with LFIRE_VA



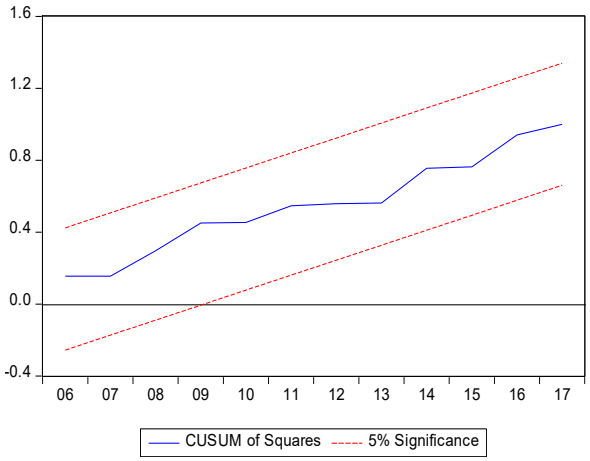
F: Economic growth with LEmpl_FIRE



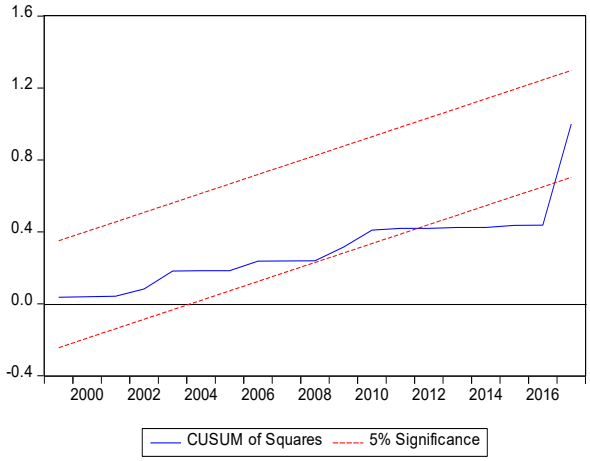
G: Linnovation with LFIRE_VA



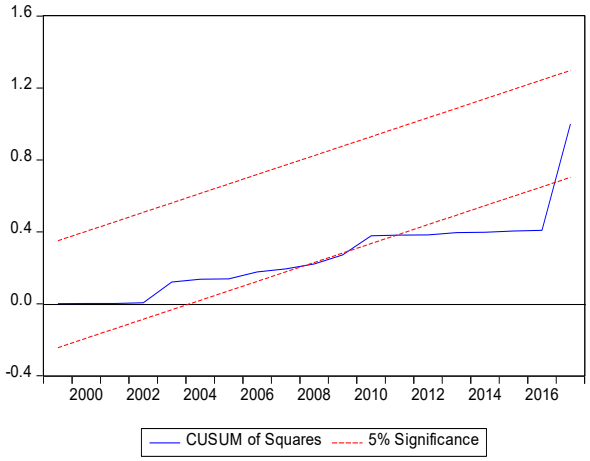
F: Linnovation with LEmpl_FIRE



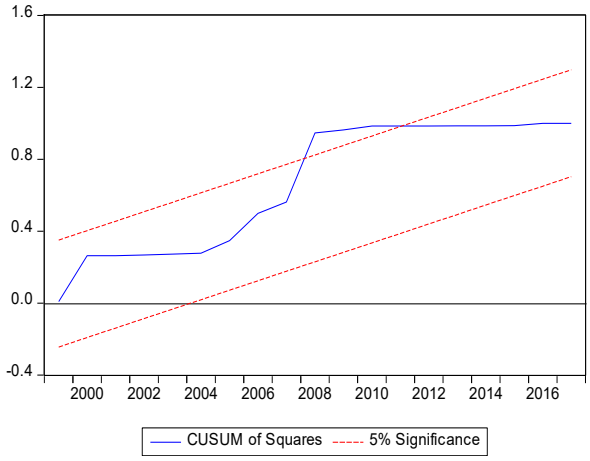
G: Linvestment with LFIRE_VA



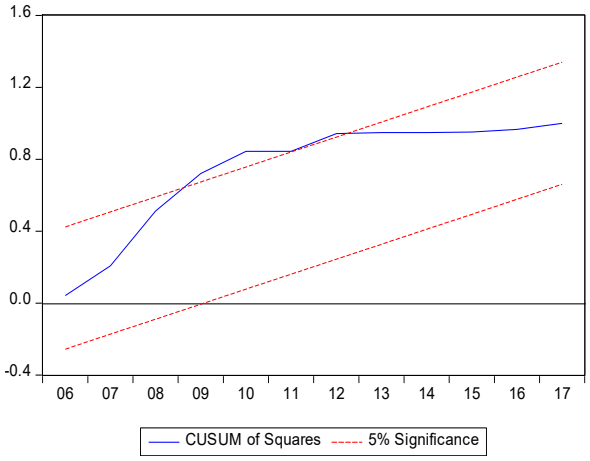
H: Linvestment with LEmpl_FIRE



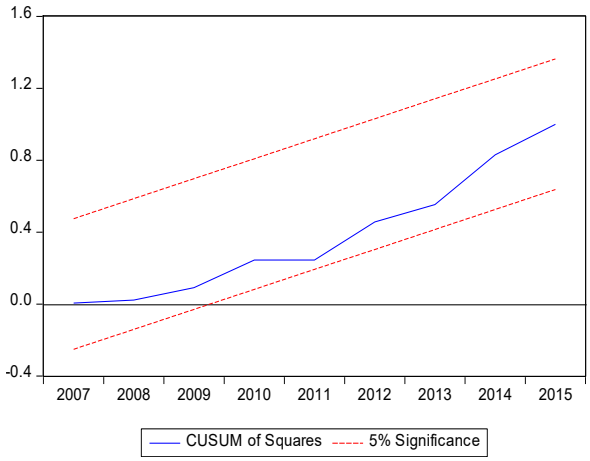
I: Unemployment with LPICCF



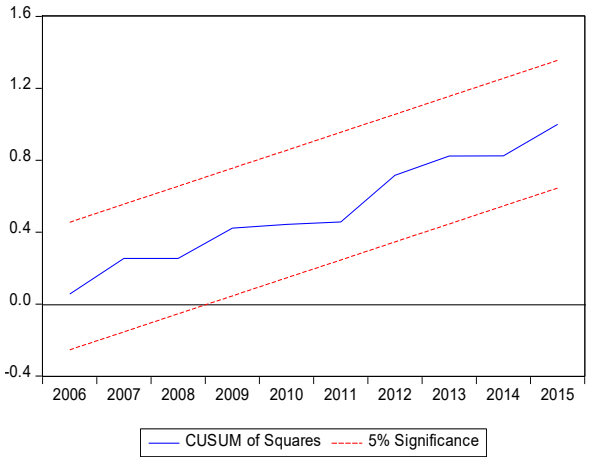
J: Unemployment with LFNFPCF



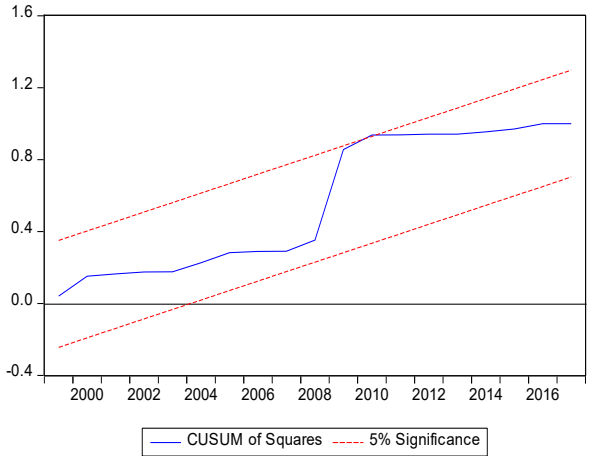
K: Linequality with LPICCF



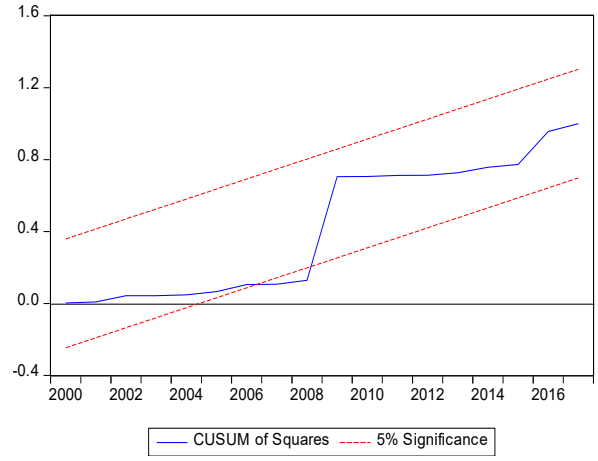
L: Linequality with LFNFPCF



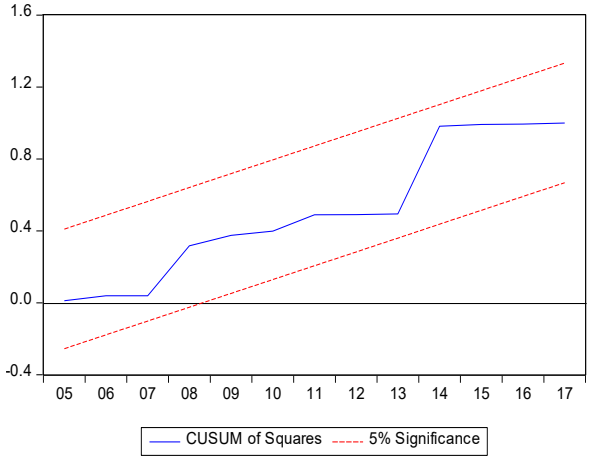
M: Economic growth with LPICCF



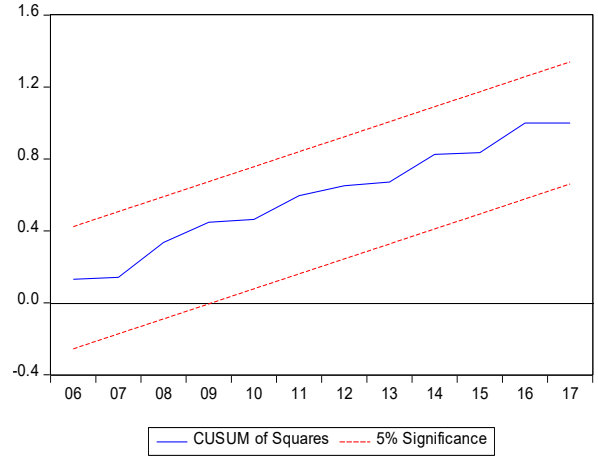
N: Economic growth with LFNFPCF



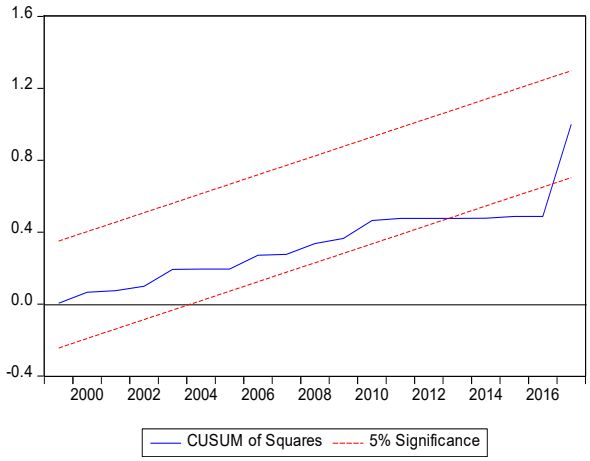
O: Linnovation with LPICCF



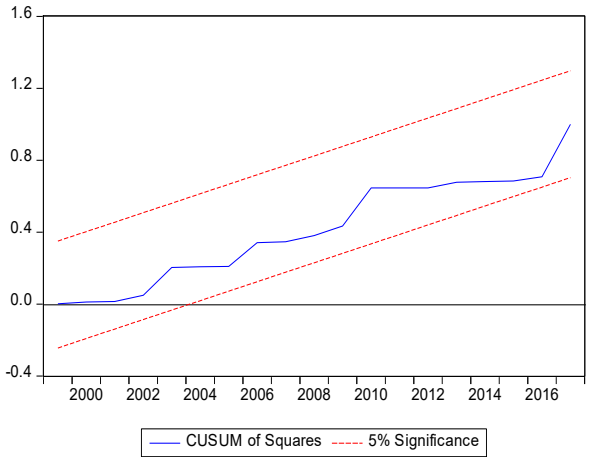
P: Linnovation with LFNFPCF



