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# **A CRITICAL ANALYSIS OF THE REVISED FINANCE-GROWTH NEXUS:**

**A case for the exclusion of value added of financial  
services from GDP.**

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## **ABSTRACT**

This thesis critically re-examines the finance-growth nexus. It takes a pluralist approach to draw upon the theoretical limitations of the literature and analyse the empirical revisionism that has emerged. The narrowness of the literature is seen in the disaggregation of the nexus through forms and channels for which finance is alleged to affect growth, neglecting other potential causal factors for both or their relationship. The limitations of the threshold analysis is taken as a point of departure, teasing out the implications for developing countries, and to broaden empirical investigation of the nexus.

A critical analysis of the nexus in development literature is shown to reveal the gaps in understanding of the context and the limitations of measures through which the impact of finance on African countries has been analysed. Financial development in Nigeria is critically considered to better understand the nature of expanding finance in developing countries.

With the objective of expanding the empirical literature of the nexus to include the debate on the productiveness or not, of the financial sector, an investigation is made into the political economy of the treatment of financial services in the System of National Accounts (SNA). The narrative on the productiveness of finance is arguably understood as giving potency to the nexus. We therefore exclude value added of financial services from GDP and re-estimate the threshold analysis of the finance-growth nexus using cross-sectional and panel data estimations to further understand the relationship between finance and growth.

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## **CHAPTER 1.0 - INTRODUCTION**

"The modern banking system manufactures money out of nothing. The process is perhaps the most astounding piece of sleight of hand that was ever invented. Banking was conceived in iniquity and born in sin. Bankers own the Earth. Take it away from them, but leave them the power to create money, and with the flick of the pen they will create enough money to buy it back again...Take this great power away from them and all great fortunes like mine will disappear, and they ought to disappear, for then this would be a better and happier world to live in. But if you want to continue to be slaves of the banks and pay the cost of your own slavery, then let bankers continue to create money and control credit". - Josiah Stamp, former member of the board of the Bank of England during the 1920's

### **1.1 Background of Study**

The discussion on the relationship between finance and economic development dates back to the 19<sup>th</sup> Century (Schumpeter, 1911). Despite the deluge of research around this subject, it is unlikely that any consensus has been reached regarding the issues around this relationship that have been debated over the years. Notable works which point to a positive relationship in the nexus include those of Goldsmith (1969), McKinnon (1973), Shaw (1973), Greenwood and Jovanovich (1990), Bencivenga and Smith (1991), Pagano (1993), King and Levine (1993), Levine and Zervos (1998), Rajan and Zingales (1998), Beck et al. (2000), Khan et al. (2001) and Levine (2005). On the other hand, the works of Gerschenkron (1952), Robinson (1952), Minsky (1974), Stiglitz (1989; 2000), Rousseau and Wachtel (2002), and FitzGerald (2006) all conclude that the relationship between finance and growth is at best, weak or negative. In fact, Lucas (1988) dismisses finance as an over-emphasised determinant of growth.

The issues being debated in the nexus literature range from the functions of finance through causality in the finance-growth nexus, attempts at differentiating productive and unproductive forms of finance, mechanism for efficient allocation of finance, the impact of finance across

geography and income groups, to the recent attempt at identifying thresholds for the shift from positive to negative impact of finance on economic growth and development. Yet, one major ideological pillar has stood out amidst these debates: what is now the standard neoclassical assumption that a more or less free market system, underpinned by a liberalised financial market, is prerequisite for economic growth. Therefore, a strong belief in a putative link between finance and growth was formed, despite compelling evidence to the contrary.

The question often asked is whether or not financial development leads to growth. Much of the nexus literature sets outright the objective of dealing with this subject while others dealt with it by implication. The general positioning being that, arguments that are inclined to a significant positive finance-growth relationship and draw similar conclusions of financial development leading to growth tend to imply causality from finance to growth. On the contrary, arguments that present a weak or insignificant relationship between finance and growth imply financial development is not positively linked to growth and, as such not necessary causal for growth. Quite apart from the latter taking the position of no positive causality between finance and growth, it can be said that they take the position that finance should not be allowed to grow on its own and disproportionately, but used to foster productivity in the real economy. As Robinson (1952) succinctly puts it, “where enterprise leads, finance follows”.

A purported consensus or near-consensus in the finance-growth nexus arguments as reflecting a positive and significant relationship position between finance and growth has been alleged (Levine 2005; Arcand, et al. 2012), and in the context of African countries, (Murinde, 2012; Ikhide, 2015). But this consensus has not been shared by all economists. Dissenters continue to debate the issues surrounding the nexus using theory and prevailing evidence to question a positive relationship (Arestis and Sawyer, 2005; Philippon, 2008; Cecchetti and Kharroubi, 2015). New evidence, especially in light of the recent financial crisis, has further strengthened the argument for the destabilising effect of finance on growth, as such, a negative relationship.

Schumpeter's work laid the early arguments for the process through which finance impacts on growth. He asserted that banks can spur innovation just by funding the most productive areas of investment. In 1952, Gerschenkron argued in a series of seminal essays that banks evolve in the process of industrialisation to take advantage of a set of structural incentives as the economy grows, and then channel scarce resources into industrial investment. Therefore, his argument centred on a facilitating role of financial development, through the re-allocation of resources or the facilitation of information flow in the case of weak entrepreneurship. Following these, McKinnon (1973) and Shaw (1973) analysed the relationship between financial markets and economic growth, establishing a strong correlation in the nexus. This empirical work became the foundation upon which modern finance-growth nexus has been based. It has however, been criticised for lack of a strong theoretical background<sup>1</sup>.

Despite the criticisms, economists are generally thought to agree on the functions of financial development necessary for economic growth as delineated by McKinnon and Shaw, which are: (i) the mobilisation of savings (ii) the allocation of investment to the most productive areas (iii) the facilitation of transactions and management of risk and (iv) the exertion of corporate control (Barajas et al., 2012). Therefore, financial development was generally understood to mean the establishment and expansion of financial capital, financial and non-financial institutions, instruments, markets and processes in the flow of savings to investments. The processes depend upon, and are facilitated by, financial institutions such as banks, insurance companies, pension houses, with all kinds of financial instruments and innovations transacting in the money and capital markets. It may include non-financial instruments and foreign liquidity flows as well, which serve to expand the market and reflect the extent of financial development (FitzGerald, 2006).

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<sup>1</sup> See criticism in Chapter 2 as relates to the use of interest rates in McKinnon (1973) and Shaw (1973).

Given the shortcoming of finance in achieving the above objective, some economists now draw on a regulatory view for measuring financial development. This can be seen in the definition put forward by Arcand et al. (2015, p. 108) in which “financial development relates to the financial system’s overall ability to reduce the information, transaction, and enforcement cost associated with the intertemporal nature of financial contracts”. If this definition is anything to go by, then financial development measures in the nexus literature are misplaced, since proxies for regulation are almost always a second measure (in some cases an afterthought), not to mention the inability for any regulatory framework to adequately capture the above characteristics. Arestis and Sawyer (2005) make a differentiation between financial development which is mainly growth in finance and intermediation, and financial liberalisation which is the removal of central bank controls over interest rate, especially in developing countries. Also, Mazzucato and Shipman (2014) shed light on financial deepening. It is understood as the expansion of financial sector’s share of GDP and ratio of money supply to GDP. This is achieved through a combination of factors, namely the allocation of more savings to investment, lowering interest rates by creating more liquid markets, lowering transaction costs through competition, reducing risk by creating futures and options markets and credit default swap markets, and liberalised exchange rates. For Demetriades and Rousseau (2011), the emphasis for financial development is placed on its quality, as a necessity for growth.

The differences around terminologies describing developments in finance are by no means intransigent but logical and contextual. In this thesis, they will be used interchangeably, and with financial institutions, in reference to finance in general. Financial institutions are in themselves not restricted, but include central and commercial banks, investment banks and non-financial institutions whose primary focus may not necessarily be dealing in financial instruments but aid the circulation of finance. Another term which may need clarification in scope is *growth*. It generally refers to increase in (national) output over time. In this thesis, it

is used interchangeably with the word *development*, which is distinguishable in context but not necessary to draw on the difference within the scope of the thesis.

With different positions taken in the literature on the relationship between finance and growth, evidence and counter-evidence were provided to justify each position. But of much concern is the mixed and contradictory results that research later laid out in this area of economics in analysing this relationship. In particular there was intensified use of empirical methods to validate the finance-growth nexus theory. Not only were the evidence and results that sought to advance the positive finance-growth nexus contradictory, but the capricious measures used to capture financial development in such studies were unnervingly incongruent for different studies. For example, it is easy to achieve different results for different countries or regions in similar studies by sheer manipulation of either data or methodology. As such, similar empirical methodologies, most of which had no consideration for the limitations of the use of quantitative methods, resulted in contradictory conclusions of the nexus in different studies. Such differences are then explained away by exhuming some exogenous factors which are argued to be responsible for such. Therefore, results mainly depended on who was investigating the nexus rather than on objective enquiry into the real relationship of finance and growth. Qin et al. (2016) show the conceptual confusion with many standard econometric techniques.

This profligacy of the use of both data and methods was dominated by the proponents of a significant positive relationship in the finance-growth nexus by employing mainly a one-sided empirical approach to the argument. These all go to show a sort of desperate attempt to vigorously fabricate a positive relationship in the nexus without any coherent evidence. Although the objective to force a merger of finance and growth was met by counter-arguments and research that proved otherwise by their results, opposing studies later became subdued by the prevailing economic ideology which advanced the pro-nexus arguments. Therefore, what looked like a resolution of a long-standing economic debate was rather a seizure by the more

popular and politically acceptable position of the role of finance in economic growth, as was the case in other areas of economic theory in which the market was alleged to be efficient. In this thesis, the broad developments around the expansion of finance, institutions and the far-reaching scholarship for this advancement are not seen to be unrelated. They are argued to be consistent with an ideological pursuit of (private) finance within an increasingly expanding capitalist environment.

Nevertheless, there remains questions regarding the net contribution of finance to output. Tobin (1984) put forward that financial development may lead to suboptimal allocation of human resources and the social returns of financial development may be lower than its private return. This is because as the financial sector grows bigger, talents will migrate from the productive sectors of the economy to the financial. Similar concerns have been raised about finance' net contribution to the economy, especially in light of crises in which "the sector requires market subvention, system guarantee and corporate bail out" (See Christophers, 2011, p. 113). Also, Rajan (2010) demonstrated that through bank bailouts and remuneration structure of bank managers, financial development can contribute to inefficiency between social and private returns. Cecchetti and Kharroubi (2015) provide evidence for this view.

Following the Global Financial Crisis (GFC) in 2008, there has been some reaction against the idea that financial markets work more or less perfectly and functionally, and that financial development is positively correlated with, let alone causal for development by whatever index. Understandably, the renewed scepticism around financial markets is due in part, to the devastating impact of the crisis which saw the global stock market shed approximately \$25 trillion, more than a third of its total value at the time, causing bank failures and a reduction in domestic lending, export earnings and Foreign Direct Investment (FDI) to developing countries amidst deficit spending. In addition, the Department for International Development (DFID)

reported that about ninety million people were pulled back into poverty as a result of the crisis (Naude, 2009, p. 14), a figure which may be conservative.

Also remarkable was the acute reversal of the alleged growth in many developing countries in the wake of the crisis, through financial flows and trade (Gurtner, 2010). As such, low income countries were as badly-hit as high-income countries with worsening impact on economic growth and welfare as they generally lacked sufficient safety nets against any form of macroeconomic instability. This was against the backdrop of the argument put forward by the International Monetary Fund (IMF) and World Bank to developing countries by advocates of the positive finance-growth nexus that these countries were immune despite aggressive capital inflow into them and costly accumulation of currency reserves. Their risk appetite was also alleged to be low, as such thought to be 'crises-resilient' (Soederberg, 2013, p. 606). Although this so-called immunity of developing countries to crises has been contested for some time (Diaz-Alejandro, 1985; Eichengreen, 1991; Palma 1998), including directly related to the 2008 financial crisis (Ghosh, 2008).

Given the colossal impact of the 2008 financial crisis for both advanced and developing countries, it is observed that the weight in the finance-growth nexus argument has shifted, since global developments in finance have gone from mainly functional to dysfunctional outcomes in nature and form, both at micro and macro levels. It is now evident that the market-efficiency theory of finance in relation to economic growth promoted excessive credit taking under the guise of capital for investment. Embedded in this is a kind of systemic abuse and high level of financial debauchery that causes instability in financial markets and culminates in crises. Given this reality, the balance understandably shifts in the direction of the dissenters of the finance-growth nexus. As such, many economists continue to question the role of finance in development (Rodrik, 2008; Wolf, 2009).



As observed, this shift in the literature which, although continues to evolve, has moved to a threshold analysis, to a non-absolute or minimising role of finance in economic growth. Thus, the hitherto generally emphasised role of finance in economic growth is now being revisited (Rodrik and Subramanian, 2009; Obstfeld, 2009; Yilmazkuday, 2011; Arcand et al., 2012; Barajas et al., 2012; Yu et al., 2012) as finance cannot be conclusively argued to have an absolutely positive relationship with growth. More economists, than ever before, now dare to question whether there is a level beyond which financial development does not contribute to growth and from which it assumes a negative relationship (Arcand et al., 2012). Therefore, it becomes difficult to defend financial development in all ramifications and forms in which it is presented, ranging from market instruments of all kinds, capital flows, financial integration, market liberalisation and financial development in general. Needless to add that this difficulty in presenting finance as non-detrimental to development is due to the fact that its flaws may outweigh its benefits, a position strongly contested before now but which evidence from the 2008 financial crisis coincidentally goes to prove (Wolf, 2010).

Interestingly, the angle from which the shift is being initiated bears evidence that the positive nexus side again concede a point in this debate. It is also remarkable that a lot of these changing positions are driven by research emanating from the IMF, a reversal of its previously promoted ideology of the unequivocally positive role of finance in growth. This position assumed by the IMF and World Bank is evident in the proposition of global financial liberalisation leading up to the crisis (Fine, 2010). As such, slightly more surprising is that the IMF should have taken a lead in much of this revisionist literature, reversing or modifying its previous nostrums. This will be discussed in terms of the shifting and complex relationship between scholarship, ideology and policy in practice of the IMF and World Bank.

It is important to recall that the IMF and World Bank arguments for a more liberalised market economy to aid developing countries was usually justified on the rationale that an open

economy attracts foreign investment, fosters competition and promotes growth. Developing countries were, therefore, encouraged to abandon their development banking approach (in which credit was directed at certain sectors of the economy by their governments). State-controlled banking was branded as repressive and growth-reducing, in line with the efficient market ideology. This saw the introduction of Structural Adjustment Programmes (SAPs) in the 1980s in many developing countries which later on gave rise to high inflation, currency depreciations and market instability. A review of the SAPs continues to raise questions (with no agreed answers) about the intentions and impacts of IMF and World Bank policies for developing countries.

Despite the shifting position, there are many unanswered questions around the nexus. The threshold analysis seems to carry with it ineffective socio-economic implications for low income countries, as it continues to insist on financial expansion. The experience of financial development in general and particularly in developing countries reveals that growth from finance could also be associated with other factors that further compound the problems of development. For developing countries, the impact of finance on growth cannot be separated from its impact on issues relating to development such as income and inequality, employment and environmental sustainability. The impact of financial development is also emphasised separately from the much-needed industrialisation and infrastructure development for these countries. These show how misplaced finance is in economic development. Surely, one must admit that financial expansion has an inherent potential for dysfunction by ignoring the welfare effects of a country. It is on the backdrop of these issues that the threshold analysis of the nexus needs to be critically examined, together with the implications of its conclusions.

In as much as finance as it relates to the lessons from the 2008 financial crisis, seems to be receiving the needed attention in the revised nexus literature, it is necessary to critically examine whether previous issues around finance have been resolved. The literature shows that

financial development, contingent upon different forms of development, is still largely inadequate for economic growth. Therefore, such literature is not a reversal of what has gone before. It simply reflects three elements: (a) some acknowledgement of the increasing complexity, diversity and unevenness of financial markets themselves as well as their equally diverse interaction with the *real* economy, especially in the context of the crisis. (b) A dialogue between perfect and imperfect market economics and its implications for development. (c) A corresponding continuing influence of the neo-liberal notion of a positive finance-growth nexus.

As such, revisionism has only caused a partial turning upside down of the belief in financial markets, without correcting the mechanism that underpins crises, or set as objective the need to better understand finance. It is necessary to address these gaps. Given the above, one implication is that if finance-growth nexus is elusive, in part because finance itself can be dysfunctional, then empirical analyses in the literature need to be revisited, whatever their other deficiencies, because finance (which has been growing disproportionately) obviously does not seem to have an absolute positive relationship with growth. For this reason, this research seeks to investigate the nature of the finance-growth nexus using the threshold analysis as a critical point of departure. This will be done by first critically analysing the method used in the threshold literature, drawing on the deficiencies of this and putting forward modifications for the empirical analyses of the nexus.

## **1.2 Motivation, Objectives and Contribution**

The motivation for this thesis comes from my experience in the finance sector, coupled with academic interest in finance. I had a stint at a microfinance bank in Nigeria and worked at Barclays Bank in the UK before embarking on this research. While at the microfinance bank,

I witnessed first-hand the processes and impact of advancing financial development in a *small* open economy. In particular, the Nigerian government's plan to target the poor, including small- and medium-scale enterprises (SMEs) with financial development, in a bid to eradicate poverty and achieve development, was derailed by the activities of bankers and financial elites. This plunged the country into crises and the poor further into debt and persistent poverty.

At Barclays, the activities of global financial institutions in expanding finance through their subsidiaries across the global economy and capital flows, both within the advanced capitalist nations and to emerging markets in the pursuit of profit, came to the fore. The rise in global credit and all manner of credit instruments saw me working on the complaints of customers who felt excess interest and other charges had been extracted from their credit cards, overdrafts, loans and mortgages by the bank. Thus, the process of financial expansion is seen to be characterised by increasing shift towards expansion of credit and profit accumulation by banks. This experience together with the reality of the GFC made me question the role of finance and financial markets in economic development, as in the quotation above by Josiah Stamp.

As a result, the narrower question of the relationship between finance and growth became of interest. In practice, at advanced levels of financial development, finance has a tendency to cause crises and macroeconomic instabilities, as evident in the GFC. This point is very well admitted in the literature (Haldane et al., 2010; Turner, 2010). The other point less acknowledge by the proponents of financial development is that even at low levels of development, finance is seen to cause an increase in inequality, as benefit accrues to certain elite groups who control finance and its institutions. In general, there is no positive relationship between finance and growth, despite the suggestion of such a conclusion in the nexus literature.

Finance is seen to expand in advanced and developing economies disproportionately from growth. This is the reason why the nexus debate is stimulating, given that the conclusion drawn

continues to be in contrast with evidence. But the literature is seen to approach the relationship between finance and growth in a narrow way that excludes the processes by and for which finance expands disproportionately from growth and the reluctance to draw from a wider approach to understanding this relationship. As such, this thesis broadens the conversation on the impact of finance on growth. It does so by, first, arguing that a neoliberal market ideology that seeks to advance private capital lies behind the expansion of finance and the attendant scholarship used to promote financial development. It also seeks to link the finance-growth nexus debate to the emergent discussion on financialisation, with a view to expand empirical analyses in the literature.

Therefore, the objective in this thesis is to critically examine the literature on the relationship between finance and growth, by tracing the historical evolution of the literature, identifying the limitations of the dominant approach used for establishing the relationship, including implications of the conclusions drawn in the threshold analysis. The literature (in chapter 2) is organised in a way that shows how the nexus has been disaggregated through forms of finance and channels of impact on growth, and illustrates how it excludes other fundamental factors that (may) affect the relationship, in the dominant econometric approach to analysing the nexus. Such analysis of the nexus, located around what may have been ignored in the attempt to establish causality and channels of impact is original to this thesis, as no such framework has been applied to the nexus literature, to the best of our understanding.

This narrowness of the literature is made more evident when analysed for developing countries and the processes for advancing financial development with its impact on economic development. In this case, a positive nexus dominates analyses of the nexus in African countries with little or no consideration for their broader development goals. Therefore, the implications of continuous advancement of financial development for low income countries at all cost, is used as the critical point of departure for the threshold analysis of the literature.

Drawing on these implications of the threshold literature of the nexus for African countries (or developing countries in general) is original to this thesis, given that this most recent development in the nexus literature is yet to be analysed in this manner. The abstracted nature of the threshold analysis of the finance-growth nexus literature from the context of development, in that it demands more finance without consideration of whether development needs are achieved in these countries, is used to further emphasise the shortcomings of the nexus literature.

Instead of a threshold relationship between finance as growth, I present an overarching picture of the impact of finance in Africa in chapter 4, unravelling the finance for development literature, both in terms of the main institutional promoters and concepts used for advancing finance in development and in analysing the manifest impact of increasing finance on development. To further understand the impact of finance in development, I argue that it is necessary to locate analysis of the relationship between finance and growth in Africa on the financialisation literature, to better understand the broader positive and negative impact of finance in development.

The drive for financial development, supported by the financial inclusion and access narratives to address poverty in Africa, is further argued in this thesis to result in what is referred to as the *financialisation of development*, in which development is undermined, rather than attained, as finance expands in these countries. This analysis is applied to the case of Nigeria considering its experience of financial expansion, and the reliance on such to achieve its development goals. On the one hand, this aims to broaden the literature on financialisation and particularly on the distinctive forms of financialisation in developing countries, what might be termed periphery (Powell, 2013).