Q: Linvestment with LPICCF



R: Linvestment with LFNFPCF



4.8 Conclusion

This chapter presents the results of the statistical analysis undertaken to test two of the three research objectives outlined in chapter one. The results from the analysis of determining whether financialisation has occurred yielded evidence to robustly support the occurrence of this phenomenon in South Africa since the late 1990s. This evidence provided support for the rejection of the first null hypothesis. The results from the bounds test for cointegration revealed evidence of several statistically significant long-run relationships between some of the key development indicators and the different measures of financialisation. Innovation was cointegrated with all four measures of financialisation, inequality and economic growth with two while unemployment and investment with one. Long-run causal relationships from financialisation to the development factors were confirmed. The signs of the coefficients reflected that financialisation has a negative effect on innovation and investment, consistent with literature but a positive effect on unemployment and economic growth. The following chapter builds on these results by analysing policies that could enhance and diminish the positive and negative effects of financialisation respectively.

5. RECOMMENDATIONS

5.1 Introduction

This study sort to analysis the existence of financialisation in South Africa post-1994, in addition to examining the socio-economic effects of financialisation, with the findings of these two questions presented in chapter 4. Given these results, this chapter analyses existing remedial practices as well as policy reforms designed at dealing with financialisation. Finally this chapter suggests potential practices and policies best suited at maximising the positive effects of financialisation, while minimising the negative socio-economic effects in South Africa.