Given experience of financial development and the limitations of revisionism in the nexus as critical points of departure, I offer an alternative for expanding the scope of the nexus, to better understand the impact of finance on growth. This is achieved through linking the mainstream nexus argument to the heterodox debate on the productiveness or not of the financial sector in chapter 5. I argue that, since finance cannot be said to have an absolute positive relationship with growth, then it ought to be excluded from contributing to growth and the empirical analysis of the threshold re-estimated to ascertain the nature of the nexus.

I extend this focus on econometric techniques for establishing a positive relationship, by unpacking what constitutes growth in the System of National Accounts (SNA) and, in particular, the productiveness of finance embedded in growth as used in econometric estimations. This unpacking of the composition of growth is intended to address one aspect of the failings of the nexus literature, the question of what constitutes growth, which may fundamentally affect the relationship between finance and growth. It is also underpinned by the idea that what constitutes growth and finance as used in the econometric estimations would shape the kind of results obtained, and for understanding the nature of the nexus. This is emphasised in chapter 2 as a major shortcoming of the nexus literature.

In this thesis, I make three major original contributions. First, I analyse the literature on the finance-growth nexus in a unique way that shows how it has been disaggregated around forms of finance and channels of impact, and point out the limitations in the literature in terms of what it ignores in its analyses. This is further expanded upon by teasing out the implications of the threshold analysis of the nexus for African economies. The discussion on developing countries and financial development is the basis of my second contribution, which is an expansion in the understanding of the process of financialisation in development. A critical investigation into financial development in Africa further reveals the narrowness of the narrative for advancing financial development and how this may undermine development. This

argument is supported by the experience of financial development in Nigeria, in which I show how banking credit is disproportionately allocated between the real sector and services. Third, having argued for a linkage of the literature on the productiveness of finance and the nexus, I advance the empirical studies of the relationship between finance and growth by separating financial services value added from GDP before re-estimating the nexus.

Therefore, the contributions made in this thesis are both analytical and empirical, with wide ranging implications for policy. The analytical contribution made in this thesis, not least in teasing out what existing studies ignore and what constitutes growth is necessary for deepening existing understanding around the nexus. An empirically re-estimation of the nexus is aimed at observing the relationship when a new growth variable that excludes (non-productive) finance from GDP, is used for estimating the nexus. This has implications for shaping policy, by way of financial sector regulation in the face of increasing prominence of finance.

### **1.3 Research Questions**

The questions around financial development remain. Levine (2005, p. 868) notes that “we are far from definitive answers to the questions: Does finance cause growth, and if it does, how?” So, quite apart from whether finance is causal for growth, the question asked in this thesis is whether the revised literature satisfactorily addresses the problems of finance which it has itself identified. Second, given the continuous push for financial development in the literature, this thesis enquires into the manifestations of finance in sub-Saharan African countries and questions the narratives used for this advancement. It asks more specifically if financial deepening has delivered the required development in Africa, and if not, why? Third is to challenge the conclusions of the threshold literature that is now simplistically contingent upon levels of national development. The question then asked is whether the impact of finance on



growth is only dependent on the level of development, irrespective of other factors. Fourth is to understand what the nature of the relationship between finance and growth is, by excluding finance as a contribution to growth and re-estimating the empirical regressions of the threshold literature. The results here will be compared with results in the nexus literature for an enhanced understanding.

#### **1.4 A Brief Discussion on Methodology**

It is necessary to contextualise the methodology of investigation in this thesis and connect the different elements drawn upon. Methodology may be understood as “a combination of techniques, the practices we conform to when we apply them, and our interpretation of what we are doing when we do so” (Olsen and Morgan, 2005, p. 257). While there is a decline in discussion around methodology in the economics discipline, in part because of the dominance of empirical methods, there is some inquiry into whether certain methods (i.e. systematised techniques or procedures) require certain *methodological* assumptions (see Lawson, 2003). Methodological assumptions are more or less inductive. But more importantly, they allow the researcher to draw from experience and observation or a combination of methods in order to understand phenomena. Therefore, the different lines of enquiry taken in analysing the relationship between finance and growth in this thesis demonstrates that *pluralism* is the methodological approach. This is in line with the growing call for pluralism in economics. Fullbrook (2017, p. 9) makes the point that “full appreciation ... requires viewing [a phenomenon] from more than one perspective, so knowledge accumulation often depends upon investigating empirical domains through more than one narrative”.

The approach in this thesis allows a combination of critical political economy and empirical analysis in investigating the impact of finance on growth. This is based on the recognition that

there is not one particular method for investigating social phenomenon. Instead, a combination of methods is necessary for understanding inherently dynamic social phenomena, as opposed to a simplistic positivist approach in which social relations must be analysed from a linear causal perspective, as obtains in the nexus. Critical political economy, in line with the open systems approach, seeks to understand complex social phenomenon, not through positivist causal relationships between variables, but through a combination of deductive, inductive and dialectical discourse (Carlson, 2000). This may include broader post-positivist approaches such as meanings, subjective reality, human intentions and case studies. Such combination of methods has been demonstrated by Jefferson et al. (2014, p. 291) to help explain “socially and institutionally embedded” phenomenon.

As such, in advancing the arguments in this thesis, time-series analysis is used in line with existing nexus literature to test the validity of existing results and the statistical relationships between finance and growth. Advances in the use of panel data analyses attempt to factor into these regressions a certain level of heterogeneity in consideration of time, form and space of the variables used. However, these techniques are still limited as unable to capture the socio-political dimensions of the nexus. Thus, the reason for combining methods. Empirical methods in this thesis are only used to emulate other methods with an awareness of their limitations. As such, results from the regression analyses in this thesis are cautiously interpreted and located within the observed manifestations of financial development and its social implications on the wider scope of development. Empirical investigations here are not used to determine causality in a supposed equilibrium relationship as pertain in the literature but to understand correlations and how decomposition of productivity of finance may affect changes in the relationships between finance and growth. The case of financial development in Nigeria reinforces the post-positivist approach taken in this study, as it is used to investigate the nexus in a specific development context.

### **1.4.1 Theories of Finance**

Finance existed before the capitalist mode of production and has evolved over time through multiple forms dictated by the latter. It has been located in initial forms of credit (Graeber, 2011) between merchants in the circuit of capital, and accumulation by capitalist producers, with banks emerging to allocate idle interest-bearing capital among capitalist producers (Lapavistas, 2009a). This process underpinned the long-standing debate on the productiveness of finance with proponents (Walras, 1954[1874]; Arrow and Debreu, 1954; Fama, 1980) and dissidents pointing to the role of finance in capital accumulation (Marx, 2004[1867]; Schumpeter, 1912; Keynes, 1930; Sayers, 1960). These different positions on the role of finance in the economy may derive from the variety of understandings of what finance is, its origins, and the processes involved in financial transactions.

The approach to finance in this thesis will be located within Marx's theory of finance, which Fine (2007b) notes is embedded in his theory of accumulation and expansion of capital. Finance is therefore understood from Marx's categorisation of the functions of capital, which he divided broadly into merchant bearing capital and interest bearing capital. First, merchant capital is a form of capital dedicated to the continuity of the economic activity of production through facilitating exchange and realising (surplus) value in particular. In Marx's view, merchanting covers the exchange of goods and the credit relations that accompany these processes. Merchant capital, although not producing (surplus) value, is subject to competition (tendency to equalise profitability within the sector and with productive capital).

On the other hand, interest bearing capital involves the buying and selling of money capital, the borrowing and lending of money in anticipation of interest from surplus value to be produced. Although Fine notes that these divisions between merchant and interest bearing capital are logical and clear as such, he clarifies that these forms of capital in exchange differ

from one another in two distinct ways. These are that one realises surplus value at the normal rate of profit while the other appropriates interest out of this surplus value. From what is left from the latter is derived ‘profit of enterprise’, distributed across other capitals and subject to the tendency for rate of profit equalisation. It is thus differentiated from the interest accruing from interest-bearing capital. Fine, drawing on Marx, adds a third form of capital, resembling merchant capital - money-dealing capital. It is a specialised capital for facilitation of trade in money assets.

Given the objective of this thesis, which is to link the finance-growth nexus argument to the productiveness of finance, it is indispensable to return to Marx. As appropriately noted by Christophers (2011, p. 114), a “return to classical political economy in general, and Marx in particular [...] would allow us directly to contest the representation of banks, and financial service providers more broadly, as economically productive. Such services, Marx held, entail the circulation of value but not its production, and thus these activities, and the wage-labour embodied in them, are categorically unproductive”.

In addition, Marx’s view of the different phases of capitalism and its contradictory nature is seen here as offering a good theoretical and analytical framework for understanding the crises attendant on finance. This is despite the position taken by some, such as Sardoni (2015, p. 144) who argues that “the structure and organisation of production as well as markets in contemporary capitalism are significantly different from those considered by Marx”, in that “the structural transformations [free-competitive capitalism to monopolistic competition] undergone by capitalist economies imply, in particular, that crises no longer take the form described by Marx”. As such, Marx’s political economy is deemed by some analysts to be unable to provide a developed explanation for the prolongation of the crises. Nevertheless, applying Marx’s method of historical materialism may offer an explanation which links historical and material specificities to explain economic phenomenon, including financial

expropriation and crises. It also allows for theorising based on common features historically associated with finance and manifestation of crises in the capitalist mode of production.

### **1.4.2 Financialisation**

The consequence of the expansion of dysfunctional finance is discussed widely, not least in reference to the term financialisation, a conceptualisation considered necessary in analysing the political economy of contemporary financial development, drawing from a combination of approaches but most prominently located (especially theoretically) in the Marxist tradition and theory of finance discussed above. This is however, not taken too far in this thesis. Nevertheless, there is the need to draw on the discussion on financialisation, because it allows for the relationship between finance and growth to be taken beyond narrow econometric estimations, and located within the broader implications of increasing financial deepening on development, including processes from which such implications are derived. More specifically, it allows for the (potential) negative manifestations of finance on development to be teased out empirically at micro and macro levels. This cannot be achieved in a strictly econometric estimation.

A starting point is Epstein's (2005, p. 3) most prominent and encompassing definition of financialisation, in which it is seen as "the increasing importance of markets, financial motives, financial institutions, and financial elites in the operation of the economy and its governing institutions, both at the national and international levels". This is simply to see financialisation as all manifestations of finance and its influences. Following this definition, the literature on financialisation flourished almost akin to how finance was manifest in all areas of the economy (and daily life).

Three schools of economic thought have been at the vanguard in this discussion – Regulationists, post-Keynesians and Marxists. Bonizzi (2016) points to the different emphases across these schools of thought. For the regulationists, it is placed on the set of policies and institutions that make a regime of accumulation possible. Post-Keynesians point to the rise of *rentier* capitalism in firms and its negative impact on investment. For Marxists, financialisation derives from interest-bearing capital and fictitious capital.

Fine et al. (2016, p. 13) note that “post-Keynesian approaches, for example, tend to see financialisation in terms of the impact of finance on levels of effective demand. This can come through distribution at the expense of wages, speculative at the expense of real investment or financial-interest induced austerity”. Here, the work of Magdoff and Foster (2014) is seen to delineate in detail the inherent potential of the capitalist economy to tend to stagnation and reduction in demand. Emphasis has also been placed on the rise in profits and income in the financial sector and its influence over other sectors of the economy by the post-Keynesians (Stockhammer, 2004).

Another way to view the financialisation literature is the scope of subject matter covered. First is the breadth of approaches, teasing out what are perceived to be essential features by drawing from a wide range of disciplines and a variety of approaches. Notably, for example, Stockhammer (2004) views financialisation as the penetration of finance into non-financial corporations. For Montgomerie (2009) and Dymski (2010), it is the penetration of finance into households through rising debt levels. Langley (2008) analyses financialisation as the increasing influence of finance in all areas of daily life. There is also analyses around the role of the state in advancing the influence of finance and markets in the economy (Duménil and Lévy, 2004; Pradella and Marois, 2013). Much focus has been on the role of financial corporations and their changing behaviours underpinning financialisation.

But much more than the increasing influence of finance in the macro economy and daily life, there is the need to continue to attend to the economic, political and social relations that underpin expansion in financial activities. Also, it is necessary that systemic understanding of the financialisation process is pursued, as maintained by Kaltenbrunner and Paineira (2016). Similar to this position, a second group aim for greater exposition of the detailed mechanisms or processes via which financialisation occurs.<sup>2</sup> This position moreover views existing studies of financialisation as having been unable to provide novelty or uniqueness in explaining the rise of finance. Similarly, Christophers (2015) cautions on the use of financialisation as inappropriate without detailed analytical consideration of money and finance.

Nevertheless, in linking the elements of the finance-growth nexus, including revisionism within it to developments in related areas, the combination of factors drawn upon are easily eclipsed within the scope covered by the financialisation narrative. Here, a link is made with the underlying neoliberal ideology and existing social relations to explain the increasing expansion of finance. The wide-ranging dimensions of the nexus considered in this discussion, with finance at the core, cannot be far removed from the various conceptualisations of financialisation. Also, the expansion of finance is not considered to be exclusive, but advances alongside other macroeconomic and social re-structuring. As Williams (2001, p. 567) notes, “it is imperative to investigate the conditions under which systemic transformation might occur”. So, it may not be enough to see expansion in finance and the impact of this on the macroeconomic environment, without understanding the processes, including social, through which these wide-reaching areas have become subjected to the control of finance.

However one chooses to define financialisation, it is hard to disagree with Ashman and Fine (2013, p. 156/7) who sum up the literature, and note that there has been “a shift in the balance

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<sup>2</sup> See Michell and Toporowski (2014) for an account.

of productive to financial imperatives within the private sector whether financial or not; increasing inequality in income arising out of weight of financial rewards; consumer-led booms based on credit; the penetration of finance into ever more areas of economic and social life ...; the emergence of a neo-liberal culture of reliance upon markets and private capital” and “its consequences have been perceived to be: reductions in overall levels and efficacy of real investment as financial instruments and activities expand at its expense”. For them, the defining attribute of financialisation is the “incorporation of these into further financial operations that constitute, at a deeper level, the extensive and intensive expansion of interest-bearing capital” (Fine, 2013, p. 56).

Thus, financialisation in this thesis derives from accumulation of finance and its transformation of economic and social life, to potentially be at the expense of productive output and development in poor countries. This may be linked to the increasing penetration of interest-bearing capital across economic and social reproduction and the increasing intertwining of financial and non-financial assets. Such intertwining of the financial with the non-financial is the case of GDP which measures the productive output of the economy but has become increasingly financialised. Financialisation is in fact considered broader than the above, and indeed it ought to be, given other dimensions from which it might potentially be analysed, such as the exploitation of labour by finance not least through stagnant real and social wages (Lapavistas, (2009b), and the approach of its impact across social and economic life, however simplistic. Notably, areas which finance now penetrates “were previously the preserve of other forms of productive and commercial capital” (Fine, 2009, p. 99).

Therefore, the discussion on financialisation is seen to easily envelope the breadth and length of the finance-growth nexus debate, more especially in the case of developing countries in which more finance is said to lead to growth without consideration of who it accrues, what sectors it flows to or impact on development. So, whether finance is seen to penetrate



households or it is unevenly distributed, with forms of financialisation unique in different context, its distinctive characteristic to expand disproportionately from real output is the context upon which financialisation is located here and the critical point of departure in this thesis, conceivably necessary both for analysing the nexus and the inclusion of finance as productive in GDP computation.

The term financialisation is drawn upon to emphasise the disproportionate growth in the accumulation of capital between finance and real output. This circumscribed location of financialisation is in relation to the overarching theme of this thesis, which is a critical re-examination of the productiveness of finance in the nexus, with financial intermediation value added in growth being the variable to be focused on. Accumulation in the manufacturing sector is used to analyse the decline in real output in the economy, and the case used to analyse such system of accumulation is bank credit allocation to the private sector in Nigeria. Bank credit will be seen to be disproportionately allocated between the productive manufacturing and non-productive services sectors, with much assigned to the former. The Marxist debate around the non-productiveness of the services sector supports this position, given its non-material output (see for example Vanoli, 2005; Chakraborty and Das, 2007; Rangelova, 2007; Basu and Foley, 2011; Assa, 2017)

Also, locating financialisation in neoliberalism would also enhance our understanding of the period that underpin the expansion and expropriations of finance, considering revisions made to GDP computation. Fine makes this link in locating financialisation as underpinning neoliberalism within a framework of the periodisation of capitalism (See chapter 5). This understanding of financialisation has been carefully used in this thesis as an anchor for locating the politics of productiveness of finance or more specifically the treatment of financial services in the Systems of National Accounts. As such, the consensus reached in the early 1990 in the computation of National Accounts globally, may be neatly located under the concept of

financialisation, in which otherwise non-productive finance is incorporated into productive output and subsequent revisions aim to capture all manner of financial assets (see Christophers, 2011; Assa, 2017. Similar arguments can be found in Porter, 1995; Godley, 2001; Ertuk et al., 2007; and Callon and Caliskan, 2009). This is taken up in chapter 5.

So, while a major contribution of this thesis is an econometric re-estimation of the nexus, the new GDP variables used for such re-estimation is underpinned by the concept of financialisation, in that it allows for questioning the possibility of the non-productiveness of financial intermediation value-added in GDP. Financialisation, thus allows for the potential dysfunctional aspects of finance in output (see for example Basu and Foley, 2011) to be factored into the nexus literature, on which basis financial intermediation value added is then separated from GDP before econometric re-estimations are embarked upon, albeit in the traditional mainstream manner. In short, financialisation is the anchor upon which the political economy of the finance-growth nexus analysis is here located.

### **1.4.3 Financialisation in Development Context**

Financialisation in the context of developing countries can be linked to the political economy debates around capital market integration and account liberalisation (Cohen, 1996 and Rodrik, 1998) and discussions around the risks associated with globalisation and neoliberalism which started to gain a strong foothold in the 1990s (Palma, 1998 and Taylor, 1998). This was re-emphasised as the reality of the East Asian financial crisis hit hard (Kregel, 1998, Dymski, 1999; Arestis and Glickman, 2002).

One argument that has come to the fore is the increasing exposure of developing and emerging economies to advanced capitalist economies. This is shared by Kaltenbrunner and Paineira

(2016, p. 4), who point out in the case of Brazil, that financialisation in developing countries is shaped by their integration into a “structured international monetary and financial system”. But, amidst this integration into the global circuit of finance, needed development continues to be far-removed from African countries and uneven development further realised, due largely to the shift of finance from productive to non-productive activities in these markets. Similar studies which analyse financialisation in developing and emerging economies include Levy-Orlik (2012) and Powell (2013) for Mexico, Araujo et al, (2012) for Brazil, Gabor (2013) for Romania and Karacimen (2014) for Turkey.

In the above analyses, financialisation is seen to be an instrument that advances the Marxist position of uneven development as earlier established by Pike and Pollard (2010). “Emphasis is placed upon the capitalist economy as organised around the accumulation of capital through the production, circulation, and distribution of (surplus) value as a totality of economic relations, processes, structures, dynamics, and corresponding agents” (Fine, 2013 p. 48). In analysing the relationship between finance and growth in Africa therefore, it is necessary to recognise how surplus capital is being expropriated by the private sector amidst the narrative for financial inclusion. The key element amidst financial deepening in Africa becomes the expanding influence of finance, and the impact this has on Africa’s broader development. Much work needs to be done in teasing out the processes of financialisation in this context.

Nevertheless, the dysfunctionality of the financial inclusion agenda is seen in studies by Griffith-Jones and Karwowski (2013), which confirm that despite growth in credit to the private sector in sub-Saharan Africa, access to finance by firms, especially SMEs, remains difficult. Since most finance directed at inclusion is not necessarily used to fund SME investments but for consumption, these fall under household debt. Soederberg (2013) shows that even some lending by IFIs such as the International Financial Corporation (IFC) is diverted away from real investment. Notably, rising household debt is believed to be a major source of

financialisation, since there is a tendency for these loans to be unrepaid (Karwowski and Stockhammer, 2016). This is evidence that finance continues to outgrow the real economy and consequently remains estranged from development. It also means that credit is rather channelled towards speculation and short-term investments for profiteering. Suffice to add that even the excessively high interest rates in the African financial system, albeit in sometimes one-off loan transactions that do not necessarily involve asset speculation, confirms the extraction of surplus profit.

In view of this, extension of credit to the poor mainly serves as a means to broaden the reach of finance without delivering development in these countries. But the call for financial development continues, as seen in the implications of the threshold analysis of the nexus, in which finance is maintained to contribute to growth. Marois and Pradella (2015) are of the position that the insistence on a positive relationship in the nexus for low- and middle-income countries is due to the recognition of the increasing importance of emerging and developing countries in the sustainability of financial capitalism in the neoliberal era. They elaborate that as such, economic theory is used to advance policies that promote high savings, capital accumulation, sovereign wealth funds, massive buffers of external reserves, capital projects around natural resources, unregulated capital markets and the transfer of short-term funds from low interest rates in the USA and the global north to these countries with higher interest rates.

The distinctiveness of exploitation of interest rate differential by foreign and domestic companies, and the attendant exchange rate volatility that arises from this cannot be overemphasised. It has served as a main rallying point for some of the literature on financialisation in developing and emerging economies (Powell, 2013; Kaltenbrunner, 2015; Kaltenbrunner and Paineira, 2016) underpinned by the flow of capital into these countries. Nowhere is this manifestation of financialisation more defined by this process than in African countries, where interest rates are higher than in advanced economies, and thus attract finance

from abroad in the name of foreign investment, with the presumed rationale of generating development. Indeed, Becker et al. (2010) categorise high interest rates in developing countries as closely aligned to interest-bearing capital.

Given the above processes, development is undermined in what is here referred to as the financialisation of development. Financialisation of development therefore, describes the new meaning ascribed to development. It may be seen as the growing focus on financial expansion and the misplaced belief that development can be achieved solely through financial development policy (see for example, African Development Bank, 2014, and Central Bank of Nigeria's Financial Inclusion Strategy, 2016). It is the pursuit of financial expansion rather than more comprehensive development approaches.

The financialisation of development may be further characterised by the increasing exclusion of the state from the development space, as evident in Africa, and its replacement with private capital. By so doing, it aims to broaden the reach of finance by capturing and including the (unbanked) poor in developing countries into the cycle of financial expropriation. This is achieved through access to credit and all manner of financial innovation, without consideration of the existing social structures in these countries that tend to lead to the misallocation of finance. Inherent in the process, is the potential for deindustrialisation and to undermine development through high interest rates that support only unsophisticated businesses and to re-direct capital away from developmental investment like basic infrastructure and into the financial system, for speculative purposes and profiteering. This phenomenon, evident in Africa, has in other contexts been referred to as the 'securitisation of development' (Soederberg, 2013) and the 'marketisation of development' (Berndt, 2012).

## **1.5 Organisation**

This thesis is organised as follows: a critical analysis of the finance-growth nexus literature is presented in the following chapter, touching on the evolution of the proposition that more finance produces growth. This argument, undergirded by the market efficiency hypothesis, will be argued to have been propagated through four separate but intertwined aspects: disaggregation of forms of finance; disaggregation of channels of transmission and effects (to growth and/or other positive outcomes); change in economic theory, especially through market imperfection economics with both Efficient Market Hypothesis (EMH) and Inefficient Market Hypothesis (IEMH) being based on individual optimisation and limited acknowledgement of the systemic analyses of finance, pinnacling with the global crisis; and increasing unavoidable empirical developments in the literature. The disaggregation is, nonetheless, seen to be short of a robust analysis of causation, since its econometric approach ignores any discussion on factors that may be causal for the process of financial expansion, and indirectly or directly impact the nature of the relationship between finance and growth.

Chapter three critically examines the threshold literature in the finance-growth nexus argument which emerged in response to the financial crisis. Its implications for development and the continual location of the nexus on econometric analyses is used as a critical point of departure. This is followed by chapter four, which analyses the nature of financial development in Africa and its implications for development. This discussion is narrowed down to developments in capital markets and banking in Nigeria to further elaborate on the nature of financial development in Africa. Chapter five critically revisits the argument on the productiveness of finance or not and the inclusion of value added of financial services in GDP, pioneered in the study of Christophers (2011). Here, revisions in computation of financial services in the Systems of National Accounts (SNA) and the objective of making finance productive is first linked to the finance-growth nexus, not least how both arguments have been used to support

one another. Second, the treatment of finance in the computation of GDP is located within the discussion on financialisation in order to better understand it.

An empirical re-estimation of the threshold analysis of the finance-growth nexus is carried out in chapter six. This is done with the aim of expanding the understanding around the nexus, having excluded non-productive finance from output before re-estimation. Cross-sectional and panel regressions are employed, as developed in the threshold analysis of Arcand et al. (2011). Chapter seven draws on the findings of this study and suggests areas of further research.

## **Chapter 2.0 – THEORETICAL REVIEW**

### **2.1 Introduction**

The continuous evolution of the finance-growth nexus argument has, following the financial crisis, brought the theory to a phase, in which the claim can no longer be made, even by mainstream literature, that finance has an unambiguously positive relationship with growth. In particular, financial development does not contribute to growth at all levels of economic development. At best, the nexus is now alleged by economists of different schools of thought to be dependent on a range of factors specific to individual country levels and conditions of development (Beck and Levine, 2004; Rioja and Valev, 2004b; Ahlin and Pang, 2008; Ductor and Grechyna, 2011; Bhatti et al., 2013). This understanding of the ambiguity in finance-growth relationship has been located in terms of threshold analysis for identification of trigger points at which the nexus shifts from positive to negative or vice-versa for development (Yilmazkuday, 2011; Arcand, et al., 2012 and Barajas et al., 2012).

The purpose of this chapter therefore, is to trace the stages through which the finance-growth nexus theory has evolved and how the threshold argument came about as the most recent manifestation of framing the nexus. This evolution has journeyed through a number of aspects starting with the simple proposition that finance has a positive relationship with growth as denoted in the works of Schumpeter (1911) and Gerschenkron (1952). However, the nexus literature that came afterwards, inspired by the works of McKinnon (1973) and Shaw (1973) did not only ignore previous works on the relationship between finance and growth but had a fixed objective to legitimise the claim to the notion of a strictly positive relationship for liberalised financial markets – (only) guaranteed to be good for development if unconstrained by state interference. Such predisposed approach to the nexus became common practice for its



subsequently revised theoretical underpinnings and has been carried on to more recent literature of the finance-growth nexus.

The nexus literature also considerably narrowed, especially initially to the skimpiest of skeletons, the terms of finance-growth theory to debates on narrowly conceived causal connections between the two. And this has remained a major point of focus within the nexus argument (Levine, 1997; 1999; Levine et al., 2000). But it has been contested. In contrast to the claim of a finance-causing growth relationship by most mainstream literature. Fitzgerald (2006, p. 2) maintains that “the channels of causality between finance and growth remains thematically and empirically unresolved and the form of financial institutions to maximise economic growth is unclear as there are hardly any theories that address whether banks or capital markets are more efficient in allocating resources”.

Following the debate on causation, subsequent revisions of the finance-growth nexus literature sought to refine the relationship through addressing the unduly homogenising or amorphous reference to finance in the nexus by disaggregating the forms through which finance is deemed to contribute to growth, or not. In addition to such disaggregation in the analyses of the mechanisms of transmission from finance to growth and development, the nexus was also situated in the context of other factors, both economic and social, that might be thought either to condition the nexus or to be its underlying source. The inclusion of these factors, such as income, investment, physical and human capital, institutions and productivity among others, were then treated in the literature to be part of the nexus in their own right, and justified mostly by being randomly netted out within empirical modelling used to analyse the relationship between finance and growth. For example, the link between finance and growth for De Gregorio (1996) was through a three-step process of human capital development; that guarantees higher savings and; secures future consumption for growth. But as will be argued in this chapter, this disaggregation was only a bid to defend against the emergent flaws in the

finance-growth theory which became apparent in financial market volatility, yet failing to achieve this objective because of the neglect of the increasing contextual complexity of finance and growth across space, time and form. In other words, one relatively simply causal nexus was replaced by another that was both more complex and flexible in terms of conditioning variables but otherwise as deterministic as previously.

A closer scrutiny of the empirical methods used to establish the finance-growth nexus, and the corresponding results that have followed, also illustrates the extent of this complexity, evidenced by the mixed and sometimes conflicting outcomes. Thus, the methodology by which the nexus was thought to be justified is further argued in this chapter to be inconsistent, yet predictable, not least in the unremitting objective of teasing out a simple alliance between finance and growth, however much buried within statistical complexity. In addition, while the nexus theory will be seen to be established mainly by the results produced by correspondingly inadequate empirical methods, the experience of financial markets and countries caught up in this interaction between finance and growth at different periods of development have continued to provide swelling evidence contrary to the empirical results produced. More finance has, in addition to market volatility, stalled development in many countries which not only questions the validity of the method used in obtaining positive results but also indicative of the elusiveness of a positive relationship between finance and growth.

The literature on finance-growth nexus theory is also contended in this thesis to have been extended through incorporation of the market imperfections approach and a corresponding shift from the Efficient Market Hypothesis (EMH) to its modified form in what Fine (2013) refers to as the Inefficient Market Hypothesis (IEMH). This was an opportune application of the longstanding asymmetric information microeconomics, already applied to financial markets, in the face of extreme market volatility and failure. Yet, there has been earlier market imperfections literature addressing the finance-growth nexus, not least in terms of debates on

market- versus bank-based systems of finance (Fine, 2007, appendix 1, p. 4). This literature, however, was more systemic in content, emphasising the institutional and interest group aspects of the nexus. By contrast, its resurrection through asymmetric information offered an example of what Fine (2010) dubs Bringing Back In (BBI) what had been excluded by the EMH, but doing so in the analytically reduced form of imperfectly informed and coordinated optimising individuals.

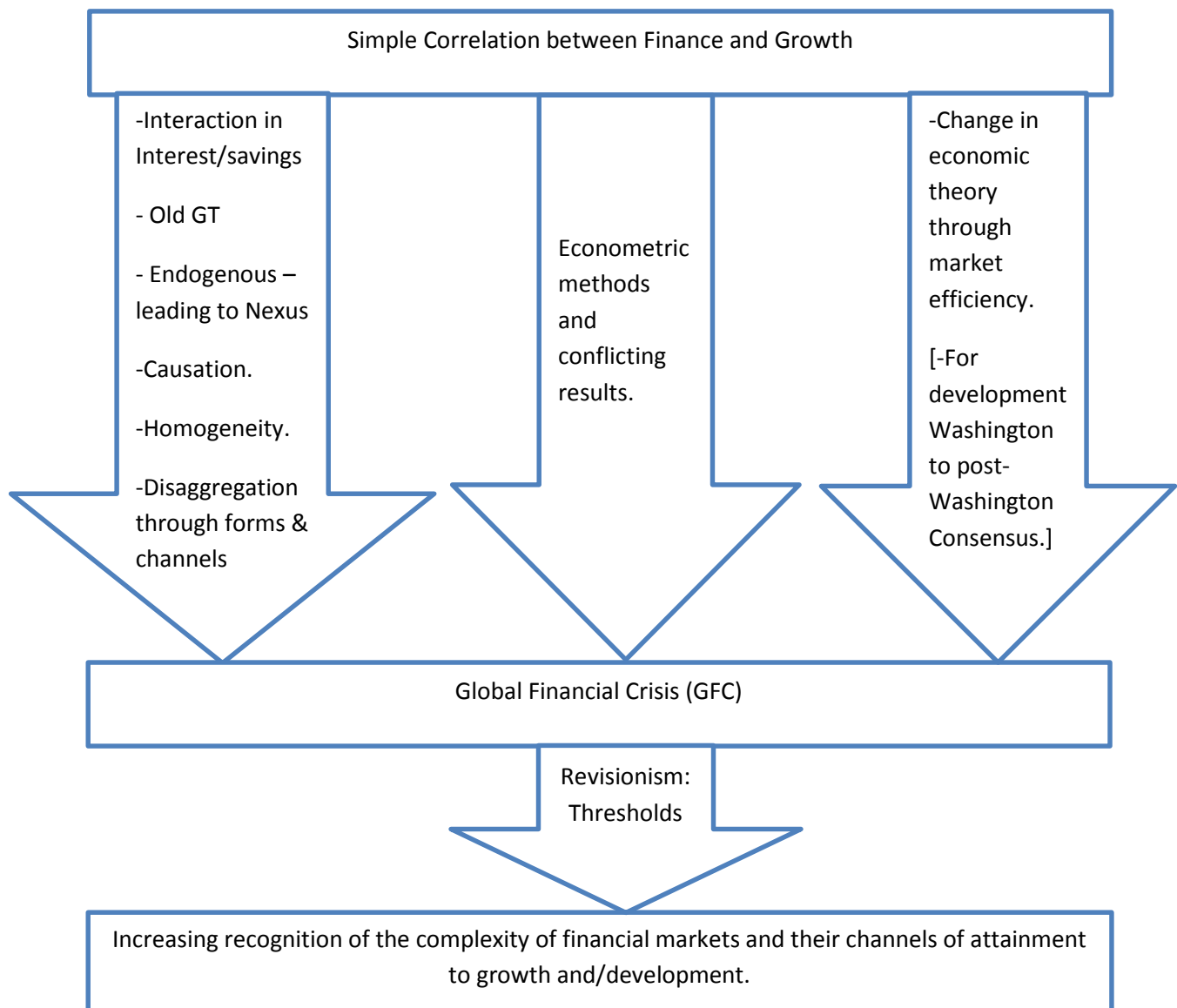
As will be seen, the scholarship and rhetoric surrounding market imperfections was well-represented in the nexus literature leading up to the 2008 financial crisis. Thus, the GFC became an important definer of the landscape in the nexus literature; a culminating point for the study of the interaction between finance and growth. While there has been some attention in the mainstream literature on the finance-growth relationship following the crisis, these are mostly narratives that dwell on ‘causes and effects’. Some of these do, however, start to question whether there can be ‘too much finance?’, with the aim of determining the threshold at which the marginal effects of more finance begin to have a significant negative impact on growth (Rousseau and Wachtel, 2011; Yilmazkuday, 2011; Barajas et al., 2012; Arcand et al., 2012). This will be taken up in detail in chapter 3, which is an extension of the literature review. Therefore, the GFC is seen in this thesis as the tipping point from which the finance-growth nexus could no longer be pursued in its traditional manner, of estimating more or less complicated linear models, but proved in need of revision (Arcand et al., 2012, p. 4).

The framework for organising this literature is depicted by Fig 2.1, and herein lies the contribution made to the nexus literature in this review. It brings together the literature on the finance-growth nexus within a recognition of the broader link from its simplistic correlation, to causation and eventual disaggregation by forms of finance and channels of impact, throughout these stages underpinned by developments in old and new economic growth theories. It also shows how the market efficiency theory retained a positive nexus despite shifts

in the theory. These changes continued until the financial crisis compelled a revision. However, the main apparatus for maintaining a positive nexus is seen to be through econometric techniques. As a limitation of these methods, the nexus has thus been reduced to quantitative elements without consideration for other broader causal factors of finance and growth. This analytical framework helps to show that other factors may be causal for both finance and growth, and yet more, affect the relationship, even econometric results. But these have been mostly ignored in the literature.

The rest of this chapter is organised as follows: The following section 2 reviews the simple correlation of the finance-growth nexus literature. It discusses the theory underpinning the nexus, including its causation argument and the consequent homogenisation of finance in section 2.2. This is followed by a review of the literature on disaggregation of the forms of finance in section 2.3, located heavily in the market- versus bank-based debate of the nexus. Section 2.4 analyses further disaggregation of the nexus in the literature on transmission mechanisms of finance to growth. A critical analysis of the empirical methods used in achieving mostly a positive correlation of the nexus is then analysed in section 2.5. Section 2.6 reviews the literature on changes in the economic theory of finance within the shifts from efficient to inefficient market hypothesis arguments. This is followed by a critical analysis of the GFC in influencing yet another necessary revision in the finance-growth theory in section 2.7. Section 2.8 concludes.

**Fig 2.1 An Analytical Framework of the Finance-Growth Nexus.**



Source: Author's arrangement

## 2.2 Finance-Growth Nexus Theory

The preponderance of theoretical and empirical literature on the finance-growth nexus shows that economists have always held startlingly different views on the relationship between both variables: the impact of one on the other, the direction of causation and the factors that play a

role in determining or conditioning the nature of the relationship. While approaches and methods around the literature have generally been similar, the positions taken by economists on the nexus have differed even if with a dominant core of an unrelenting commitment to a positive relationship between finance and growth. Despite this, the arguments on both sides of the debate will be analysed, in keeping with the objectives of this thesis, to understand the variegated nature of finance and its impact upon economic performance, of which growth is but one aspect.

The long-debated relationship between finance and economic performance has not always necessarily taken the nexus form (see for example Schumpeter, 1911; Robinson, 1952; Minsky 1974). Much of the earlier debate has now been stripped down, forgotten and reduced to the nexus. The inclusion of finance in growth theory was initially anchored on the understanding of the functions of money (derived from Keynes' motives for holding money) to include: facilitating payment for future and unforeseen circumstances; cash for current production; and for reducing transaction cost. Here, finance plays a major role for growth, in the neoclassical textbook manner, by increasing savings for investment, increasing efficiency of allocation of resources for production, and increasing the turnover rate of such savings. Goldsmith (1969) stressed the marginal productivity of capital as the channel for financial repression, and that low interest rates setting discourages investments. Thus became established the putative connection between finance and growth.

The finance-growth nexus argument by McKinnon (1973) assumes money and physical assets to be complementary. He argued that the increase in real money stock  $M/P$  will increase investment and consequently lead to growth (Keynes effect). This was derived from the Solow growth model with the assumption of constant savings ratio  $s$ , an increase in total savings shifts the investment curve upwards, so that constant capital  $k^*$  rises above initial capital  $k$  and actual

investment is greater than break-even (i.e.  $k > 0$ ) at this level until balanced growth is reached.<sup>3</sup>

In the long run, however, changes in savings rate will have only a level effect on per capita growth (Jorgenson, 2005). “But, as in the long run, the presumption in the short run is that all resources are fully employed, and that savings both drives the level of investment and is fully converted into investment” (Fine and Dimakou, 2016, p. 49). However, if finance is to explain economic growth, there have to be theories that illustrate the process by which financial development influences allocation decisions of savings for productivity growth to occur, since physical capital accumulation which is assumed to exert a permanent effect on long-run growth rate, cannot alone, account for long-run economic growth. Simply put, what factors determine savings?

Still, financial development was considered to be exogenously determined by government regulation and control – what McKinnon (1973) and Shaw (1973) call the degree of financial repression (Bencivenga and Smith, 1991), comprising interest rate ceilings, high reserve requirement and restrictions on credit allocation. This, they argued, caused low savings and investment, and was responsible for the poor performance of growth in developing countries and globally in the 1950s and 1960s. McKinnon insists that, rather than curtailing inflation by reducing the real stock of money  $M/P$ , countries should, as a policy response, try to increase the demand for cash balances by increasing interest rates, thereby encouraging savings. An increase in savings will therefore increase the total real supply of credit, which will induce a higher volume of investment. His main argument is that there should be no quantitative restriction on credit as finance is a major pre-condition for growth and, as such, should not be repressed in any manner. In the same vein, Shaw (1973) agreed with McKinnon that a liberalised economy increases deposits, adding that financial liberalisation will promote competition and increase efficiency in the financial system. He also argued that a free-floating

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<sup>3</sup> See Fine and Dimakou (2016, Chapter 4) for an expanded discussion including critique of this theory.

interest rate extends the loanable funds supply which in turn increases investment in the economy.

However, Bandiera et al. (2000) criticised McKinnon and Shaw for not taking into consideration the ambiguous nature of interest rates in promoting economic development. Such ambiguity is informed by broadening the scope of the analysis and the role of interest rates and money market within it. Systemically, raising the interest rate to promote financial development may not guarantee a corresponding increase in savings and economic development, since it involves interactions with other factors, such as aggregate levels of consumption, investment and inflation. The impact on these other factors may stall growth. For example, an increase in interest rates to enhance savings and curtail inflation may be at the expense of immediate consumption which is necessary to boost economic growth through aggregate demand. Consequently, a reduction in consumption will lead to a reduction in long-term income as well. Furthermore, “abrupt increases in interest rates cause the exchange rate to appreciate rapidly thus damaging the real sector” (Arestis and Sawyer, 2005 p. 12). Therefore, interest rate changes that may be deemed pivotal in developing the financial system will be insufficient or in some cases negative for economic development. Arestis and Sawyer (2005) show that in a bid to demonstrate that a positive relationship exists between finance and growth, the empirical literature is ambiguous and unable to explain what they term *hedge and curb effects* – the fact that high interest rates from financial liberalisation have in some cases decreased the supply of credit as opposed to increasing it.

Apart from this, McKinnon and Shaw’s finance-growth nexus argument was also imbued with the notion that liberalised financial markets are efficient in allocating resources to the most productive investments and, therefore, lead to economic growth. Following their thesis, free-floating interest rates policy became the model for more liberalised financial markets. But this argument has many flaws: first, it was obviously without any consideration for the instability



experienced in financial markets. Arestis and Demetriades (1998) note that the impact of adopting financial liberalisation policies as recommended by McKinnon and Shaw has been at the core of the frequent banking and financial crises of the last 30 years, which have come with real economic costs. Second, the argument makes no distinction between volume and development of finance, which they use interchangeably. Here, the size of financial intermediation is erroneously conflated with financial development.

Furthermore, Arestis and Sawyer (2005, p. 17) argue that the McKinnon-Shaw model, which directly links savings and investment, is flawed because “savings cannot finance capital accumulation; this is done by the banking sector, which provides loans with which investment expenditure is financed, without necessitating increases in the volume of deposits [...]. A second problem with the McKinnon-Shaw model is the assumption that deposits create loans. In modern banking systems, including most LDCs, loans create deposits not the other way round.”

FitzGerald (2006) also disagrees with the savings-investment theory of finance. He is of the opinion that there is little evidence that financial liberalisation has resulted in higher savings rate. Higher savings may be as a result of value simply changing from one form to another, and not necessarily of new savings generated from investment. For example, precious metals, commodities and other properties may be converted to bank instruments and other non-metallic securities. Second, financial liberalisation can also increase access to consumer credit and loans, without necessarily generating more savings through interest ceilings. The increase in savings may well depend on other factors as demographic and tax influences on pension provision, funding for health and education, family organisations or ownership structure of corporations (taken up in figure 2.4 below). As such, the only real advantage of financial development, according to him, is the spreading of risk between borrowers and lenders as financial institutions become available.