5.2 Financialisation Stakeholders

As documented in chapter 2, financialisation has historically been a manifestation of the adoption of pro-neoliberal policies by national governments (Ashman et al., 2013). However, literature has also pointed to the occurrence of financialisation through the lack of state intervention in the financial sphere of the economy (Thomson and Dutta, 2015). Countries globally are resigned to adopting policies that encourage financialisation, as the ability to attract foreign investment is heavily dependent upon pro-financialisation policies. Furthermore, failure to do so creates the additional risk of capital flight from their domestic economies (Thomson and Dutta, 2015). Moreover, the introduction of modern technologies such as the internet and mobile banking has taken finance beyond its traditional sphere. By all accounts the phenomenon of financialisation has and will continue to grow its global footprint. As such, a general acceptance of this phenomenon is needed with greater emphasis being placed upon understanding the societal impact of financialisation, in order to better position all stakeholders of financialisation. The need to better understand the effects of financialisation has become ever more relevant in the context of South Africa, which seeks to mirror western financial markets and practices. There is need for greater awareness in order to formulate policies that are best suited at enhancing South Africa's financialisation position.

In order to adequately and effectively address the effects of financialisation the initial step should be to identify the greatest victors and victims of financialisation. Finance, which traditionally has been a segregated sector for the elite, has drastically changed over the years as new niche markets continue to unfold. The financial appetite of regular households has grown beyond the traditional brick and mortar assets, with more and more households seeking a stake in financial markets. Greater effort by countries in ensuring financial

inclusion has been a clear indication of financialisation (Mahendra Dev, 2006). Despite the evident participation, households remain the greatest casualties of financialisation with big business the overall victors. Traditionally big corporations have tended to be decision makers in terms of financialisation statues, while having the financial presence to shape policies in their socio-economic favour. Large corporations carry a 'get out of jail free card' in the form of limited liability clauses, in addition to having the last option of state bail outs in times of financial distress (Thomson and Dutta, 2015). By default national governments tend to be the biggest winners and losers of financialisation. The positive spillover effects of financialisation lead to greater economic growth, domestic consumption, foreign direct investment and taxable revenue which are desirable state objectives. However, the negative effects of financialisation are borne by the state in the form of greater welfare costs, inequality, unemployment and lost taxable revenue. Thus in order for financialisation to be effectively captured within society, a balance needs to be created that proves beneficial for all stakeholders of financialisation regardless of the degrees of beneficial impact.

Once the parties of financialisation are identified, the second phase focuses on determining the effects of financialisation. As highlighted in chapter 2, financialisation has traditionally been documented as a societal opportunity cost to a greater standard of living. As such most documented remedial practices and policies have sort to reverse the effects of financialisation. However, as presented in chapter 4, financialisation has generally had a positive effect on economic growth, unemployment and inequality in South Africa, while a generally negative effect on innovation and investment. Thus any remedial policies and practices recommended should seek to enhance and mitigate the positive and negative effects for the benefit of all financialisation stakeholders within South Africa. Thus the proceeding section details the most commonly employed remedial practices used in tackling the effects of financialisation.

5.3 Remedial Polices

Most scholars have focused on the negative effect of debt as the most paramount financialisation effect and as such, there exists a large body of debt focused financialisation solutions. As earlier noted in section 2.4.1.2, financialisation has allowed households and businesses more access to debt which according to Lapavitas (2009) contributed to the 2008 economic crisis. The following points detailed the most commonly used remedial practices for financialisation.

5.3.1 Role Reversal

Traditionally households and workers have been at the losing end of the financialisation equation, as was apparent during the 2007 economic crisis. However, households and workers represent the biggest numerical stakeholder group within the financialisation equation and as such hold immense strength in unity. Unified households and workers have the ability to form debt collectives in order to better negotiate the terms of their financialised products such as the "refusal to accept unfair quantities of debt lumbered on people in financialised economies" (Thomson and Dutta, 2015:46). A unified household and workers sector represents an equational rebalancing from financialisation victims to financialisation king makers. In the USA, student driven organisations such as Strike Debt and the Debt Collective have been formed for the purpose of redressing the financialisation of tertiary institutions, by seeking the write off of unfair student debt (Thomson and Dutta, 2015).

5.3.2 Corporate Culture

Since the adoption of the neoliberal framework, corporate culture has shifted in order to adapt to the changing demands of shareholders (van der Zwan, 2014). The job security of high level corporate managers has significantly diminished, due to the introduction of various financial innovations such as private equity and debt financed buyouts. This has resulted in a shift in the objectives of corporate managers, who have pursued short-term share performance at the expensive of traditional long-term longevity. This has occurred via the adoption of debt financing in order to maximise on tax breaks associated with interest payments and equity returns, and the abandonment of retained earnings (Palley, 2007). However, corporations have taken advantage of this scenario by paying excessive remuneration packages, showing poor accountability and acting in the best interest of a select group of stakeholders (Palley, 2007). However, this form of financialisation can be rectified through corporate governance changes in order to spark the creation of a new corporate culture. Greater accountability can be fostered through the introduction of legal obligations and practices that take into account the interests of all stakeholders beyond the traditional shareholders (Palley, 2007). The change in performance-structured remuneration can help realign the objectives of corporate managers with that of all stakeholders, while preventing excessive remuneration packages.