The responsiveness of accumulated savings to interest rates was investigated by Fry (1997) who found that higher interest rates will only stimulate savings and impact growth positively through what he calls the *efficiency channel*. That is to say, accumulated savings from interest rate adjustment still needs to be channelled to the most productive investments, if financial development is to have any positive impact on growth, and the idealised efficacy of the financial system does not in itself guarantee such.

Following displacement of old by new growth theory, the nexus argument from the mid-1980s continued the tradition of linking economic growth to financial development through savings and its efficient allocation to investment (Pagano, 1993). As a core assumption of endogenous growth theory, there is not necessarily diminishing marginal social returns to capital at the aggregate level. Increasing savings, therefore, is expected to exert a long-run effect on the steady state growth rate, with major contributions from Greenwood and Jovanovic (1990), Bencivenga and Smith (1991), and Pagano (1993).

But, as with earlier contributions, Levine (2005, p. 870) points out that the nexus theory must be able to “describe how financial development influences resource allocation decisions in ways that foster productivity growth and not aim the analytical spotlight too narrowly on aggregate savings” if finance is to have a positive influence on growth at all levels of development. The nexus also needs to show how higher returns “affect savings due to well-known income and substitution effects” and “how lower risks ambiguously affects savings rates.” King and Levine (1993) also consider financial development as endogenous but go beyond savings to other measures of financial development which they found to be highly correlated with future rates of capital accumulation and investment. In the same tradition, Pagano (1993) and De Gregorio (1996) emphasise that the allocation of investment in human and physical capital would lead to economic growth. In particular, it was argued that financial development that promotes the accumulation of human capital by way of skills acquisition will

lead to economic growth, since human capital accumulation is not subject to diminishing returns at a social level. Similarly, with respect to capital accumulation, Arestis and Demetriades (1997) and Rajan and Zingales (1998) link financial development to the financing of firms.

It became easy for the literature to make the connection between finance and growth. Fine (2000 p. 260) notes that any short-run negation of the neutrality of money, as in most macroeconomic theories, especially in the presence of micro- as macro- imperfections, is readily translated into growth effects through a variety of indirect mechanisms as the level and composition of savings and investment are affected. These studies, therefore, established a broader theory for well-functioning financial systems and pointed to the channels (taken up below) via which finance affects growth positively. Thus, the argument continued for unrestricted financial investment that then allows for an increasing marginal productivity of capital, as underpins the endogenous growth theory.

Thus, endogenous growth theory generally advocates that financial development, irrespective of whether it is through banks or stock markets, is important for economic growth for generating savings and mobilising them as (increasing returns on) investment. The nexus, underpinned by endogenous growth theory and the functions of the financial system further conceived that financial institutions were more productive investors than individuals because of their ability to better identify the most efficient and productive investment; reduce the cost of costlier external funding relative to internally generated funding for the firm. Therefore, a higher rate of return is guaranteed with financial institutions, thereby impacting growth positively.

But the endogenous growth theory on which finance-growth nexus became anchored was itself problematic. This is because it “was heavily implicated in the traditional and strengthening

microeconomic foundations of neoclassical economics” (p. 246) – the use of representative optimising individuals, full employment at all times and the microeconomics of market imperfections.<sup>4</sup> One implication of this approach as pointed out by Keen (2011, p. 323), and as will be seen within the nexus, is that it refuses to model economic processes at an aggregate level of the economy. Rather, it reduces economic processes to one-way relationships, neglecting their aggregated nature with other variables.

### **2.2.1 Causation in the Finance-Growth Nexus**

As with endogenous growth models, the literature on finance and growth was quickly drawn to previous causation debates, with the presence of finance becoming a major causal explanatory factor for development or absence of financial development for lack of development. Earlier causation debates attempted to justify logically and theoretically whether one caused the other. An early theoretical presentation of causation is observed in the work of Robinson (1952), who argued that economic growth preceded financial development. According to her, increase in production will cause a corresponding demand for financial intermediation to meet the increasing levels of production. By this simple logic, growth preceded and stimulated financial development. The evidence for Robinson’s argument is found in the work of Chandler (1977) which suggests that the financial sector in the United States in the nineteenth century, made up of investment banks and the corporate bond market, emerged to meet the financing needs of the transport sector as railroads were being developed.

A theory of causation for the nexus was put forward by Patrick (1966) who identified two possible patterns, one being *demand-following*. In this case, growth in the productive sectors

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<sup>4</sup> See Fine (2000) for an expanded discussion on the limitations of these assumptions in microeconomics and economic theory in general and their implications for the discipline as a whole.

of the economy would require corresponding financial intermediation to meet the ensuing demand for financial transactions which would in turn cause financial development. He also argued that causation could be *supply-leading*, in which case, the flow of finance and financial sector development stimulates real investment and causes the economy to grow. He further adds that whether causation will be demand-following or supply-leading will depend on the stage of development of a country. Hence, for him, low-income countries will generally exhibit supply-leading causation while advanced economies will be demand-leading. He added that causation in the nexus in the case of middle-income countries may be unidirectional, which means that an equal interaction between finance and real investment could cause economic growth.

A lot of the earlier empirical studies admitted some level of complexity in establishing whether financial development causes growth or vice versa, whilst remaining committed to its being one or the other (Goldsmith, 1969; Fritz, 1984; Jung, 1986; Demetriades and Hussein, 1996; Arestis and Demetriades, 1997). Nevertheless, one of the earliest empirical attempts at assessing causality, carried out by Fritz (1984) using the Granger Causality (GC) test to investigate Patrick's hypothesis of different directions of causality at different stages of development, found, as suggested by Patrick, that at an early stage of development, financial development causes growth and vice versa at a later stage. In another attempt to test Patrick's hypothesis, Jung (1986) also using GC found evidence to support the claim that financial development leads economic growth. This was found to be true for both low- and high-income countries, although stronger in the former.

The finance-growth nexus literature then started to draw on the differences in causality for developing and advanced countries but mostly concluded that, while developing countries exhibited a *supply-leading* type of causality, advanced countries exhibited more of a *demand-pull* causality (Jung, 1986; Roubini and Sala-i-Martin, 1992; King and Levine, 1993). This

differentiation between causality in developing and advanced economies, meant discarding the arguments of the new development economics with its deductive and reductionist empirical approach and over-simplistic position on causality, in which one-size-fits-all. However, the uniformity of causality for different countries, whether they are within similar levels of development or not, ignores the heterogeneity evident across them.

Apergis, et al. (2007) have categorised the causation arguments in the nexus into two schools of thought: one, being those who argued that causation was mutual, and the other which argued that there was no evidence at all that finance and growth had any causal relationship with one another (see for example, Lucas, 1988). Despite this, Levine (2005) maintained strongly that, since evidence abounds that financial markets and institutions are an important part of the growth process, the level of financial development is a predictor of future developments and technological innovations. He adopted the position that developing countries' per capita GDP would grow faster if they increased their financial depth. He argued that countries with more developed financial systems and more access to financial capital have grown faster than those with less developed financial systems and relatively constrained access to finance.

Empirical analysis of causality became established with King and Levine (1993) who, on the basis of the Granger Causality approach which uses the *post hoc, ergo propter hoc*,<sup>5</sup> tested the direction of causality between finance and growth for a period of between ten and thirty years. This approach (as with most causality tests) more or less investigates the predictive power of financial development on growth by regressing initial values of financial development on the average growth rate of the following period. They regressed financial development values in 1960 on average growth rate of the following decade and found financial development to be a

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<sup>5</sup> Latin phrase for “after this, therefore because of this”, which is a logical fallacy of causation that assumes sequence to be integral to causation. For example, if event X precedes another event Y, therefore Y must have been caused by X - does not follow just as a hurricane warning does not cause a hurricane!

good predictor (said to be causal) of growth. Similarly, Levine and Zervos (1998) found that stock market liquidity, but not size, is causal for economic growth. Rajan and Zingales (1998) also discuss causality based on the assertion that industries dependent on external finance grow more in countries with larger financial sectors, as such, causality must be from finance. Levine et al. (2000) and Beck et al. (2000) though use different econometric methods to show finance is causal for growth.

Nevertheless, Arestis and Demetriades (1999) show that the cross-sectional work of King and Levine (1993) is insufficient to address causality in the nexus by pointing to its flaws. These include the unsatisfactory use of cross-sectional data to address causality due to variability across different countries. Arestis and Sawyer (2005, p. 8) point out that “once the contemporaneous correlation between the main financial indicator and economic growth has been accounted for, there is no longer any evidence to suggest that financial development helps predict future growth.” This is so, because the GC is an empirical method that only shows whether past values of one variable help explain future behaviour of the other, within certain assumptions. It neglects the possibility that a variable might behave in a certain way today, in anticipation of the future, and not necessarily always in reaction to past influence from another. It is also unrealistic to assume that a variable in one period would continue to Granger Cause the other over the (extensive) period covered in the data, since other factors set in with time. In addition, the GC test has been contended to be applicable to only large sample sizes, given that the co-integration technique used requires a long series of data to establish causality (see for example, Narayan and Smyth (2005),

The issue of reverse causality remains problematic in causality studies, as it may be the case that financial markets develop in response to economic growth or its anticipation. This point has only been simplistically acknowledged in the literature. For example, Rajan and Zingales

(1998) use difference-indifference<sup>6</sup> models applied to industry-level data to address reverse causality. Barajas (2012) points out that much of the nexus regressions, more commonly, engage in the practice of regressing growth rates over relatively long periods on initial values of financial development, in order to address potential reverse causality (see for example, Beck et al., 2000). Given the agreement on the possibility of reverse causality, one implication is that financial development is being induced by greater demand for financial services as the economy grows.

Another issue addressed in the nexus regressions is simultaneity bias, which arises from either reverse causality or omitted variables. A common method for controlling for simultaneity bias in the empirical literature is through Instrumental Variables (IV). It is assumed that such a variable is independent of, at the same time helps to explain, cross-country differences in financial development, and is exogenous to growth. Thus, the conventional choice of IV in the finance-growth nexus literature is a measure of legal origin (see for example, La Porta et al., 1998; Levine, 1998; Levine et al., 2000; Demirguc-Kunt and Levine, 2001). The notion is that laws and traditions underpin investor friendliness. These are also said to predate financial development, which has been allegedly located around the industrial revolution. These laws, derived from British, French, German or Scandinavian legal systems, are said to be independent of finance and exogenous to growth, as such, form a causal link between finance and growth.

Markedly, similar variables to legal origin, such as legal investor protection and regulatory environment – which in themselves derive from legal origin – have been modelled as possible links to growth (Berglof and Bolton, 2002) in the disaggregation of the channels of impact of finance, as discussed below. As such, the condition of exogeneity of legal origins to growth is

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<sup>6</sup> A statistical technique that attempts to analyse differential effects on groups of observations, say treatment versus control groups.



in question. More theoretically, Qin et al. (2016) challenge the econometric validity of using IVs on the basis that it cannot be applied to multivariate regressions since the textbook proof of its consistency is limited to bivariate analysis and does not extend to multivariate models (as in most nexus estimations).

Therefore, the causality theory of the finance-growth nexus theory, like other mainstream economic theories of causality, is an empirical method premised on an axiomatic method of economic deduction, which assumes a manner of proposing that one thing causes the other without taking into account the systemic, social and historical conditions of such relations. The finance-growth causality, can therefore be faulted for lack of a convincing theoretical and empirical foundation. As such, it is insufficient to establish that finance causes growth.

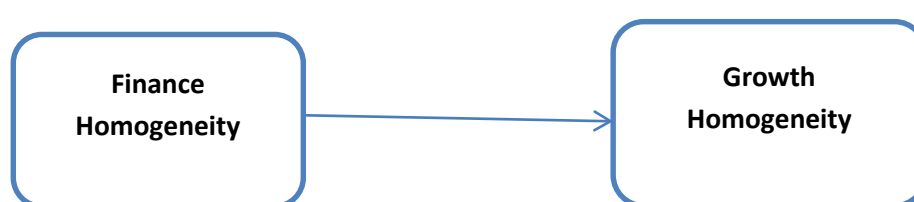
### **2.2.2 Undue Homogenising of Finance and Growth in the Nexus**

The consequence of the simplistic nexus and its consequent causation theory in the literature, was the undue homogenisation of both finance and growth. This narrowed drastically the complexity of causes, effects and their diverse nature, which is underpinned by uneven development of finance across space, time, form and structure (of activity). For example, Levine (2000, p. 4) observes that most cross-country analyses assumed the same financial structure and depth for different countries, ignoring the heterogeneity of financial activities in these countries. These could range from market takeovers as corporate controls in the USA, the extent to which banks own shares or vote proxy shares as in Germany, bank ownership by corporations in Japan, and so on and so forth, across countries.

Also, Bezemer, (2013, p. 3) points out that there is no distinction in the literature between credit flows that support growth in the real economy and credit flows that speculatively inflate the

value of financial assets. An appropriate distinction will show that credit to the nonfinancial or real sector directly translates into growth while financial credit – i.e. credit to the finance, insurance and real estate (FIRE) sectors does not. It is regarded as the economy’s net build-up of debt, and the cause of financial fragility and instability. For example, “prolonged booms in mortgage flows and consumer lending tend to create larger net debt burdens than lending to non-financial businesses” (p. 4). The creation of futures or debt claims and credit instruments in excess of current output have also been found to lead to financial instability (Fink et al., 2006). The tendency of some forms of debt instruments to appreciate in value (through sheer speculation) without necessarily contributing to the real economy is implicitly presumed irrelevant in the nexus. Within the nexus literature itself, these more specific forms of finance were initially neglected, crunched into one for the convenience of advancing a putative positive correlation between finance and growth. This is illustrated in figure 2.2 below<sup>7</sup>:

**Figure 2.2     Diagrammatical Representation of the Initial Proposition of Finance-Growth Nexus.**



Homogeneity in the nexus was not only presumed for finance but also for growth, as a marker of development. Studies either narrowly focussed on a few set of countries with similar levels

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<sup>7</sup> Figures 2.2 to 2.5 are adapted from Fine (2010b) where they are applied in the entirely different context of what might be termed the social capital nexus, for which similar methodological issues arise.

of GDP per capita or include a wide range of countries with very diverse GDP per capita, with the supposition that heterogeneity has been accounted for. The fact that growth figures are computed with different methodologies and accounting systems in different countries was also neglected. This will be taken up in chapter five, in the discussion on GDP computation and the nexus.

Some of this over-simplification and excessive homogenising of the nexus is alluded to in the seminal paper of Rajan and Zingales (1998) by reference to omitted variable. They note that potential (omitted) variables that might be proxies for financial sector development comprise a larger set than is usually modelled whilst the explanatory variables to include is always a matter of conjecture. Therefore, this mode of investigation, as in the simple correlation of finance and growth, is in itself flawed by the possibility of “its result being subject to what has been omitted” (p. 2).

Such a simplistic approach taken in the nexus has been likened to *middle-range* theory<sup>8</sup> by Fine (2010, p. 23), which is a “systematic understanding [of linking a concept to another, making it] possible to ignore wider considerations and deeper determinants and other consequences.” It allowed for the initial simplification of the complexities of finance, subject to available data. Then previously omitted factors are introduced into the relationship on a piecemeal basis through empirical evidence of what may be observable and measurable. As such, with slow but steady realisation of the complex nature of both finance and growth, both elements “in the correlation diagram [figure 2.2 above, were] bursting to break out of [their] narrow confines and to restore the fragmented multiplicity of causes and consequences from which it derives” (p. 24). These bursting out of factors that were hitherto ignored in the nexus are discussed in

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<sup>8</sup> Middle range theory is an approach to the construction of theory developed by Robert Merton. It starts with the empirical phenomenon (as opposed to abstract theorising), abstracting it to general statements about the social world, which it then tries to test with the use of data. In other words, it does not seek the total structure that is adequate to derive [the] themes.

this thesis first, in the way in which the literature narrowly disaggregated the forms of finance from which consequences are deemed to be realised, of which growth is only one. Second, attention is drawn to the disaggregation of the channels of causation between finance and growth. These are discussed in the sections that follow.

### **2.3 Disaggregation of Forms of Finance in the Nexus**

In a bid to address the unsustainable putative homogeneity of finance and growth in the nexus, the literature started to disaggregate finance into the different forms said to cause growth. The debate on form was centred on bank- versus market-based finance. Initial debates started with whether the German bank-based financial system was responsible for propelling their economy past that of the UK in light of the latter's market-based financial system (Goldsmith, 1969). This debate was later extended to include Japan, with similarly developed bank-based financial system, on the side of Germany, and the USA, with its market-based financial system, on the side of the UK.

But a more critical look at the finance-growth nexus literature reveals a preference for, and larger concentration of the literature on, capital market based finance. Earlier studies like Bencivenga and Smith (1991) and Levine (1991) emphasised that market-based finance diversifies investment, sustains risk transfer and ownership and meets liquidity needs, thus allocating savings to the most productive investments. Market-based financial systems were also argued to promote innovation and monitor investments, thereby enabling a higher level of efficiency that guaranteed growth (King and Levine, 1993; Demetriades and Hussein, 1996).

The argument for capital markets is that they function to provide a platform for trading risks, as such, continuous liquidity. This position is also backed by the suggestion that some

investments and production technologies have long gestation periods (Bencivenga, 1991; Bencivenga and Smith, 1995). Therefore, there is the need for the ownership of such investments to be transferable from one saver or investor to another throughout the life cycle of the production process. These studies argue that such continuous transfer of risk among investors is only made possible in a securities market, as its instruments ensure liquidity can be met at any time. In addition, Levine (1997) notes that more liquidity could induce a shift to investments with longer gestation and consequently higher-return technologies. But it is not enough for firms to be listed on the capital market per se, he adds, “rather, it is the ability of agents to exchange ownership claims on an economy’s productive technologies that is relevant for growth” (Levine, 2005, p. 905).

However, Levine (1997, p. 199) points out that the form in which finance impacts growth may be largely irrelevant, arguing that finance will contribute to growth irrespective of whether it is channelled through banks or capital markets, insofar as it is targeted at the most productive areas of investment. He then investigated whether bank- or market-based finance contributes more to growth, using country analysis, and draws the conclusion that form is unimportant. He argues that the efficiency with which finance is distributed is more important, and that the bank versus capital market argument be considered analytically vacuous (Levine, 2000). Levine’s location of the efficiency of finance is however limiting in the sense that it is relegated to the development of a regulatory environment for the enforcement of contracts, as he puts it. Given that the sustainability of investments are vulnerable to the reality of market instability and crises, a broader approach to efficiency therefore is for efficiency to be measured by the allocation of finance to the most sustainable investments.

Nonetheless, Levine's position resonates with the Capital Structure Irrelevance Principle of the Modigliani-Miller Theory.<sup>9</sup> It assumes, under a set of neoclassical assumptions, that the value of a firm is unaffected by the means through which it is financed, whether through debt or equity. Arestis and Sawyer (2005, p. 7) note that this view "is consistent with the perception of financial markets as independent entities from the rest of the economy, so that finance and growth are unrelated." But Stiglitz (1969) points out that besides investors' rationality, Modigliani-Miller had assumed perfect markets with symmetric information. If markets are imperfect, as evidence has shown they are, then the nature of financing (whether debt or equity) can alter firms' behaviour, since this will determine whether firms pursue business productivity or profit for their shareholders. It therefore makes a significant difference how financing is realised.

In other research that compared whether banks or capital markets provide faster liquidity, Mayer (1988) found that equity sale finances only a small percentage of new investment in firms. A larger percentage was financed by savings and debt. This goes to show that the function of the provision of liquidity is not exclusively nor even better performed by the capital market as the proponents of market-based finance suggest. Suffice to say that this function may be better performed by banks. First, bank-based finance (more especially development banks in low income countries) can achieve this objective better by the use of targeted credits to the most productive sectors of an economy, which will be much needed to spur investment. Second, banks, by the availability of readily liquid forms of finance, should outperform capital markets as most forms of finance in banks need not be converted before being used to facilitate transactions, unlike shares and bonds that must be traded in the stock markets to obtain value.

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<sup>9</sup> See Modigliani and Miller (1958) for a discussion of the Capital Structure Irrelevance Principle of the Modigliani-Miller Theory.

Third, banks, unlike capital markets, do not offer room for excessive speculation, which could ensure that the most productive investments get funded.

On the other hand, Levine and Zervos (1996) use cross-country regressions to investigate whether capital markets or banks impact more on growth. They found market liquidity as a measure of banking to be more correlated with growth, capital accumulation and productivity than stock market capitalisation, used as a measure for market-based finance. Their study was also among the earliest to capture bank lending to the private sector which they found to have a significantly high and independent impact on growth. This position is similar to Ergungor's (2008) findings which, in a cross-sectional study, show a bank-oriented system to be positively correlated with growth.

While Levine (1997) favoured capital market over bank-based finance in his discussion of the functions of stock markets, he conceded a larger tendency for information asymmetry in the capital market compared to banks. At the same time, he added that larger capital markets are able to stimulate information acquisition. Capital markets were eventually preferred over bank-based finance in the literature as they were alleged to promote the dissemination of information and, by so doing, lower the risk in financial intermediation. But the case for bank-based financial system thrived on the critique of markets as inefficient in carrying out its functions (Levine, 2005).

This information dissemination of capital markets was investigated by Stiglitz (2000), following earlier studies, using the share price index and market capitalisation fluctuations against economic growth. He argued that there is no sufficient theoretical evidence to suggest that capital markets potentially lead to economic growth. He added that capital market liberalisation "inhibits the use of counter-cyclical monetary policy; [...] leads to overall economic volatility, and more volatility of consumption; [and] exposes the country to new

shocks, and weakens the built-in shock absorbers in the economy, provided by price system” (Stiglitz, 2004, p. 63). In a time-series cross-country study, Arestis et al. (2001) find that that large financial sectors can in fact be detrimental to growth, and that there is a larger significant positive relationship between the banking sector and growth than the stock market and growth.

More recently, Schularick et al. (2012) also point out that there is no robust link between capital market and economic growth. They argue that experience shows growth trends in capital markets are often wiped out after a certain period of time. Bank funding, according to them, may be a more efficient process of simply injecting funds into firms and spurring economic growth in comparison to the capital market that gives room for speculation and inefficiency as it seeks to transfer stock ownership from one investor to another. Banks may simply focus on investing household savings into a diversified portfolio, thereby making investment decisions on their behalf. And based on their capacity, resources, technical knowledge and access to customers’ information from ex ante investment processes, they are more capable of overcoming market challenges of high transaction costs and information asymmetry than capital markets.

Similarly, in a study of East Europe and Central Asia and Latin America and Caribbean regions, Yu et al. (2012) investigate the impact of finance on growth, using domestic credit by banks and domestic credit to the private sector both as percentages of GDP. Their conclusion is also that there is little probability that economic growth can be achieved by simply enhancing financial and, in particular, capital market development. Reviewing a large body of theoretical literature, Demirguc-Kunt et al. (2013) argue that banks are better at financing lower risk projects, while decentralised markets are better at financing high-risk projects with limited collateral, with economies transitioning from bank- to market-based systems as their per capita GDP increases.



The literature dubbed bank-based finance as repressive and limited in its ability to promote both long-term liquidity and provide capital for risky investments. This one-sided argument was made without reference to banks as performing the parallel function of information dissemination and minimising risk as well, albeit through a different process. The studies neglected the distinct role of banks, which generally include: acquisition of information on firms; exerting corporate control; provision of risk-reducing arrangements; pooling of capital and ease of making transactions.

While stock markets mainly disseminate information in the publishing of stock prices, banks do so in the vetting process of loans and other investments before decisions are taken. Banks also function to reduce costs of information acquisition and enhance corporate governance (Levine, 1997). It can be argued that this distinction between the processes of intermediation between financial systems sheds light on the degree to which each might be appropriated by vested interests. Therefore, market-based financial system can be said to be more prone to distributive inefficiency, given the fast pace at which emerging stock prices fluctuate in relation to the long waiting time before causes of such fluctuations are known. In this sense, the delay in disclosure of causes of price changes means that only a few investors will initially have insider information on stock performance and benefit from such by hedging their investments ahead of others. Other investors may react to buy/sell signals from others, leading to over-speculation.

However, the changing nature of financial transactions makes more complex the traditional bank- versus market-based forms of finance disaggregation, as banks become more market-oriented in their dealings and less focused on traditional banking activities. There is evidence that the traditional banking business of accepting deposits from savers and making loans available to businesses has declined significantly in the USA (as with other more financially developed countries) and that banks have switched from holding direct assets to managing

pension and mutual funds (Allen and Santomero, 2001). Also, Bazot (2013) notes that banks now concentrate less on traditional banking activities in which profit came mainly from net interest spread, preferring more lucrative market-based activities and profiting from capital income and fees. He adds that the development of shadow banking<sup>10</sup> to increase intermediation is also evidence of the shift away from bank- to market-based activities. The scale of credit to the private sector by both financial and non-financial institutions is also evidence that financial and non-financial institutions are now more engaged in market activities than before, as opposed to traditional banking activities which sought profit by investing in productive industries. These developments have made the bank- versus market-based debate insufficient for assessing the relationship between finance and growth.

In a similar manner to the disaggregation by forms of finance in the nexus literature, growth was disaggregated through aspects of development or outcomes other than growth, as depicted in figure 2.3. In each study, one form of finance is usually selected as most appropriate for an outcome, ignoring other micro and macro aspects of the interaction of such a form with its putative outcome. Bank-based finance was alleged to cause growth (Goldsmith, 1969; Levine and Zervos, 1996 and Ergungor, 2008) and to cause capital accumulation and productivity for growth (Levine and Zervos, 1996). Market-based finance in the same vein was considered to cause growth (Bencivenga and Smith, 1991 and Levine, 1991; 1997). Both forms of finance have also been found to lead to higher productivity (Levine, 1997). Development finance was later brought into the discussion (although briefly, and not necessarily through econometric methods) in relation to its impact on welfare and poverty (Barth et al., 2004 and Demirguc-

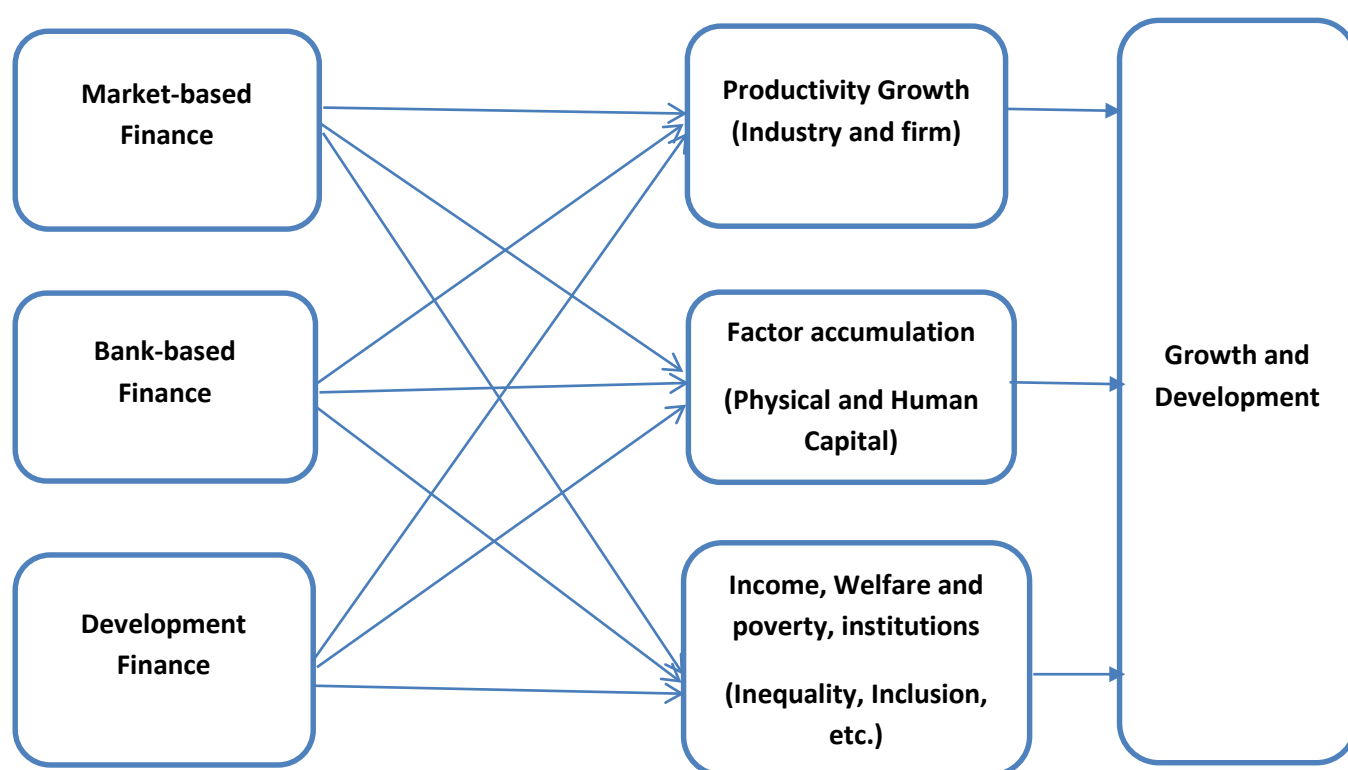
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<sup>10</sup> The term was coined by Paul McCulley in 2007. Shadow banking refers to financial intermediation, particularly the deployment of banking activities by non-banking institutions and bank *act-alikes*. These non-bank actors engage in taking short-term loans borrowed from the money markets to fund the purchase of assets with longer-term maturities. However, because they are not traditional banking institutions, they are not regulated by the monetary authorities, and for the same reason, they are not insured by the government's deposit protection arrangement. This means they cannot borrow from the Central Bank in periods of emergency to cover short-term liquidity. The IMF called it one of the major failings of modern financial system in the period leading up to the 2008 crisis.

Kunt et al., 2008) and to impact growth or not. This disaggregation led to multiplicity of causes and consequences, as extended financial forms and outcomes are alleged to be interlinked, each now causing any number or aspects of growth in different studies of the nexus. What now obtains is a superfluity of causes and impacts, raising questions over the specification of the nexus theory.

One implication of the bank- versus market based argument of the nexus is that it ignores the fact that, not only can both exist together to provide financial services that lead to economic development (Levine, 2000; 1997; Boyd and Smith, 1998; Levine and Zervos, 1998), but also that it is insufficient in of itself in explaining the complexity of the nexus, given that it is located only in form, and neglects issues of space, time and other factors that are requisite for economic development. And as stressed by Merton and Bodie (2004) and Levine (2005), there is not one optimal institutional structure for providing growth and enhancing financial functions in the economy.

**Figure 2.3 Finance-Growth Nexus Disaggregated through Forms and Outcomes.**



## **2.4 Disaggregation of Transmission Mechanisms of Finance**

The other manner in which the finance-growth nexus literature has evolved has been through the disaggregation of the channels through which finance is alleged to contribute to growth. This disaggregation was achieved in the literature in two closely related theoretical interpretations. First, it was alleged that the relationship between finance and growth can be indirect through other positive outcomes of development, such as income growth and institutional development, poverty reduction, etc. The literature assumed that these other broader issues of development were part of the finance-growth nexus as benefits in their own right. Much of the nexus literature thus examined the role of financial development on growth conditional on broader variables of development. Here, rather than linking these factors on their own terms to growth, they are seen as sources and/or conditioning variables of finance. It becomes a way to widen the scope and definition of the nexus in order to incorporate other factors necessary for growth. The impact of finance on these broader developmental factors, if positive, was inferred to indirectly translate into economic growth as well. But the weak theoretical connection between finance and these other factors of development found by the studies themselves also necessitated a further investigation of other growth-reducing factors such as poverty, inflation (Rousseau and Wachtel, 2001) and inequality (Jalilian and Kirkpatrick, 2002).

Jalilian and Kirkpatrick (2002) and Blanco (2009) found the link between finance and growth to be through income and poverty reduction. Financial development was found to increase income (and consequently reduce poverty) which in turn causes growth. These studies find that finance can reduce poverty if it can boost income. They conclude that there must exist a positive relationship between finance and growth. Nonetheless, they also point to the fact that financial development needed to be measured by its impact on income inequality rather than just income growth to ascertain its impact on poverty reduction. However, efficient allocation or

distribution has been insurmountable and remains a constraint for finance, as evidence has shown. Financial development is rather seen to increase income inequality.

The second aspect of disaggregation in the literature is through channels of transmission of finance to growth. Some of these are evident in the studies of De Gregorio and Guidotti (1995) which linked the impact of financial intermediation on growth through volume and efficiency of investment in firms. Similarly, Rajan and Zingales (1998) found, using a large sample of countries, that industrial sectors which are relatively more in need of external finance grow disproportionately faster in countries with more developed financial markets. They “suggest that an [...] indirect channel through which financial development [...] influences growth is by disproportionately improving the prospects of young firms”, with finance having twice an impact on the growth of the number of firms as it has on the size of the firms (p. 4). In the same manner, De Gregorio (1996) links finance to growth through a three-step process of human capital and, the accumulation of higher savings that, guarantees future consumption. Levine et al. (2000) examine the nexus focussing on productivity growth, physical capital accumulation and savings as causal factors of growth.

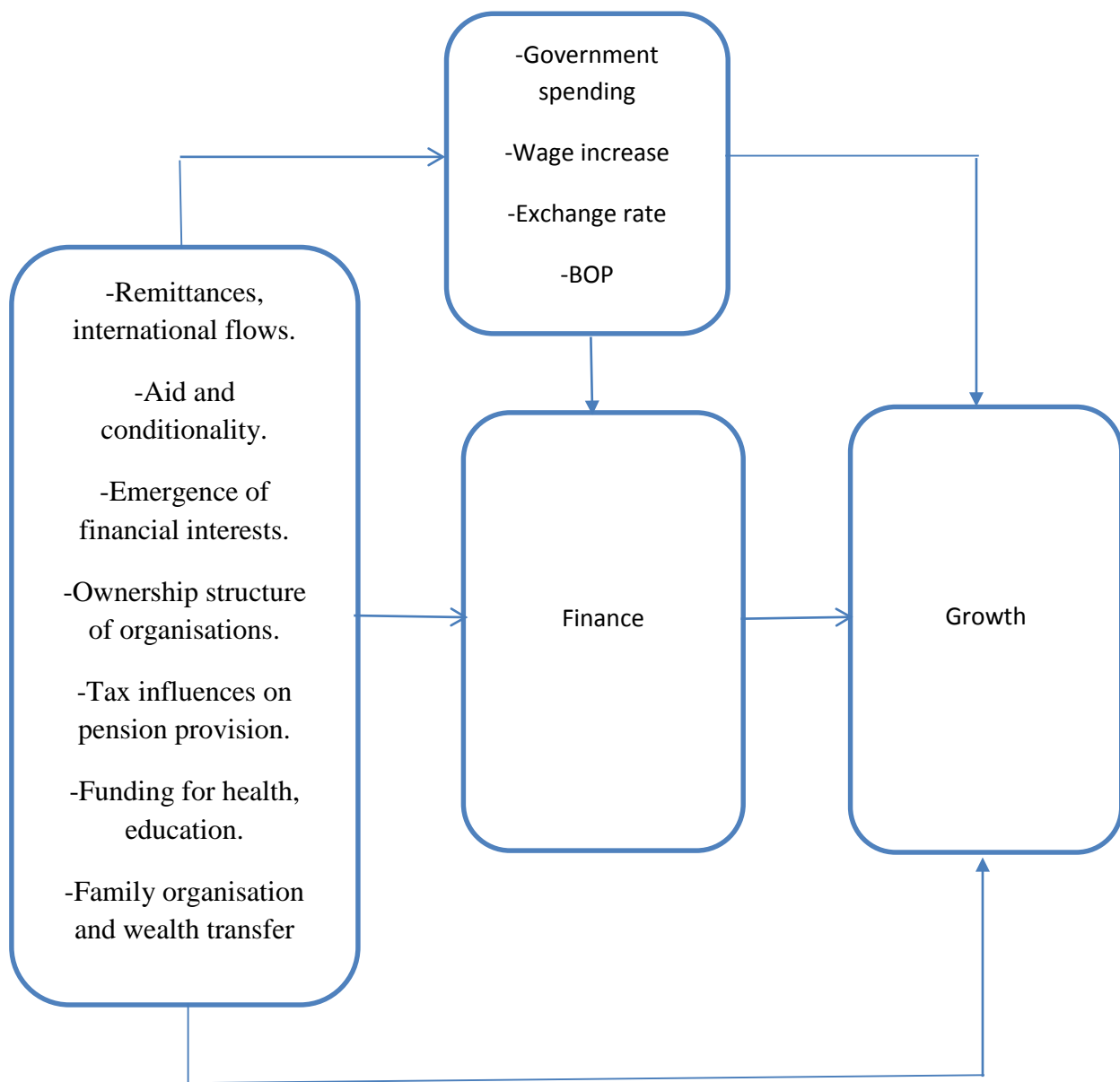
As such, the debate became located on the channels of transmission. Beck et al. (2000) and Rousseau and Wachtel (2002; 2007) find that finance contributes to growth through productivity growth rather than physical and human capital accumulation as a conditioning variable. Similarly, Rioja and Valev (2004b) show that the positive effect of finance and growth occurs through capital accumulation for low income countries. More recently, in disaggregating the transmission mechanism of the nexus through the development of the productive industries, Ductor and Grechyna (2012) show that the effect of financial development on economic growth depends on the growth and characteristics of other sectors. They argue for technological development in the non-financial sectors of the economy. Furthermore, Bhatti et al. (2013) examine the nexus conditional on R&D. While they find that

the positive effect of financial development is conditional on the level of R&D, they add that a high level of R&D is associated with a negative effect of financial development on growth. More contradictory conclusion is reached by Cecchetti and Kharroubi (2012) who find that financial sector growth is rather a drag on productivity growth.

Moreover, the nexus argument has been linked to well-functioning institutional frameworks, for a significant positive relationship between finance and growth (De Gregorio and Guidotti, 1995; Levine, 2000; Levine et al., 2000; Beck and Levine, 2004). Beck et al. (2003) find that lasting institutions are perquisite to financial development. While attempting to make a case for a legal structure for finance, Levine (1998; 1999; 2000), succeeded in putting forward the argument that finance will contribute significantly to growth via an efficient regulatory and legal system. This resonates with Demetriades and Law (2006) who argue that institutional underdevelopment is a major drawback factor in the nexus especially for developing countries. In another study of developing and advanced countries, Ergungor (2008) found that the relationship between finance and growth is contingent on the stability of the judicial systems. Similarly, Ahlin and Pang (2008) model financial development and corruption and find a correlation between them. Rajan and Zingales (2003) even emphasise how political economy actors can create policies beneficial for a positive finance-growth nexus.

Studies that link much broader factors of development to the finance-growth nexus are those by Levine et al. (2000) which attempt to disaggregate the nexus through ethnic diversity. Guiso et al. (2004) analyse the role of social capital in financial development. Granato et al. (1996) include cultural attitudes as a possible link in the finance-growth relationship in a study of Taiwan. Interestingly, Cultural attitudes are found to be an explanatory variable for the nexus. This proves how far-reaching the nexus literature has gone, and indicative of how any factor can be part of the nexus, in its own right as far as the theoretical literature is concerned and as far as econometrics allows.

**Figure 2.4 Diagrammatical Representation of the Narrowness of Disaggregation in the Finance-Growth Nexus.**



While finance is seen to affect growth via income growth, volume and efficiency of investment, capital accumulation, productivity growth, technological development, R&D, institutions, legal and regulatory environment and ethnicity and cultural attitudes and so on, these factors may on their own affect growth directly without the influence of finance or indirectly through

other variables. Therefore, the disaggregation of the nexus through channels tends to overlook that other conditioning variables could also directly or indirectly be independent underlying determinants of growth, not least financial development. This is illustrated diagrammatically in figure 2.4 above with some representative variables. The disaggregation by forms of finance and channels of impact in 2.3 above has been erased for simplicity, to show that growth is not a consequence of finance alone but other direct and indirect variables in boxes A and B. For example, remittances from abroad, aid and conditionality, emergence of financial interests at the expense of others and industrial policy, etc. are directly causal for finance, which could lead to growth. They may also be directly causal for growth on their own or indirectly through, for example, increase in wages, which may stimulate demand and spur growth. Still, the intermediate variables on their own may indirectly stimulate growth through a direct causal effect on finance. For example, the impact of natural resource underperformance in a development context is recognised by Barajas et al (2012) as capable of inducing a downward pull on the financial sector through the real exchange rate and other institutional, political and socio-economic factors that may impact negatively on growth. The possibility of other causal factors for growth has been raised by FitzGerald (2006).

In other words, evidence for the finance-growth nexus could be spurious, mistaking correlation for causation in light of other directly or indirectly conditioning variables on outcomes. These features of the nexus debate, therefore, bring to the fore the simple argument, as Fine (2010b, p. 27) puts it, of the “cautionary tale of not conflating correlation with causation and of taking full account of otherwise omitted variables and relations between” any two variables. This reveals a bias for overstating the role of finance, with it, serving as a “proxy or conduit for more important determinants” of growth (p. 26).

The disaggregation of forms of finance and channels of causation in the nexus argument reveal other gaps. One is that the relationship between finance and growth is not direct but often



complex and ambiguous, as such necessitates linking it to other factors. It also makes obvious a fundamental point: the inability of finance by itself to have an absolute significant positive relationship on growth. Therefore, it is necessary to recognise that implicitly the nexus is a middle-range theory, which leaves aside a potential broader causal structure for both finance and growth. Thus, research focussing on the nexus alone is based on a misinterpreted theoretical and causal structure of development. This also has profound implications for empirical (mis)estimation as the nexus will be credited, and its contradictory results mixed up, with other causal relations, as discussed in the section that follows.

Despite these criticisms of the nexus argument – that it is biased towards finding a positive relationship and that it brings in complexity in a piecemeal if cumulative fashion – the critical exercise engaged in charting the trajectory of the debate has not been entirely negative. It has, revealed the disaggregated forms of finance and the channels through which it has effects and is itself affected (in relation to growth and more, and both directly and indirectly). This allows for the possibility to step back from the evolutionary path taken by the nexus debate and take diversity, complexity, context and closer consideration of underlying developmental determinants as starting point for the analysis rather than as an uncomfortable endpoint that otherwise only seems to allow for more disaggregation and contingent empirical results. Given that the nexus is ultimately situated in terms of the bigger question of the determinants of development, it is hardly surprising that its middle-range character should both offer positive if skewed insight and, ultimately, constrained understanding.