5.3.3 Separation of Power

Historically finance and politics have gone hand in hand, with the bond facilitated through the process of lobbying (Palley, 2007). As such corporations have been able to subjectively influence the formation and implementation of financial policies, while advancing the process

of financialisation. Financialised policies have traditionally favoured lower inflation targeting and higher domestic interest rates, at the expense of full employment advancement (Palley, 2007). By redressing the dynamics of the finance-politics relationship, the effects of financialisation can be adjusted through the formulation of financial statues and acts free of external influence (Palley, 2007).

5.3.4 Taxes and Capital Controls

Financialisation has been characterised by the rapid flow of capital into the financial sector at the expense of the industrialised sectors of the economy. The introduction of various technologies has facilitated the ease of this process. As opposed to reversing the process of financialisation, scholars have suggested taxing and controlling the process in order to slow the rate of financialisation while generating revenue (Epstein, 2005). The adoption of financial reserve requirements of investments and greater transactional taxes such as Tobin taxes have been suggested as a means to control the excess flow of speculative investment within the financial sector, while generating revenue that can be channelled to tackling the negative effects of financialisation such as inequality (Epstein, 2005). Additionally, various civil society groups and non-governmental organisations internationally have been lobbying governments to more stringently regulate the speculative investment of agricultural commodities, in an attempt to control the financialisation of vital agricultural commodities (Thomson and Dutta, 2015).

5.3.5 Regulation of the Banking Sector

The financialisation process has seen the growth of the shadow banking system that can be characterised by the development of new financial cultures, products and institutions that do not conform to traditional banking regulations (Thomson and Dutta, 2015). The penetration of foreign banks within local markets has inadvertently acted as a conduit through which financialisation practices have been passed from developed to emerging markets. Traditionally foreign banks have entered domestic markets with personally defined policies that have fostered financialisation despite existing policy objectives of that given domestic market (Bonizzi, 2013). According to Bonizzi (2013) foreign banks played a pivotal role in the spread of the 2007 economic crisis to emerging markets. The expansion of the banking sector in the provision of credit and mortgages has changed the dynamic of household income. That is, a greater proportion of household income has been redirected to the servicing of household debt as opposed to productive means, which has created an additional layer of financial instability and, on some occasions, stoked socio-economic inequalities

(Bonizzi, 2013). By placing greater emphasis on re-aligning foreign bank policy domestically, as well as regulating banks more stringently, the effects of financialisation can be managed.

5.3.6 Microfinance

Microfinance has traditionally been seen as a means of financially serving, enabling and bridging the gap to the less privileged in society. However, the transformation of the microfinance sector into a global investment opportunity has financialised the microfinance sector (Bonizzi, 2013). Microfinance has drifted away from investment purpose driven financing, to individualised consumption-orientated financing. The rapid growth of mircofinance and the low level of correlation to other financial assets have made microfinance a prime investment alternative to traditional securities, resulting in the vast financial investment in microfinancial institutions. This sector has now predominately been regulated by financially motivated and affiliated institutions as opposed to socially motivated entities (Bonizzi, 2013). The financialisation of the microfinance sector has inadvertently hampered poverty reduction efforts, while making the microfinancial sector more prone to financial instability (Bonizzi, 2013). As such greater regulation and policy controls of microfinance providers and participants can control the effects of financialisation.

5.3.7 Social Policy

Social policies were initially developed to help alleviate social ills. However, the advancement of finance within the social sphere has redirected the trajectory of social policies that reflect more economic-based policies (Bonizzi, 2013). The privatisation of social initiatives such as pension funds and tertiary education has highlighted the financialisation of the social policy system that tend to be profit driven as opposed to service driven (Bonizzi, 2013). The privatisation of the retirement system in Chile allowed for the financialisation of the local pension fund. Traditionally, private run pension funds have presented an expensive alternative to pensioners for the provision of a social service, with one third of all pension contributions directed to the administration of these funds (Sumaria, 2010). The increased capital market engagement by tertiary institutions has advanced organisational behaviours, which maybe at odds with the underlying societal objectives of these institutions (Eaton et al., 2016). Thus greater restraint is required to prevent any further financialisation of the social system, as this hinders the accomplishment of the underlying societal objective of these policies.

5.4 Remedial Practices for South Africa

As highlighted in the preceding section most remedial policies have been aimed at reversing the negative socio-economic effects of financialisation, with the greatest emphasis focused on debt reduction. The most appropriate remedial policies will vary from country to country due to the economic structuring of each given country (Epstein, 2005). However, given the outcomes of the analysis of the relationships between the key development indicators and financialisation detailed in chapter 4 this paper sort to suggest remedial policies that enhanced the beneficial effects of financialisation, while mitigating the negative. The results of chapter 4 indicated that financialisation positively contributed to a reduction in unemployment and inequality, while increasing economic growth. However, innovation and investment expenditures did decline.

5.4.1 Policy Reform

Given some of the beneficial effects of financialisation, economic policy should be focused on encouraging financialisation domestically. The incorporation of financialisation into key transformational policies can help spur the rate of financialisation domestically, while enhancing the socio-economic benefits. Notwithstanding the positive underlying objective of certain transformational policies such as Black Economic Empowerment (BEE), the rigidity of these policies has traditionally resulted in the transfer of wealth to an elite few in society (Ashman, Fine et al. 2013). By incorporating various financialisation aspects within these transformational policies, greater socio-economic effects could be reaped by society. This would further enhance the value contribution of transformational policies as the societal impact of policies such as BEE remain lowly ranked on the generic scorecard (van der Merwe and Ferreira, 2014). The incorporation of transformational financialisation can be achieved through the creation of a state financialisation fund for corporations that display transformational compliance, with the mandate of investing these funds in financial markets or assets. This would help foster greater radical economic change, while promoting financialisation.

5.4.2 Financialisation Tax Break

The steady growth of financialisation since 1994 domestically would indicate the resilience of the phenomenon, which by all accounts will grow further. In light of this fact and the current beneficial effects of financialisation documented in chapter 4, the creation of a financialisation tax break would be further beneficial for all members of society. A tax break can be offered for corporations that make considerable capital and R&D investments, which

would offset the negative effects of financialisation, while potentially controlling the rate of speculative investment locally as highlighted by Bond (2013). Furthermore, due to evident growth of financialisation locally a potential financialisation tax can be imposed. A transactional, participation or gains tax can be imposed on all financialisation transactions that exceed a given quota or amount. The proceeds from this tax can be used to partially fund the state financialisation fund, reinvest in poverty eradication projects, help fund the new free tertiary policy, finance domestic research and innovation, and finance an emergency fund in times of economic contractions or as an additional contribution to the national treasury for the purpose of industrialised investment. However, the ability to effectively impose this tax in addition to the potential deterent effect on financialisation of the tax itself, questions the viability of a financialisation tax. As such this paper highlights this option but notes that further research is needed to advance this recommendation.

5.4.3 Financialisation Education

Despite the beneficial effects of financialisation, there is still need for greater societal sensitisation concerning financialisation. In order for the optimal benefits of financialisation to be realised, there is need for greater education regarding financialisation domestically. Education at both the state and household level is needed, as these categories represent the biggest recipients of a negative financialisation process. Better informed financialisation participants would make more value enhancing contributes to the financialisation process. Financialisation would then rather become a manifestation of rational decisions taken by conscious financialisation participants, as opposed to a by-product of an increase in financial inclusion.

5.4.4 Regulation

The rapid growth of financialisation in emerging markets has strongly been linked to development of the microfinance sector of these economies. The demand for small amounts of credit by the previously unbanked sector of the economy has spurred the growth of the microfinance sector. However, this has also given rise to unauthorised microfinanciers within these economies who charge exorbitant rates and counter act the benefits of financialisation. Thus there is greater need to regulate the domestic micro-finance sector to ensure that compliant providers service the sector, and thus promoting financialisation. Microfinance traditionally has been used to finance personal consumption as opposed to investment. As such, an alternative microfinance fund can be established to finance financially related

investments at a discounted rate. This process would in effect promote financialisation domestically amongst the less advantaged sectors of society.

5.4.5 Alternative investment

According to the Critical Social Accountancy school of thought in section 2.4.2, the occurrence of financialisation can be attributed to the growth of a strong middle class society that seeks long-term returns from their excess savings (French et al., 2011). These long-term returns are matched by the financial markets and financial institutions offerings. This financial appetite displayed by households presents an economic opportunity for the state and society. Given South Africa's current economic credit ratings the prospect of borrowing abroad represents a cost to the state, as well as to current and future tax payers (Investec, 2018). However, the process of financialisation presents a potential solution. By formulating alternative investment instruments such as financialisation bonds, the state has the opportunity to access large reserves of excess savings that can be used to invest in long-term productive infrastructure projects for society's benefit (Demir, 2007). By creating financial instruments of high yield the state can in effect control the rate of financialisation. While accessing large reserves of funding that can be invested in essential state entities, such as Eskom and PRASA that have large return prospects, with massive employment, innovation and investment effects.

5.2 Conclusion

Given the findings presented in this study, chapter 5 sort to highlight the most relevant and commonly used remedial practices and policies of financialisation. Chapter 5 firstly identified all stakeholders of the financialisation process, followed by a detailed examination of the most generally employed remedial practices highlighted in the financialisation literature. This chapter then concluded by proposing five detailed remedial practices and policies best suited to enhance, and mitigate the positive and negative effects of financialisation within the context of South Africa given the results detailed in chapter 4.