## **2.5 Mixed Empirical Methods for, and Results from, the Finance-Growth Nexus**

The combination of empirical methods with which the above discussed disaggregation of the relationship between finance and growth was addressed, generally in pursuit of establishing a

positive nexus, is analysed below. The ensuing results are shown in this section to be mixed, despite the similar methods used to examine the nexus in different studies. Each successive method for investigating the nexus empirically is seen to produce both positive and negative relationships for the nexus across the various studies. This strengthens the argument against the conclusion of a one-way line of causation from financial liberalisation to economic development.

In an extensive summary of the nexus literature, Levine (2005) categorised empirical evidence on the finance and growth nexus in the following manner: cross-country studies, dynamic panel studies, time-series studies, country case studies, and industry and firm level analyses. While this classification may be generally understood in the literature to reflect the manner in which empirical investigation has developed in the, it is understood in this thesis as reflecting developments in economic theory in general, particularly with regards to the narrow econometric methods for establishing theory. The shift from cross-sectional to panel regressions with its multi-dimensional data became convenient for disaggregating the nexus by channels of impact. Firm- and industry-level regressions made it possible to extend this disaggregation even further. These shifts in methods, especially the later focus on cross-country analyses, also reflect the increasing recognition of the heterogeneity and complexity of the finance-growth process.

This section summarises the empirical methods and results of the finance-growth nexus literature in a similar manner as Levine (2005). Section 2.5.1 discusses cross-country regressions and the challenges of finding appropriate representative measures of finance and growth in empirical investigations of the nexus. Panel data analyses, on which much of the nexus is based, is discussed in Section 2.5.2. It is observed to increase heterogeneity in the nexus, not least in light of omitted variable, simultaneity and unobserved country-specific biases. Some time-series studies are discussed in section 2.5.3, many of which are used jointly

with panel analyses. Sections 2.5.4 and 2.5.5 discuss firm- and industry-level and country regressions, respectively. The empirical limitations of these methodologies are discussed in section 2.5.6. It is argued that these render the empirical analyses inadequate in drawing conclusions on the nexus.

### **2.5.1 Cross-Country Studies**

One of the earliest empirical studies on the finance-growth nexus was by Goldsmith (1969). He compiled data on financial intermediation assets as a share of economic output for 35 countries over a 100-year period from 1860 to 1963, and draw conclusion of a positive relationship between finance and growth. However, given that data were unavailable for a broad range of countries, as such, limiting for a cross-country analysis, this was more of a case of conflating the size of the financial sector with development. Levine (2005, p.890) notes that Goldsmith's work raised several problems that subsequent empirical work tried to resolve by: extending the analysis to cover a broader and larger range of countries; controlling for other factors influencing economic growth; examining whether financial development is associated with productivity growth and capital accumulation as emphasised in growth accounting literature; finding indicators that accurately gauge the functioning of the financial system; identifying the direction of causality; and understanding the role of financial markets, non-bank financial intermediaries, and a combination of both on economic growth.

To address some of the problems identified above, King and Levine (1993) focussed on bank-based finance, to investigate whether financial development is a predictor of long-term economic growth, for 77 countries over the period 1960-1989. They use liquid liabilities of the financial system – comprising currency plus demand and interest-bearing liabilities of banks and non-bank financial institutions – as a percentage of GDP as a measure of financial

development. They construct more measures of financial development such as the ratio of bank credit as a percentage of banks and central bank assets, and credit to private enterprises as a percentage of GDP. Their control variables, representing a matrix of conditioning factors that might be causal for growth, include income per capita, education, political stability, exchange rate, trade and fiscal and monetary policies. They also measure all their independent variables against other growth indicators: average rate of growth per capita; average per capita rate of growth in capital stock; and total productivity growth.<sup>11</sup> They find a significant positive relationship between all their measures of financial development and all three growth measures.

Several variables have been used as proxies for financial development. As with the work of Goldsmiths, these variables have continued to be based on quantity of finance, measured by the volume of financial intermediation and size of the financial sector. As such, the variables have generally been inadequate in capturing the productive, inclusive or distributive impact of finance on the economy, albeit intended as studies that attempt to investigate the relationship between financial development and inequality or poverty. Jung (1986) uses the ratio of money to GDP as a measure of financial development. La Porta et al. (2002) use the degree of public ownership of banks as a measure of the impact of financial development on growth. They conclude that higher degrees of public ownership of banks is associated with lower financial development and growth. Bank-based factors have included the ratio of liquid liabilities (i.e. M2) to GDP and credit to the private sector by banks as a ratio of GDP. Rousseau and Wachtel (2000) use annual data of the ratio of M3 to GDP as a measure of bank development. Market-based factors of financial depth on the other hand have included market capitalisation (i.e. total stock market capitalisation) to GDP and the ratio of the value of shares or equity to GDP, and

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<sup>11</sup> This is a very broad ‘Solow residual’ defined as real GDP per capita minus 0.3 times the growth rate of the capital stock per person. It essentially incorporates everything that may affect growth except capital.

total market capitalisation (Levine and Zervos, 1998; Barajas, et al., 2012), sometimes deflated by the stock market share price index to eliminate price changes.

Levine and Zervos (1998) investigate the relationship between capital market and economic growth, and the turnover ratio, which is the total value of shares traded in a country's stock exchange as a percentage of total stock market capitalisation as a measure of financial development. They find this to be significantly correlated with future rates of growth and its other measures as in King and Levine (1993). However, Levine (2005, p.894) notes that the turnover ratio as a measure of financial development "exhibits substantial cross-country variability. Very active markets such as Japan and the United States had turnover ratios of almost 0.5 during the 1976-93 period, while less liquid markets, such as Bangladesh, Chile, and Egypt have turnover ratios of 0.06 or less." As such, it is a significant source of heterogeneity (which may be considered good) when used in cross-country regressions. But he adds that the direct cost of conducting equity transactions is not measured by this ratio and it does "not control for the possibility that the arrival of information and the processing of that information may differ across countries and thereby induce cross-country differences in trading that does not reflect liquidity as defined by theory" (p. 896).<sup>12</sup> This indicator of financial development, which supposedly captures firms' liquidity in domestic markets, may also be driven by speculation, and not necessarily provide domestic liquidity to local firms. This is typically the case in countries that are highly integrated with the international financial system, as such, most financial transactions may be in short-term assets for profit and not long-term investments. Consequently, the turnover ratio may not be linked to growth.

Credit to the private sector by banks and other financial institutions is mostly used as the generally agreed measure of financial development. (King and Levine, 1993; Arcand, et al.,

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<sup>12</sup> See Levine (1991).

2012). It is also said to reflect the size of the financial market. This is because, “until the late 1990s, bank credit to the private sector was almost identical to total credit to the private sector. However, the two series started diverging at the beginning of the new millennium and there are now several countries in which total credit to the private sector is much larger than bank credit to the private sector” (Arcand, et al., 2015, p. 111). Whether this variable is in itself contributory to growth is ignored in the literature. The direction of flow of such credit (mainly towards household consumption) may not be directly linked to growth, not least the widening debt forms which make it up. In fact, Beck et al. (2014, p. 53) agrees that this is a “crude indicator focusing on the financial system’s contribution to the economy, rather than reflecting the broader concept of its socio-political importance.” Notably, the use of credit to the private sector as a measure of financial development in the literature is underpinned by the assumption that a financial system that lends to the private sector stimulates growth through risk evaluation and corporate control, as opposed to providing credit to the government, public enterprises or government-favoured private enterprises – in the case of directed credit (Arcand et al., 2015).

Also, a measure of the ratio of bank credit to bank credit plus central bank domestic assets is used to compare the degree of efficiency of credit allocation between commercial banks and central banks. This is also usually underpinned by the notion that commercial banks are more likely to provide better financial intermediation than central banks (Arcand et al., 2012, p. 9). However, this can easily be refuted on the basis of the inability to direct commercial banks’ credit to targeted areas of the economy for growth. Rather, commercial banks’ intermediation is inefficiently allocated to areas with the highest return on investment for shareholders. These show how measures of financial development have been dubiously used to advance a positive impact of finance on growth in the literature.

FitzGerald (2006) notes that some major indicators of financial development are yet to be used in analysing the finance-growth nexus, mainly due to data unavailability. For example, the

duration of bank loans and fixed income securities, which should convey investment sustainability can be a major indicator of financial development, but this is yet to be used in analysing the nexus. Also, financial inclusion, as a measure of financial development, especially for developing countries, has not been adequately represented in the finance-growth nexus analysis (taken up in chapter four). In cases, where financial inclusion has been the focus of financial development, this has only been located around measures of nearness of banking institutions, neglecting the presence of non-bank financial institutions (Beck et al., 2007; Cull, 2009) or the actual flow of these funds towards redistributive elements and poverty reduction.

### **2.5.2 Dynamic Panel Methodology**

Following the conventional cross-country analyses in response to the issues raised in earlier works, De Gregorio and Guidotti (1995) use panel analysis to find a long-term positive relationship for low- and middle-income countries. Despite arriving at a positive relationship for some countries, they found a significant negative relationship for the nexus in Latin America. Levine et al. (2000) and Beck et al. (2000) use a panel GMM estimator, derived from Arellano and Bond (1991), which attempts to account for both time-series and cross-sectional variations in cross-country data. It considers biases in cross-country regressions by first-differencing to eliminate country-specific effects and provides for more precise estimations by instrumenting all explanatory variables. Their panel data consisted of seven non-overlapping five-year periods of 77 countries, covering the period 1960-1995. Both Levine et al. (2000) and Beck et al. (2000) found a significant positive relationship between the exogenous components of financial development and growth, and productivity, after controlling for simultaneity bias and omitted country-specific effects.

Rousseau and Wachtel (2000) use panel estimations of annual data and the difference estimator to examine the relationship between growth and stock markets and banks. Loayza and Ranciere (2006) differentiate between short- and long-run in the nexus and use panel data to investigate a model of the short and long runs, with credit to the private sector as their measure of financial development. They find that the relationship between finance and growth is positive in the long but negative in the short run, noting also that short-run volatility in bank lending can cause financial crises. Beck and Levine (2004) try to control for potential biases with the difference estimator in their panel investigation. They then use GMM and conclude that both capital market and bank-based finance have significant positive relationship with growth even after correcting for biases as omitted variables, simultaneity and unobserved country-specific effects. Christopoulos and Tsionas (2004) also use an Error Correction Model (ECM) for their panel data for ten developing countries and conclude that a significant positive relationship exists between finance and growth. Zang and Kim (2007) also find a positive relationship between finance and growth using panel analysis.

But not all panel studies found a positive nexus. Benhabib and Spiegel (2001) use dynamic panel data analysis and control for country fixed effects. They find that different measures of financial development have different impacts on the growth effect. Using the same method. Spiegel (2001) found that different measures matter and shows that bank domestic asset exhibited a more significant positive relationship with human capital development at both country and cross-country levels. In the same vein, Fink, et al. (2006) use domestic credit and bonds to show a significant positive relationship while private credit and stock market capitalisation showed no significant relationship with growth in their study.

Furthermore, Levine and Zervos (1998), Levine et al. (2000), Favara (2007) and Beck et al. (2009) use enterprise credit and find that finance reduces income inequality but with no significant relationship with consumption sensitivity. They conclude that there is no significant



relationship between household credit and growth. They add that there is no evidence of heterogeneity in their cross-country analysis. Despite Favara (2007) finding a positive correlation, he draws the conclusion that there is no evidence that financial development causes growth.

Some use of dynamic panel methodology produced outright contrary results. Levine et al. (2000) and Beck et al. (2000) found a less robust relationship between financial development and capital accumulation. Using GMM in a panel data covering 85 countries from 1960-1998, Favara (2003) also found a weak and insignificant relationship for the nexus. Levine (2005) further notes that endogeneity of all other explanatory variables in these cross-sectional estimators is not controlled for and, as such, can lead to inappropriate inferences on the coefficient on financial development. With panel data, there is the problem associated with using five-year periods, which do not adequately proxy for long-run relationships, making the panel method imprecise for the finance-growth nexus. This was taken into consideration in the study of Arcand et al. (2012) who added ten-year growth spells to capture long-run effects of finance on growth.

The study by Blanco (2009) used dynamic panel analysis and found that financial development has no significant relationship on growth, income inequality nor human capital development. Demetriades and Rousseau (2011) also use cross-sectional panel data and find a significant relationship for the nexus but draw the conclusion that the weakness of banking supervision exerts significantly more of a negative relationship with growth. In the same vein, Barajas (2012) used dynamic panel analysis for non-overlapping five-year averages of 130 countries from 1975-2005 and show that the relationship between finance and growth is heterogeneous. His results suggest a significant positive relationship for high-income countries and insignificant for low-income and Middle East and North Africa (MENA) countries. Another

inconclusive result is the study done by of Rousseau and Wachtel (2007) which concludes that financial development has an insignificant long-term impact on growth.

### **2.5.3 Time-Series Analyses**

Not many empirical investigations of the nexus have been solely based on time-series analyses, as this method is mostly combined with panel investigations for cross-country analyses. Arestis and Demetriades (1996) had argued that cross-sectional country studies, and in particular the work of King and Levine (1993), are statistically fragile and unable to address the issue of causality for the finance-growth nexus. They add that correlation between financial development indicators and growth is not necessarily causality. As such, there is no evidence that financial development predicts future growth. They argued for use of time-series data and approach as in the work of Granger (1988), which used co-integration techniques to show that different countries exhibit different causality patterns.

Another frequently used time-series technique in the nexus is the Vector Autoregressive (VAR) approach. It is used to analyse linear independence among multiple time series. Xu (2000) used a multivariate VAR approach with impulse response analysis to find a significant positive relationship between finance and growth. Also, Ghirmay (2004) used annual time-series data of 13 sub-Saharan African countries from 1970-2001 with the VAR approach and finds a significant positive relationship for the nexus in 12 out of the 13 countries. Also, Rousseau (1999) investigates the historical role of financial development in expanding the economy of Japan between 1868 and 1884, using the VAR approach. He found that the financial sector was responsible for growth in Japan.

However, the use of time-series stationary co-integration tests for the nexus has also yielded contrary results. Demetriades and Hussein (1996) use time-series co-integration techniques to show that there is little or insignificant evidence that financial development has a positive relationship with growth. Luintel and Khan (1999) use the VAR approach and find an insignificant relationship between finance and growth. Lee and Islam (2008) use the same method and find heterogeneity of the impact of finance on growth across countries. Most of these studies combined time-series analysis with other methods.

#### **2.5.4 Industry- and Firm-Level Analyses**

Empirical studies of the finance-growth nexus have also included firm- and industry-level data, which analyse the impact of financial intermediation on firms and industries. One of the early studies here is done by Rajan and Zingales (1998) who investigate whether industries that are more dependent on external finance grow faster in countries that are more financially developed. They use data from 36 industries and 42 countries covering the period 1980-1990. Their findings suggest that financial development has a significant positive relationship with the growth of industries needing external finance. Financial development also was found to have a positive impact on the formation of new industries and the expansion of existing ones. Beck et al. (2001) use firm-level data of publicly traded manufacturing firms in 26 countries to investigate the relationship between a firm's growth rate and its need for investment. They find that both bank finance and market liquidity contribute to the growth rate of firms. Locating banking competition measure around industrial organisation, Claessens and Laeven (2005) show that competitive banking systems promote the growth of industries that are more in need of external finance, but found no link between banking industry concentration, or what may be

termed volume of finance, and growth in industries. Their finding supports the view that banking sector competition has a positive impact on growth.

Contrary results for firm and industry analyses are the findings of Claessens and Laeven (2003) who use industry-level analysis to investigate whether financial development and the quality of property rights protection increases firms' access to external finance. They find that financial development does not promote growth since firms do not have access to external finance. The absence of property rights could be detrimental to growth as well, given that access to property rights could cause a concentrate of investment in tangible assets.

### **2.5.5 Empirical Conundrums**

With these methods and results, some major limitations are often overlooked. Studies that link the positive impact of the nexus to degree of competition in the financial sector have been unclear about the connection between finance and competition, what sort of competition and the level of competition required for a positive nexus. As such, results have been inconsistent for developing and advanced economies. Empirical analyses of the nexus is rife with investigation of convergence. But, convergence – sometimes referred to as the Solow-Swan convergence effect – is the assumption that countries with lower per capita growth will grow faster (as financial depth increases), so that all countries converge in per capital income. However, in practice, countries are far from converging. While there is mixed evidence of the catch-up effect, notably, Delong (1998) examines a century of historical data and finds no evidence of the so-called catch-up effect. This is despite increasing financial development.

In interpreting these (Barro-type) regressions therefore, it is necessary to be cautious of both country-wide and cross-country specificities. With this approach, the shortcoming remains that

observation for each country is determined by a generic joint distribution of variables, without consideration that measures of financial development or growth are unevenly developed in different countries. For cross-country regressions especially, different measures of finance from different institutions in different country settings are lumped together and assumed to elicit similar impact on growth measures. Data from different countries also tend to be influenced by different social factors. It is necessary to bear in mind what these variables used in the finance-growth nexus empirical studies might represent and what they actually measure and how different these might be from one country to another.

The case for insufficiency of these regressions used in growth models, and applied to empirical analyses of the nexus is expanded upon by Fine (2000). He points out that they simply have growth as the dependent variable and a negative sign in the regression on per capita income as evidence of convergence, and suggestive of an exogenous growth relationship. Other, independent variables are then thrown in as indicative of sources of endogenous growth to account for cross-country differences. Any variable can also be made to look significant in these models, since “when one continuously changes different combinations of explanatory variables, there is bound to be significant change in the coefficients at some point” (Sala-i-Martin, 1994, p. 6). The stability of regression coefficients is also overlooked and consequently unaccounted for, as well as whether variables remain significant as other control variables are added or omitted<sup>13</sup> (Fine, 1998, p. 8).

In an extensive research on the growth experience of SSA, Ndulu and O’Connor (2007, p. 27-28) acknowledge that “If the determinants of growth were assigned to countries on an experimental basis, OLS regressions would pick up the *ceteris paribus* impact on growth of each determinant, given a sufficiently large set of observations. But history is not a controlled

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<sup>13</sup> Fine (1998) argues that, from Galton’s regression to the mean, if changes in growth is randomly and identically distributed across countries, there would be a negative correlation between it and income.

experiment. The typical growth regression is therefore likely to be subject to some degree of endogeneity bias, whether from true simultaneity – investment determines growth, but growth also determines investment – or from the omission of key determinants that are correlated with the included variables.” They recommend regressions going beyond descriptions and conditional predictions by the use of a combination of conditional models, reduced-form models, fixed-effects estimations and instrumental variables to identify variables that affect growth. They add however, that despite these approaches, no single econometric approach (or investigation) can determine the relationship between growth and the factor(s) that impact upon it.

These nexus estimations often contain endogeneity bias that cannot be eliminated even with a large data set (p. 95). This is the case, when a correlation exists between finance and other independent variables. Endogeneity can also be caused by omitted variables, self-selection, unobserved heterogeneity or country-specific effects, simultaneity and reverse causality. These are bound to exert a bias in regression results that cannot be completely addressed, since it is impossible to include enough control variables (or IVs as the case may be) in a model. Levine, et al. (2000) attempted to address this problem in the nexus by using the instrumental variable technique in a panel data set. But the use of IVs has its limitations as discussed in section 2.2.1 above.

The GMM has commonly been used to address endogeneity, applied to investigating the link between financial markets and economic development, in both microeconomic and macroeconomic models (Benhabib and Spiegel, 2000; Beck and Levine, 2004; Rioja and Valev, 2004b, 2004; Favara, 2003; Rousseau and Wachtel, 2000; Arcand et al., 2012). Founded by Hansen (1982), it is originally applied to estimate non-linear rational expectation models. It is now being extended to control for heteroscedasticity, serial correlation and nonlinearities (Wooldridge, 2014). As observed by Shabani and Toporowski (2014, p. 76-77), the “GMM

stands out from other econometric approaches in that, [...] it does not require assumptions on the distributions of data variables. [It] uses the method of moments to estimate parameters of a data generating process, so that sample averages are used to estimate unknown parameters. [...] Where] there are more moment conditions than parameters, more weight should be given to those moment conditions that contain more information on the population parameters” or less variances. Despite the argument for GMM being unbiased, it is still insufficient to address the shortcomings in panel regressions, since the variance is not specified. Another limitation is pointed out by Stock et al. (2002) who show that the usual large-sample approximations to GMM statistics in nonlinear models can be poorly applied. This can result in misleading inferences.

Given these shortcomings, the empirical estimations in the nexus may suffer from what Fine (2007) refers to as the XY syndrome, in which two complex variables are brought together, as with finance and growth in this case. First, they are stripped of their complexities as variables and their locations in cause and effect in order to posit a simple causal relation from X to Y. Here, growth, by itself is complex, with Barro-type regressions of endogenous growth, offering as many as 150 variables that might affect its behaviour, thereby partially bringing back in those complexities that have been set aside to get going. And, by the same token, the complexities of finance have equally been discussed extensively across the literature. Be this as it may, growth, X, and finance, Y, are brought together, and “presumed to render a doubling and interaction of complexity into simplicity” (p. 9). The complexities surrounding growth and finance are assumed to evaporate, rather than intensifying, complexity when X and Y are brought together. This feature is further deepened with the addition of more control variables in the regressions, to become the XYZ syndrome, and so forth. Inexplicably, the complexities are explained away in an error term, or in simply falling back on some of the limiting econometric techniques.