6. Conclusion

6.1 Background and Review of Research Objectives

This study investigated the existence of the neoliberal phenomenon of financialisation in South Africa post 1994, as well as analysing the effects of financialisation upon socio-economic development within South Africa. Financialisation is a broad concept that encapsulates multiple facets which can be defined as the growing influence of financial players in the operations of economies, at the expense of the real sector of the economy. Furthermore, it involves the change in the process of amassing wealth, with an increase in the accumulation of financial assets as opposed to the accumulation of real assets.

A vast number of studies examining the concept of financialisation have documented a negative association between financialisation and most development indicators across developed states. Studies by Stockhammer (2004), Orhangazi (2008) and Onaran et al. (2011) observed financialisation to negatively affect domestic investment within a country. Zalewski and Whalen (2010), Tomaskovic-Devey and Lin (2013) and Godechot (2015) all concluded that financialisation stimulated income inequality across the USA, Europe and several other developed countries. Tomaskovic-Devey and Lin (2011) went as far as detailing the role financialisation played in the 2007 global economic crisis. Assa (2012) also highlighted the negative association been financialisation and economic growth. Financialisation has also largely been documented to negatively contribute to employment, with studies such as Assa (2012) and Durand and Miroudot (2015) yielding evidence in support of this. However, a study by Afsar et al. (2014) did suggest financialisation had positively influenced economic growth and employment. Botta (2016) documented financialisation to have negatively influenced innovation in the USA. The effect of financialisation on consumption is unclear as Onaran et al. (2011) documented both a positive and negative consumption effect which effectively cancelled each other out, while Stockhammer (2012) noted a positive consumption effect across the USA and Europe as a result of financialisation.

The body of financialisation studies in emerging markets remains relatively small in comparison to developed markets with mixed results documented. The findings of Demir (2007) in Turkey reinforced the negative effects of financialisation documented across developed states. However, findings by Bahçe et al. (2014) in Turkey yielded contradicting results. Haruna (2012) found that financialisation had no effect on economic growth in Nigeria, while Seo et at. (2012) documented the negative contribution of financialisation on

innovation in South Korea. The findings of these studies highlight the inconsistency of financialisation results across emerging markets. Few studies have empirically analysed the effects of financialisation in South Africa, with most studies, such as Ashman et al. (2011), Ashman, Mohamed et al. (2013) and Bond (2013) analysing the general trends of financialisation locally. This has left an empirical gap in the financialisation literature both globally and domestically. Thus, using two of the most generally accepted measures of financialisation as well as two additional measures that ensure a holistic approach to financialisation is adopted, this study sought to:

1. determine whether financialisation has occured in the South African economy
2. determine the effects of financialisation on South Africa, and
3. examine the potential of advancing policy and practice reforms that best enhance the positive effects of financialisation and limit the negative effects.

6.2 Summary of Findings

The findings of this research indicated the existence and occurrence of financialisation in South Africa post 1994. The generally accepted financialisation measure of the economic contribution of the financial sector to total value added (FIRE_VA) revealed evidence of financialisation in South Africa, with the country ranking amongst an elite group of financialised states. This measure indicated the phenomenon to have occurred strongly since 2003, with the peak occurring just before the 2007 global economic crisis. The second financialisation measure of total financial sector employment (Empl_FIRE) highlighted the transformation related to the labour structure within the domestic market, with one fifth or more of the labour contribution emanating from the financial sector since the early 2000s. The third measure of financialisation, the ratio of portfolio income to corporate cash flows (PICCF), indicated the occurrence of the phenomenon since the late 1990s and early to mid-2010s, with similar trends exhibited to the USA, the most financialised economy, during this period. The final measure, the average ratio of financial to non-financial profits and cash flows (FNFPCF) confirmed the occurrence of financialisation, especially over a period of several years from 2002 to 2007. These results resulted in the rejection of the null hypothesis to the first problem question of this study.

The results from the ARDL model suggested that several of the key development indicators had long-run cointegrating relationships with the various measures of financialisation. Innovation was found to be cointegrated with all four measures of financialisation, with the