The econometrics tends to become analysis increasingly removed from economic theory as such. Fine (2000, p. 255) adds that variables are incorporated more or less arbitrarily, “this all begins to look like statistics without theory other than as an initiating impulse. A theory is used to derive a simple equation to which a range of modifications, including the addition of error terms, are made prior to statistical testing. There are serious problems with this. First, the independent variables in this context will inevitably be related to one another, since the correlates of growth are systematically connected, quite apart from the mutuality of dependent and independent variables. [...] Second, the econometrics is highly selective in terms of the relations that it does examine as opposed to those that it does not. In so far as it only focuses on growth rate outcomes as opposed, for example, to the processes by which those outcomes are achieved, there is a neglect of the models' implications which may not be borne out by the data.” Again, it bears evidence of the use of econometrics to propagate the notion of a positive relationship between finance and growth, where it may not exist, with the aim of achieving a targeted objective of supporting financial markets.

As a consequence, conflicting results abound. This continues to limit our understanding of the role of finance in economic development. Schularick and Steger (2010) note that it has become difficult to synthesise results in the finance-growth nexus literature. And for this reason, the literature remains inconclusive. Given the multiplicity of results and inadequate empirical techniques in the nexus literature, Demetriades and Hussein (1996) and Arestis and Demetriades (1997) warn that results for cross-sectional finance-growth relationship must be interpreted with caution. They point out that just because financial data and growth are behaviourally correlated across a certain period, does not make it valid to assume a consistent and stable correlation over a long period of time. Levine (2005, p. 899) adds that “these types of conceptual experiments must be treated as illustrative”. Especially since “it is difficult to measure financial development and link empirical constructs with theoretical concepts” (p.



903). Moreover, it is unclear what factors determine financial development. As such, it is necessary to match empirical results with theoretical methods, with experience of finance on a country-by-country basis and with the global impact of financial development, before conclusions are drawn.

## **2.6 Change in Economic Theory of the Nexus through Efficient– to Inefficient – Market Hypotheses**

Much of the debate around the finance-growth nexus has been underpinned by consideration of the efficiency, or not, of financial markets in allocating resources. Market efficiency, in itself, has been debated from at least the 16<sup>th</sup> Century, and less regulated financial markets have been alleged to allow individuals and institutional investors to achieve the maximum return for a chosen risk level (Crotty, 2011). This was one of the main conclusions in the studies carried out by McKinnon (1973) and Shaw (1973). Interrogation of the proposition, that more finance produces greater growth, is contended in this thesis to have been addressed through changes in economic theory, whether through appeal to market imperfection, or approaches such as the Efficient Market Hypothesis (EMH), with both being based on individual optimisation and limited acknowledgement of systemic behaviour of finance. This section traces developments in the economic theory of efficient markets, which underpins the finance-growth nexus.

With the assumptions of rational expectations and perfect and complete information, the EMH holds that the market is always in equilibrium. If not the latter, it is only because of the arrival of new information, which will quickly be absorbed into the market to return it to an equilibrium state. “More importantly, with financial markets viewed as the means of mobilising and allocating resources in the real economy, the EMH further postulates that asset prices are correctly valued, in the sense that they reflect the real economy’s equilibrium price. Hence, any

deviations from the equilibrium prices will be random (rather than systemic)” (Fine and Dimakou, 2016, p. 3).

The idea that asset prices are a reflection of all available information in the market – upon which the EMH was built – can be traced back to Bachelier (1900). This idea was later developed by Samuelson (1965), who upheld the consensus that in an efficient market with rational expectations, asset returns could be predicted over a short period of time. As such, markets where prices reflect all available information made arbitrage opportunities impossible. In contrast, Keynes put forward the idea that stock prices are a reflection of the volatility of long-term expectations, not least the pressure on investors to follow short-term price movements and forego long-term returns for speculative capital gains (Shabani and Toporowski, 2014).

In an *event study*, Fama, et al. (1969) used time-series regressions to study the behaviour of stock returns on stock split announcements. They found that stock returns could be predicted in the short run according to market fundamentals. Following an earlier work which argued that stock markets were difficult to predict in the short run as they follow a random walk, Fama (1970) published his seminal work: *Efficient capital markets: a review of theory and empirical work*. Here, he designates markets as perfect as if they are able fully to reflect all available information. He put forward the idea that a market is to be considered efficient with respect to an information set, if the price of an asset ‘fully reflects’ that information set, i.e. the price remains constant when full information is made available to all participants in the market.

He categorised market efficiency into three types: weak, semi-strong and strong forms of efficiency. Weak form efficiency is when current asset prices reflect historical prices, but are unable (technically) to predict future prices. Semi-strong form efficiency is when current prices incorporate past historical prices and publicly available information, such as company earnings

and other announcements and economic conditions. Thirdly, strong form efficiency is when current prices reflect past historical prices, publicly available information and private information held by employees and stock brokers.

Fama argued that to test the market efficiency hypothesis – the assertion that deviations from expected returns are unpredictable and, therefore, not the source of systemic gain – first, the actual expected return on assets needs to be known. This return depends on the earning potential of a security which, is noted by Guerrien and Gun (2011) to be allegedly made up of market fundamentals such as quality of management and economic outlook. However, an asset-pricing model (of equilibrium) is required to determine the actual expected return on assets. Second, deviations from the expected returns need to be captured and used to determine whether markets are efficient (absolutely unpredictable) or not. Therefore, Fama formed the joint hypothesis, made up of the asset-pricing – together with the market equilibrium – model.

Fama's model for determining predictability in relation to risk and return on stocks became the model for market efficiency. It was used for testing the Capital Asset Pricing Model (CAPM).<sup>14</sup> Later on, Fama applied his model to the bond market by testing Irving Fisher's theory, which alleged that expected inflation would affect nominal interest rates. He argued that since inflation is a variable that is based on actual results rather than forecasts, it should be the dependent variable and the expected interest rate should be the independent variable as against

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<sup>14</sup> CAPM, developed by Sharpe (1964) and founded on Merton's portfolio theory, was used to determine the prices and returns of financial assets by capturing the risks in these assets. CAPM used time-series regression of stock returns to generate estimates of their market betas, and then used cross-section regression of average asset portfolio returns (on groups of stock) on the estimated betas and other variables. Many, however, raised concerns about the accuracy of the beta coefficients of the regressions and the small standard errors given the high level of market volatility. To address this problem, the standard errors of estimated coefficients of monthly regressions were used to conduct tests of cross-correlation of residuals. The incorporation of the effect of standard errors of residuals in cross-correlation became a favoured approach in the literature of asset-pricing analysis. It was known as the two-step approach. The difference between return for small stocks and big stocks (market value factor) and the difference between returns for high stock-to-market stocks and low stock-to-market stocks (value and growth factor) were later added to the regression model to correct for differences in average stock returns across stocks in the two-step approach. See expanded discussion in Shabani and Toporowski (2014) for more details of this approach.

previous literature that regressed interest rates on lagged inflation variables. He found the bond market to be efficient, like the stock market, with interest rates alleged to contain correct information about future inflation (Fama, 1975). In addition, he contributed to the literature on the term structure of interest rates by applying the same methodology of regressing ex post- on ex ante –variables in the context of the foreign exchange markets. Later, Fama and Schwert (1977) argued that expected stock returns are not constant over time, but high interest rates may well be associated with lower stock returns. And in some cases, the capacity to predict the expected returns on stocks and bonds is related to variations in business conditions (Fama and French, 1989). This link between stock variability and business conditions was intended to support the notion that investors are rational and simply reacting to the variations in the real economy.

However, Fama's work has been met with a string of criticisms. Guerrien and Gun (2011, p. 4) are critical of the validity of the "joint test". They note that since the EMH involves a "joint test of efficiency [asset-pricing model] and of the model of [market] equilibrium", by implication, "the theory is not falsifiable: if the data doesn't fit with the efficiency hypothesis – whatever it is – there is always the possibility to accuse the underlying model of equilibrium of not being the appropriate one." In fact, it is impossible to determine the "right price" or the "intrinsic price" because asset-price depends on factors such as investors' experience, mood and how they foresee the future.

Also, the CAPM has been criticised for being ignorant of its own limitations of applicability; derived from the estimation of numerical utility for a single outcome in one-off gambles. Instead, it is applied to estimating probability in long-run frequency distribution involving repeated experiments<sup>15</sup> (as in, investors' behaviour in the market). Keen (2011) insists that the

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<sup>15</sup> See Keen (2011, p. 379-384), who argues that "both neoclassical and behavioural economists ignore the caveat of repeated experiments which von Neumann and Morgenstern developed to situations of one-off

concept of expected value may therefore be inadequate in determining rational behaviour in the manner presented in behavioural economics and finance. Furthermore, Shabani and Toporowski, (2014, p. 67) observe that the extended application of Fama's three-factor model to foreign exchange markets "suggested that forward interest rates contained information on the future expected return (premium) but less information on future spot rates. In effect, forward rates cannot predict future spot rates beyond one month."

Despite these limitations, Jensen (1978) asserted that there is no other proposition in economics which has more solid empirical evidence support than the EMH. He explained that a market is efficient with respect to information set  $\theta_t$  if it is impossible to make economic profit by trading on the basis of information set  $\theta_t$ . However, Keen (2011) notes that the data that underpinned the EMH claim in stock markets, were from a short sample period, between 1950 and 1960. Stock markets were less developed at the time. As such, it is deficient in drawing conclusions on market behaviour from that period. More recent evidence from the late 1970s shows that stock market data support a different argument, one of market inefficiency. Markets became characterised by high volatility, following a massive credit boom in the wake of deregulation. This has necessitated government intervention through regulation and a series of bail-outs. As such, doubts have emerged around the EMH.

Questioning the EMH mainly on the basis of the volatility of stock markets, Shiller (1981) argues that markets exhibit systematic deviations from rational expectation of future earnings. These deviations give rise to bubbles as speculation increases. Because the price of the expected present value of future dividends is not known, investors make forecasts of optimal dividend value with the assumption that it is equal to the actual stock price. He showed that the

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gambles, in which the objective risk that would apply in repeated experiment was replaced by subjective uncertainty of a single outcome. From here, neoclassical economists combined the concept of expected utility with ordinal, indifference curve theory of consumer choice to develop the Capital Asset Pricing Model."

variance of the stock price index is much larger than the variance of the present discounted value of future dividends. His methodology was to discount the expected present value of future dividends, then compare it to the price of the index. Shiller used the same methodology on bond markets and found similar excess volatility. Therefore, he disproved the market efficiency model of rational expectations of the term structure of interest rates, which supposes that long-term interest rates can be expressed in the form of weighted averages of rationally expected future short-term rates plus the addition, possibly presumed constant, of slow moving risk premia.

Based on evidence of high volatility in both the stock and the bond markets, Shiller (1984, p. 459) rejects the EMH and concludes, contrary to Jensen (1978), that, “the argument for EMH represents one of the most remarkable errors in the history of economic thought.” He argued further that the subjectivity of stock price expectations (extended to real estate, in the second edition of his paper) to ‘social movements’ of attitudes, fashion, fad and crowd behaviour, rather than market fundamentals, will lead to unsustainable increase and to speculative bubbles. He cautioned that the only way in which finance can increase income, improve social welfare and reduce inequality is through the extension of financial and legal advice, technological innovation, and access to finance and market information. These conditions will eliminate adverse market circumstances (Shiller, 2000). Nevertheless, Shabani and Toporowski (2014, p.74) are of the position that this view still conveys a naïve belief in the role of finance, which extends from “the 19<sup>th</sup> Century [...] defence of futures markets, [insisting] that such markets can provide certainty in a world that is increasingly volatile and unpredictable.”

Also located within the world of rational expectations and EMH is the work of Hansen (1982) who found evidence of market inefficiency. He puts forward the proposition that the volatility of stock prices cannot be justified by the Consumption Capital Asset Pricing Model (CCAPM), a hybrid version of CAPM. The CCAPM provides a dynamic consumption-based asset pricing

model of stock returns. It is explained by the inclusion of a representative agent for the economy with a maximising expected utility function.

Grossman and Stiglitz (1980) showed the impossibility of market efficiency on the basis of information asymmetry. They argued that due to the high cost of information in the market, it is difficult for prices to reflect the true cost of available information, as there will be no incentive for investors to channel their resources to the most efficient investments. In a seminal study following his long-standing research on information asymmetry, Stiglitz (1989) established the shift in the literature from EMH to inefficiency of markets. He argues extensively why it is uncertain that developed or large capital markets will enhance the monitoring of managers and the exertion of corporate controls simply by stimulating information acquisition – the main reason for capital market development and financial liberalisation advanced by the proponents of a significant positive relationship between finance and growth.

Such inefficiency arising from information asymmetry can be seen to have implications for both financial markets and the real economy. First, Stiglitz points out that the availability of information by one large firm could cause ‘crowd behaviour’ in the purchase of shares, which will then cause prices to rise unnecessarily in financial markets. Likewise, a firm disseminating information will not be able to maximise its cost of research since other firms will have implicit access to such information. As a result, it could discourage dissemination of information by (larger) firms. The lack of research and dissemination of information will lead to capacity underutilisation, and consequently, unemployment in the economy. He asserts that the public good nature of takeovers, which makes increase in share prices accrue to both new and original equity holders after a takeover, may also be a disincentive to research. The reason for this is that the one-sided level of contribution in research investment, which can benefit all equally, may hinder future research in a competitive and hostile market environment.

Second, the actions of a firm's management to maintain their positions within the firm may not necessarily be checked by corporate control measures. This can lead to inefficiencies in the firm's investment decisions – with corresponding inefficiency implications in both the financial market and the economy, depending on the nature of the firm's investment. Third, a firm may use its market share to influence the direction of flow of resources through lobbying to increase its profit. There is also a possibility that non-market forces could affect prices. All these factors will result in inefficiency in both the financial market and the real economy.

Crotty (2011) questions the crude positivism – associated with Milton Friedman, which claims that the realism of assumptions is not relevant in determining the validity of a theory but its legitimacy is derived from (econometric) testing from empirical – as the fundamental problem in the EMH and other mainstream economic theories. In a comparative analysis, Crotty suggests the superiority of the Keynes-Minsky theory of financial markets over the EMH. He argues persuasively against the assumptions that financial markets have perfect information and that market prices are optimal equilibrium prices set by rational utility maximising agents who have perfect information. He maintains that these assumptions are unrealistic. Therefore, their adoption is only for the purpose of deriving a desired conclusion of unregulated markets, upon which capitalism thrives.

Shabani and Toporowski (2014, p. 80) observe that much of the empirical work that analyses stock volatility and pricing (Fama, 1969, 1970, 1975; Shiller, 1979, 1981; Hansen, 1982; Hansen and Singleton, 1982) uses techniques that try to determine how long a given deviation from a mean value of a time series needs to be to establish a stationary value or a new mean. It is alleged within these models, from which the EMH is derived, that such deviations from a mean value are caused by holders of financial assets who trade these assets in response to new information, thereby triggering crowd behaviour, until prices of the asset stabilise at a new market expected discounted future return on the asset. If this is the case, Shabani and



Toporowski (p. 81) argue that it is assumed in these models that “financial investors are holding their preferred portfolio of stock, and then trading in response to new information [...] The logical flaw concerns a time inconsistency around the volatility of today’s market’s estimate of the value of future returns from a stock. This estimate, incorporating all new information, is supposed to supersede yesterday’s estimate of the true value of that stock. [...]. In that case, why should the rational investor [...] bother rearranging the portfolio to a superior one today, when another rearranging will have to be undertaken tomorrow?”

Given the above inconsistency in the behaviour of investors, rationality is in question. The existence of financial markets for trading of short-term assets further negates the notion of rational individuals and, consequently, efficient markets, since supposedly rational investors do not wait until the maturity of their original/initial assets before disposing them off for new ones. Initial purchases of assets are supposed to yield an expected return in the long run. As such, it should be unnecessary to relinquish those initial long-term returns for speculative short-term capital gains. This irrationality of investors contravenes the EMH, including any modified versions that retain similar assumptions.

Therefore, the EMH is as hypothetical as the name affirms. Guerrien and Gun (2011) point out that only ideological (strong *a priori* beliefs) commitment can explain the continued existence of belief in an anomaly such as efficient markets. They observe that Pareto Optimality cannot be achieved, whether in goods or stock markets, because of the extremely stringent assumptions required. In a goods market, it entails an auctioneer setting prices for all present and future goods, with rational expectations of the future; the inability of market actors to influence prices; and market demands and supplies compared by the auctioneer to determine equilibrium prices. In the stock and equities markets, firms’ present and future profits must be known and the amount of dividends that will accrue to the investors throughout the lifetime of the firm, in order to determine a competitive equilibrium price.

Haugen (1999) presents an extensive data set on market speculation that contradicts EMH. He shows that stock market speculation is mostly based on how investors think the rest of the market will react to incoming information, and they do so with great imprecision. He identifies three reasons for market volatility: event-, error- and price-driven factors. The first is the actual information that impacts the market, to which investors react. The second is due to the market's attempt to self-correct after overreaction to information. The third, derived from the second, is due to the market adjusting to the ensuing volatility from crowd behaviour as prices continuously adjust upwards. He contends that only the first is considered in the EMH while the last two are ignored as they cannot exist in an equilibrium of efficient markets. Therefore, he asserts that volatility is endogenous to markets and leads to the misallocation of resources which then causes the economy to grow less rapidly by reducing the level of investment.

Following evidence of distortions in the market and the ensuing scepticism around market efficiency, there is now caution around financial development. Demirguc-Kunt and Detragiache (1998) warn that the processes of financial development need to be implemented sequentially. Fry (1997, p. 759) lists the following preconditions for financial liberalisation: “prudential regulation and supervision of commercial banks, price stability, fiscal discipline, banking sector competition and a tax system that does not penalise financial intermediation.” Similar financial liberalisation sequencing can also be seen in McKinnon (1991) and World Bank (1989) which argue that financial liberalisation failed due to inadequate banking supervision and macroeconomic stability, leading to excessive risk-taking by banks, coupled with the provision of deposit insurance and bailouts. They add that it created an environment to institutionalise the moral hazard<sup>16</sup> of excessive risk-taking by banks. Sachs (1988) argues

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<sup>16</sup> Fry (1997) explains how moral hazard can arise from information asymmetry. When interest rates increase in a market, only fewer agents, who are able and willing, engage in borrowing. They tend to do so even more with fewer agents. As such, they can become complacent, engaging in riskier investments beyond the agreement with the lenders. This could lead to huge losses of capital, unknown to the lenders, who may carry on lending to such

for the possibility of maintaining financial repression in the early stages of financial development, which could be in conflict with other economic programmes – what he calls *competition of instrument* – thereby causing disruption to the real sector in the process. As such, he calls for liberalisation of the domestic– before the foreign – financial markets.

Oftentimes, recommendations as listed above hardly acknowledge the systemic complexity of an economic variable such as finance, making impossible the implementation of these recommendations in practice. Also, their combination is often contradictory. For example, how reconcilable can be the regulation of commercial banks and a tax system that does not penalise financial intermediation? One undermines the other. Arestis (2005, p. 256) remains sceptical of these recommended preconditions for financial liberalisation, also referred to as *sequencing*. Using the conflicting country cases of Chile and Uruguay, he argued that “sequencing does not salvage the financial liberalisation thesis for the simple reason that it depends on the assumption that financial markets clear in a Walrasian manner, whereas the goods markets do not. But in the presence of asymmetric information, financial markets are also marred by imperfection.” Therefore, the above preconditions may be insufficient for financial development.

Despite the acknowledgement of financial market inefficiency, the EMH continues to retain the ideological foundation of the rationality and optimisation of individuals that underpin markets, and ignores the systemic complexity of finance in the economy. Crotty (2011) observes that within mainstream economics, assumptions of theories such as principal-agent conflict, asymmetric information, incomplete contracts and psychologically-grounded investor *irrationality* undermine to a large extent the conclusion of market efficiency. Yet, neither of these theories is intended to challenge the dominant position of market efficiency. Rather, they

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investors. This becomes a case of mis-allocation of resources, and assets could become over-valued through the risky activities of investors, and cause crises.

aim to support EMH in the behavioural finance literature by explaining away inefficiencies in the market. “The most popular response to the failure of the EMH has been to argue instead that investors are in fact irrational – or rather that their behaviour deviates from a pure rationality in systemic ways. This is then used as part of the explanation as to why the stock market is not efficient – as the Efficient Market Hypothesis defined the word – so that asset prices deviate from their fundamental values in systemic ways” (Keen, 2011. p. 379).

Nevertheless, the pseudo-acknowledgement of inefficiency in the market is sometimes referred to as the Inefficient Market Hypothesis (IEMH). Keen (2011) defines the IEMH as a market system which overacts to information, as a result causing asset price volatility, with a tendency to divert resources away from the real economy. Fine (2010b), argues that the novel idea of imperfect information in explaining why markets might not allocate resources efficiently, not clear nor fail to emerge in some cases, ought to concretise the rejection of the notion of efficient markets. Instead, elements of market inefficiency are alleged to be externalities, to be addressed through protecting property rights, reducing transaction costs and improving institutions, which were hitherto ignored with the aim of promoting market efficiency. Again, he likens the movement from EMH to IEMH to a concept he refers to as ‘Bringing Back In’ (BBI). For this, more or less all relevant considerations are taken out in the first place in order to get EMH, then the theory begins to bring them back in, albeit with methodology, theory, and a continuous conceptualisation of the efficiency of financial markets as starting point.