coefficient negative for three. This was consistent with financialisation theory confirming a negative effect. Economic growth and inequality were both found to be cointegrated with two measures of financialisation (FIRE_VA and FNFPCF, and PICCF and FNFPCF respectively). A positive and negative coefficient was found for economic growth and inequality respectively, indicating financialisation was beneficial from both an economic growth and inequality (contrary to theory) perspective. Unemployment and investment were both documented to be cointegrated with one measure of financialisation (FIRE_VA and FNFPCF respectively), with the coefficient negative for both. The negative unemployment coefficient was inconsistent with theoretical expectations, indicating a positive employment effect of financialisation. While the negative investment coefficient reinforced financialisation theory, confirming a negative investment effect. This indicated that financialisation did have a statistically significant relationship with the key development indicators, with the relationships partly beneficial and detrimental to the socio-economic well-being of society within South Africa. These findings would thus generally rebuff the suggestion by Bond (2013) that financialisation has been the driving force behind the sustained and uneven development within South Africa. Furthermore, this study revealed that a financialisation did Granger cause the key development indicators in the long-run, for the key development indicators that exhibited long-run co-integrating relationships. The findings presented in this study have by all accounts indicated a structural shift of the South African economy. South Africa, which historically has been a mining and energy based economy, has exhibited relevant signs of a nation in economic transition with the financial sector being the spearhead of this transformation. The adoption of more neoliberal policies by the country has allowed for the financialisation of the domestic economy, in accordance with international literature. The economic and labour contribution of the financial sector has highlighted the change in the capitalist accumulation process. Of the three distinct interpretations on financialisation, the regulation view and the critical social accountancy view have been shown to have occurred domestically based on the findings of this paper. The occurrence of financialisation locally has manifested in changes to various development indicators as documented by the vast literature. However, the relationship and magnitude of some of these changes is anomalous to expectations highlighting the non-uniformity of financialisation.

Based on the findings reached by this study, it can be suggested that financialisation has generally been to the benefit of society holistically in South Africa, with this trend anticipated

in the foreseeable future. The findings presented by this study reinforce the assertion that financialisation yields different results to that experienced in developed economies as per Demir (2007) and Bahçe et al. (2014), while otherwise suggesting that financialisation does carry a positive connation in emerging markets contrary to Lapavitsas (2009) and Yenkey et al. (2015). However, no explanation has been provided to explain why financialisation yielded positive outcomes locally reinforcing the sentiment by Bonizzi (2013) that financialisation is non-linear. Given the findings presented policy and practice reforms can be amended in order to better capture and expand the benefits of financialisation while mitigating the negative effects. More societal awareness is needed with respect to financialisation in order for market participants to make more informed decisions, while being aware of the potential negative effects experienced in other economies as the effects of financialisation could potentially turn negative.

6.3 Limitations and Recommendation for Future Research

Despite addressing the underlying objectives of this analysis several limitations were identified throughout the course of this study. Although four unique measures of financialisation were used focusing from two different perspectives – the changing nature of the financial and non-financial sectors, the expansiveness of the concept of financialisation in addition to the multiple definitions thereof, means that no single measure would be able to fully capture the phenomenon. Furthermore, the unavailability of data on various measures also limited the ability to fully capture some of the measures of financialisation. In particular, proxies had to be created for the Krippner (2005) approaches as financial records for the financial and non-financial sectors prior to 2001 were not available. Moreover, the time period under analysis represented an additional challenge as 23 years was observed to identify financialisation. Krippner (2005) analysed financialisation over a period of 50 years in the USA ensuring a larger data sample to accurately detail the trend movement of financialisation.

This study analysed the effects of financialisation upon key development indicators that the author viewed as being tantamount to the socio-economic progression of the South African economy. Although these development indicators partly make up the key pillars to the 2030 National Development Plan, more development indicators are collectively needed to accurately depict the full extent of socio-economic progression in South Africa. The lack of data further presented a constraint in the analysis of the development indicators. Inequality data was inconsistently made available due to varying time horizons used by statistical

institutions. This was compounded by the international isolation of the South African market during apartheid (Ashman et al., 2011). The use of a spline ensured the estimation of missing data. This trend was further experienced in the collection of investment data. Financial records of the financial sector were not available prior to 2001 limiting the execution of the traditional Stockhammer (2004) measure of investment. This constraint was overcome by employing the Tori and Onaran (2015) measure of investment while defining investment based on Orhangazi (2008).

Given the broad nature of financialisation, room does exist to gauge financialisation from an alternative perspective such as the financialisation of everyday life in South Africa by exclusively observing behaviour at the household level (van der Zwan, 2014). Furthermore, the period in which financialisation can be gauged could be extended to cover several more years when such data becomes available. This would ensure a more accurate representation of financialisation. Moreover, the effects of financialisation on additional development indicators such as education (Eaton et al., 2016) and water (Bayliss, 2014) can be analysed to more accurately depict the degree of socio-economic progression in South Africa. A great volume of financialisation research exists with respect to the debt effect of financialisation which this paper did not account for. Thus future research prospects of analysing the financialisation effect on credit and debt exist in South Africa, as scholars such as Bond (2013) have highlighted the economic vulnerability that exists locally as a result of financialised debt taken by households.

The results yielded by this paper suggest financialisation has had some positive effects on socio-economic development, and thus contrasted the theoretical underpinnings of financialisation. This has presented a theoretical opportunity to further investigate why the effects of financialisation have been inconsistent in emerging states, while generally negative in developed states. Furthermore, the magnitude of the effects suggested in this paper greatly contrasted other studies. The cause of the magnitude variance across studies can be further investigated to determine the cause of this variance.

7. Reference List

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