More importantly, what the EMH conspicuously ignores is distributional efficiency, in the sense that the market is supposed to be able to allocate resources efficiently, as emphasised by McKinnon (1973) and Shaw (1973). But this is not considered within the assumption of market efficiency. Rather in explaining away distributional efficiency, the IEMH maintains that inefficiencies in the market arising from instabilities are only slight disequilibria, such that some individuals may be better-off in one equilibrium and others worse-off. And in other cases,

one equilibrium could *Pareto dominate*, making everyone better off (Hoff and Stiglitz, 2001). In practice however, there is no point in the market where everyone is better off. This assertion is simply to trivialise efficiency despite being admitted (brought back) in the IEMH.

Therefore, it is necessary to discard completely the notion of rationality of individuals together with the other assumption of perfect market informational efficiency, and to understand that the market cannot be in equilibrium, and its volatility is in fact due to its own internal dynamics. That financial markets, like goods markets, do not clear in a Walrasian manner. Market agents individually and systematically react irrationally to information in the market, resulting in inefficiency that distorts both asset pricing in the market and the economy as a whole, leading to crises – evident in the 2008 financial crisis – discussed in the section that follows. Moreover, it is noteworthy, as Crotty (2011) points out, that financial liberalisation – as advanced by proponents of a positive finance-growth nexus – would not have been possible without the economics profession upholding this theory of ideal financial markets.

## **2.7 The Global Financial Crisis and the Nexus**

The Global Financial Crisis (GFC) of 2008 is now considered to be the worst economic crisis since the Great Depression of the 1930s, measured by its impact on consumption, investment, unemployment, income and inequality, poverty and per capita output. This section focuses on the cause and effect of the crisis, with a bias towards a less popular heterodox view. The section aims to achieve two main objectives. One, to show – in view of the GFC – the cost implication of an unrelenting pursuit of financial development as proposed by the proponents of a positive finance-growth nexus. Two, to describe the actual incidence and cause of the GFC that necessitated a revision of the nexus into threshold analysis. In the mainstream literature, the causes of the crisis have included poor risk management practices, excessive debt leveraging,

increasingly complex financial products and weak regulation, not least in underwriting standard for mortgage contracts. As a result, the cost of systemic banking crises has been estimated to range between 13.3 and 50 percent of GDP in fiscal costs, net of recoveries, associated with crisis management. Output losses (deviations from trend GDP) are estimated to be an average 20 percent of GDP during the first four years of the crisis, and can be as high as 100 percent, as industries dependent on the financial sector in high-income countries experience disproportionate negative growth (Laeven and Valencia, 2008).

It is striking to see how the crisis revealed the inability of mainstream economics to comprehend the contradictions of the capitalist market economy it promoted (Sardoni, 2015). Most mainstream literature admits to a lack of understanding of the GFC. This is because of its estrangement from standard business cycle models, including those in which financial fluctuations reduce economic growth. However, the literature is not oblivious to how the impact of this crisis differs from previous post-World War II recessions (Ohanian, 2010). In what is referred to as the financial view of the crisis, the failure of large financial institutions and decline in value of asset-backed securities made the crisis worse. But reduced financial intermediation as a result of rising interest rate spreads exacerbated it into a recession (p. 55). Despite these acknowledgements, the mainstream literature still demonstrates excessive faith in existing financial institutions accompanied by the unrelenting notion that financial development causes growth.

Some economists believe the origin of the crisis is to be found in the financialised credit-based global economy crafted by capitalism, founded on a neoclassical and free market economic theory and characterised by liberalisation, deregulation and privatisation of public enterprises and shareholder value maximisation (Stiglitz, 2013; Weeks, 2014; Bateman, 2014a). The effect of financial sector deregulation is emphasised as the root cause of the crisis. This started with the abolition of the Glass-Steagall regulation, which led to the removal of fetters that kept the

financial sector in check. This was followed by the expansion of shadow banking in the USA and the proliferation of financial debt instruments expanded to other Western economies, giving rise to a debt bubble that was soon followed by the economic crisis (Keen, 2011).

The crisis has also been linked to the sheer expansion of the securitisation of mortgages in the so-called innovative financial markets. This has been encouraged by the expansive scale of the financial sector, aided by previous policies that encouraged the growth and development of private capital and finance in general. As such, the growth in banks and the availability of finance has in turn increased a willingness of borrowers to incur debt, which further increases the debt level in the economy. Therefore, household indebtedness was only made possible by the expansion in the financial sector.

Contrary to the claim that absolves hedge funds from blame but indicts bankers as sole perpetrator of the crisis, Lysandrou (2012, p. 227) points out the role of hedge funds. “Had it not been hedge funds’ intermediary position between the investors seeking yield on the one hand and the banks that created the high yielding securities on the other hand, the supply of these securities would never have reached the proportions that were critical in precipitating the near collapse of the whole financial system.” He adds that, hedge funds, by the enormous amount of money available to them, diverted to sub-prime backed securities, and were a major source of pressure to banks to create and distribute products that were highly toxic. Therefore, it was because of hedge funds that the nature of the crisis was agreeably described by most people as taking the form of a subprime crisis. This position however is in contrast to Eichengreen (2008, p. 14) who maintains that hedge funds played no significant role in the crisis. He claims that they had no special role in the crisis but only mirrored the banks, pension and mutual funds and insurance firms in their level of risk-taking, the use of credit and pro-cyclical portfolio adjustments, the use of Structured Investment Vehicles (SIVs) and other conduits to high-yield investment.

The activities of hedge funds, banks, pension and mutual funds created collateralised debt obligations (CDOs) that grew in size, large enough to wreak sufficient havoc in the economy when it collapsed. CDOs were made up of “structured credit products created by pooling mortgage-backed securities, mainly comprising those backed by subprime and other nonconforming mortgage loans, with other asset-backed securities as collateral” (Lysandrou, 2012, p. 228). The techniques for putting these products together were too opaque, such that they compounded the panic that arose when debt obligations could not be met. It was a vivid case of information asymmetry in the financial market, in which those who bought these debts were unaware of the impossibility to realise their value in liquid form. Eventually, liquidity-solvency spiralled to the banks and the rest of the financial sector. Lysandrou argues that the “rapid growth of CDO issuance before 2007 could not have been due to the pull of external demand but that, on the contrary, it must have been powered by the issuing banks to promote their own material interests” – to boost asset returns by the significant amount of leverage CDOs. This was possible because, unlike other financial market products, the complex and heterogeneous nature of CDOs prevented the development of a broad customer base. “The fact that substantial amounts of CDOs remained within the banking sector at the time of the subprime crisis further confirms this impression” (p. 229).

The staggering increase in CDOs between 2002 and 2007 was remarkably concomitant with a rising concentration of wealth among a few, who continually sought to maintain and even increase their wealth by ploughing it into hedge funds. According to Goda and Lysandrou (2014, p. 302), this concentration of wealth in the hands of high net-worth (HNW) individuals – comprising 0.6% of the total world population, worth \$41 trillion in assets, out of a total world GDP of \$55 trillion in 2007 – makes the causal effect of the crisis attributable to inequality in financial distribution. They see the concentration of wealth as one of the ‘demand-pull’ factors. This wealth was mostly invested in hedge funds, which were the major buyers of



CDOs. And the drive for high yielding investment from HNW individuals “not only helped to lower the yield of highly rated traditional bond classes [...] but also led to increasing assets being placed under the management of hedge funds”.

Toporowski (2015) notes that most of the literature that analyse the crisis considers it a crisis of liquidity in money and capital markets owing to deregulation, financialisation, speculation and neoliberalism. He argues that the crisis cannot be understood without a critique of the processes of capitalism, integrating the theory of production with distribution and the financing of capital accumulation. Such critique, he emphasises, has to go beyond just the addition of new forms of debt to theories of capitalist production and distribution as some heterodox literature do.<sup>17</sup> The “incorporation of finance into the analysis of capitalism [should include] identification of debt structures, the processes by which balance sheets are kept liquid, and the effects of this on capitalist institutions” (p. 1). He adds that the cause of the crisis, within such functioning of capitalist enterprises and the economy, was the over-reliance of non-financial institutions on short-term finance to facilitate mergers and acquisitions. Insufficient liquidity in these institutions led to decrease in fixed investments. Reduction in investment then impaired the economy’s ability to support the growing debt structure, and culminated in the crisis.

Toporowski (2015, p. 3), explains how different the 2008 financial crisis is from the “financial crisis that is typical of *classical* capitalism”. The difference is in the inability of banks to meet the demand for long-term borrowing by the capitalist entrepreneur in the GFC, thus leading to a squeeze of liquidity and eventually company failures. The history of the crisis can be traced to the emergence of financial markets for long-term debt and shares transaction in capitalist institutions in the 1860s. This transformed capitalism into its modern form of dominance by joint stock companies as against control of capital by individuals (Kindleberger, 1993, chapter

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<sup>17</sup> See for example Lapavistas (2013)

11). Long-term debt markets provided the capitalist entrepreneur with the platform for refinancing short-term debt with long-term bonds, ensuring that the capitalist entrepreneur had sufficient liquidity to service interest and dividend payments on long-term debt or equity. Financial markets then provide liquidity for long-term securities with short-term borrowing. “Such layering of credit (lending in order to buy debt instruments) constitutes proliferation of debt”. In addition, there was a rise in monopoly capital due to the attendant expansion of long-term finance. Increase in monopoly capital is considered to promote growth through the acquisition of competitors’ long-term debt rather than engaging in productive competition and increasing returns to scale (Toporowski, 2015, p. 4-5).

He emphasised the importance of distinguishing between the role of non-financial business corporations and SMEs in access to finance. Corporations, through banks, capital markets and derivatives, have access to a full range of domestic and international financial products, without capital controls. This allows for corporations to take advantage of long-term debt and avoid the need to roll over debt. The provision of unlimited capital to corporations, he adds, “require[s] a massive inflation of capital and long-term debt markets that, without a corresponding inflation of intermediary institution to maintain the liquidity in these markets, would increase financial instability well beyond anything that has been experienced so far in the capitalist world. Large corporations [also] account for the vast bulk of fixed business investment [... and are a] key private sector determinant of the business cycle” (p. 10-11). On the other hand, SMEs, which actually account for the majority of private sector employment, do not have access to long-term debt. This dichotomy provides a framework for understanding the crisis. Given that borrowing for fixed capital investment by large corporations declined to unsustainable levels, the ensuing reduction in investment, made it impossible to service these debts, resulting in economic depression.

The above argument is validated by the OECD data which show a decline in fixed capital investment in plant and machinery of 23% in the UK, 15% in the USA, and 18% in the European Monetary Union – the countries most exposed to the financial crisis – between 2007 and 2012. In the same period, household consumption fell by only 5% in the UK and even rose in the USA and EU area. These figures prove that, “it is a decline in investment, rather than any fall in the consumption of indebted households that has caused the so-called ‘Great Depression’” (p. 14).

Remarkably, there has been a dramatic comeback, since 2010, of the same neoliberal policies that caused the crisis accompanied by acute downplaying of the supposed reforms in response to it. Some mainstream economists even accept as true the notion that the crisis was a normalised low in the business cycle. Nonetheless, the empirical analyses of the finance-growth nexus have been revised into a threshold analysis, as will be discussed in Chapter 3. Yet, the belief in the fundamental assumptions and theories that underpin the original nexus arguments lingers. The financial sector has almost been absolved of any responsibility for the crisis with an even heightening return of shareholder value maximisation by way of bonuses in the sector. Responsibility for the crisis is often shifted to the state for not regulating the financial sector effectively. In some circles, the lower working class are accused of consuming more than they earn, as the causal factor of the crisis.

The reversal of a prolonged growth period from the late 1990s to 2007, when the financial crisis materialised, inevitably raises questions over a significant positive relationship between finance and growth. It also demonstrates the unsustainability of economic growth arising from financial development at the expense of the real economy, given that such growth is often wiped out with the eventual failure of the economy. Judging by the impact of the great financial crisis, it becomes necessary to riposte the argument that financial development is always accompanied with the propensity not only to eliminate any initial positive impact of growth,

but also reverses the positive impact as well that other factors may have on growth. Thus, financial development could be the very antithesis of growth itself.

## **2.8 Conclusion**

This chapter has presented a critical review of the finance-growth nexus literature roughly up to the point of the Global Financial Crisis. It contends mainly that the theoretical and empirical developments in the nexus literature have been underpinned by a targeted pursuance of a positive relationship between finance and growth. This objective has been hinged on an enigmatic process of treating finance and growth as homogenous components in delineating causality, and their disaggregation through market- and bank-based forms of finance and various channels of impact on growth. These are the mainstays of the analytical framework. The limitations of the econometric techniques in the literature have been discussed. More importantly, the results of these techniques are understood to be conflicting, in that different conclusions abound for these techniques, largely dependent on the authors. The shifting modifications in the underpinning efficient market hypothesis, which the literature employs to sustain the finance-growth nexus, has also been analysed in this chapter. This has been closely followed by a selective discussion of views on the financial crisis and how this may have impacted upon the nexus. The crisis is markedly the point at which accrued growth from financial development is reversed, and the basis upon which the nexus is now being revisited. The crisis has necessitated a shift to threshold analysis, which is yet another attempt at salvaging the remains of, or building upon, the nexus in the wake of uncomfortable and unavoidable empirical developments. This will be taken up in the following chapter.

Despite the flaws in theory and methodology, mainstream economists continue to unearth arguments and reasons why a positive impact of financial development should be maintained.

In practice, financial expansion continues for advanced countries and is being encouraged for developing countries as well. Some have noted against all odds that a negative nexus is a foregone conclusion, denying the glaring reality of the crisis. For others, however, the overwhelming evidence of the 2008 crisis has shifted these arguments towards financial caution. But caution is not enough. Indeed, one cannot continue to rely on the abstract market efficiency approach to finance and development. With these developments in the nexus, it is not farfetched to draw the same conclusions as Stiglitz (1994, p. 20), that the relationship between finance and growth and the pursuit of financial liberalisation is "based on an ideological commitment to an idealised conception of markets that is grounded neither in fact nor in economic theory."

## **CHAPTER 3.0 – THE THRESHOLD ANALYSIS OF THE FINANCE-GROWTH NEXUS: DELAYED REVISIONISM**

### **3.1 Introduction**

The relationship between finance and growth was initially alleged to be, or at least estimated as if, linear. Later on, empirical investigations started to show that the relationship might be non-linear. These later studies found the relationship to be dependent on other factors, not least a country's level of development. However, this non-linear relationship of the finance-growth nexus was downplayed or simply disregarded in pursuit of evidence in support of financial liberalisation. As a response to the 2008 financial crisis, and its impact on economic growth mainly in advanced but also in some developing countries, there has been a revision of the literature on the relationship between finance and economic growth. The growth in output accruing to countries from financial development was wiped out during the crisis. As such, the non-linear relationship of the nexus could no longer be ignored, given that the GFC exposed the loopholes in a dogmatic pursuit of financial development. Arcand et al. (2012; 2015) point out that the financial crisis raised concerns about the size of some countries' financial systems in relation to the size of their domestic economies. Therefore, the finance-growth nexus theory has now been located in a threshold analyses mainly in an attempt to capture possible nonlinearities in growth equations (Yilmazkuday, 2011).<sup>18</sup>

This chapter therefore traces this revision, and critically analyses the threshold literature. The most cited work of Arcand et al. (2012; 2015) in the finance-growth nexus threshold literature is examined extensively, among other studies, in order to probe some of the econometric techniques used in the literature. Also, the disproportionate focus on the paper "Too Much

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<sup>18</sup> Tellingly, the revised literature refers to itself in terms of non-linearity, which captures generality at the expense of making explicit that finance's effect might even be negative.

Finance” by Arcand et al. is because its approach and data serve as a point of departure for this thesis. This chapter further aims to show that the literature on threshold analysis of the nexus does not fundamentally deviate from the unrelenting notion of a significant place for finance in development, despite the recognition of its flaws. The threshold analysis is seen to retain the deficient techniques of previous empirical investigations that have resulted in conflicting and inconclusive results for the nexus, and it also makes very little contribution to correcting the problems it has itself identified. Considering this development in the literature, this chapter draws out the implications of the threshold analysis of the nexus for developing countries, among other limitation. Including pointing out the role of the World Bank and IMF in advancing these types of research. This is taken to be an original contribution to the literature since the implications of the threshold analysis of the nexus is yet to be analysed for developing countries, despite being applied to African countries in the studies carried out by Ikhide (2015).

Despite the assertion of a revised body of literature, there is not much that is fundamentally new about the threshold literature as it takes its cue from previous non-linear studies. Easterly et al. (2000) were among the first to point out non-linearity by investigating the relationship between financial development and volatility in growth. They find a convex relationship and concluded that financial development after a certain level starts to have a positive effect on volatility. Deidda and Fattouh (2002) used cross-country data to find a statistically significant positive relationship between finance and growth for high income countries, and positive but statistically insignificant impact for low income countries. In the same vein, Rioja and Valle (2004) used a panel data of 72 countries (categorised into high, middle and low levels of financial development) and find that at high levels of financial development, finance has a positive and insignificant impact on growth, a positive and statistically significant impact at intermediate or middle levels of financial development, and negative and statistically insignificant impact at low levels of financial development. However, they set their threshold

of financial depth for the high region of financial development at a low of 37% of GDP. This resonates with their earlier work (2002) which used GMM to show insignificant relationships for low- and high-income countries and positive impact for middle income countries. Both Deidda and Fattouh (2002) and Rioja and Valev (2004) control for non-monotonicity between financial and economic development.

Some contrasting non-linear findings from the studies above are those of Shen and Lee (2006), who use panel data of 48 developing and advanced countries from 1976 to 2001, and find that the relationship between finance and growth is non-linear but with a U-shaped curve for both developing and advanced economies. This is, however, in contrast to the findings of Huang and Lin (2009) who use cross-sectional data for 71 countries from 1960 to 1995. Though they find that the relationship between finance and growth is non-linear, it is more positive in developing than in advanced countries.

With the use of panel error correction models to estimate the short- and long-run effects of financial development, Loayza and Ranciere (2006) try to reconcile the inconsistencies in the literature between studies that find a positive relationship between financial development and growth, and those that find a negative relationship. Their findings revealed that a significant positive relationship exists in the long run, while a negative relationship exists in the short run due to volatility and crises. This was alleged to be explained by the inevitability of financial crises at higher levels of financial development. Evidence of non-linearity in the nexus literature was assumed to be part of a normal business cycle.

Non-linearity in the finance-growth nexus was also later hinged on the impact of inflation. Rousseau and Wachtel (2002) found that the impact of finance on growth becomes negative when inflation crosses a threshold of 13.4 per cent. However, it was dependent on the measure of financial depth used – with stock market capitalisation showing a higher negative



relationship than other measures of finance. Using a different method, they also found that high inflation crowds out the long-run effect of financial depth on growth. The second method was at 8 per cent inflation threshold and was also dependent on the financial depth measure used. Khan, et al. (2001) also investigated the impact of inflation on the finance-growth relationship in a large number of advanced countries, and found that beyond a certain level of inflation, financial development negatively impacted economic growth.

These non-linear studies of finance and growth were also alleged to shed light on the overall development of countries at various levels of financial development. Rousseau and Yilmazkuday (2009) showed that before low-income countries can start to experience a strong positive relationship between finance and growth, they have to reach a threshold of \$665 per capita income in 1995 constant US prices. And, at a per capita income of \$1,636 in 1995 constant US prices, low income countries experience a higher positive finance and growth relationship than the average in high income countries. This is what Gerschenkron (1952) described as the ‘catch-up effect’ – which says that low income countries start to experience more growth than high income countries. Here, in relation to finance, financial capital may be substituted for physical capital.

The rest of this chapter reviews the major theoretical considerations of the threshold analysis of the nexus, starting with Arcand et al. in section 3.2. It analyses in detail the methods used in their research, drawing out its strengths and weaknesses. Section 3.2.2 discusses the contributions of other authors to the threshold analysis, highlighting techniques used and comparisons with Arcand et al. This is followed by some emergent explanations for drawing a conclusion of a threshold relationship between finance and growth, in section 3.2.3. A critique of the literature and the reasons offered for the existence of a threshold relationship in the nexus follows in section 3.3. It also discusses the role of the World Bank and the IMF in advancing a threshold conclusion for the literature. It is revealing that the revision into thresholds since the

Global Financial Crisis has been largely driven by the IMF and World Bank, which bears evidence of the influential role that these institutions play in determining the direction of the literature, and for the study of development in general. Section 3.5 concludes.

### **3.2 ‘Too Much Finance’ Threshold Analysis of the Nexus**

The threshold analysis investigates whether there is a level beyond which financial development starts to exert a negative effect on growth. It attempts to link the significant positive relationship between finance and growth to thresholds of financial development. Arcand et al. (2012; 2015) point out that the studies which find only non-linearity in the nexus and nothing more, do not allow for a non-monotonic effect of financial depth. They use credit to the private sector by banks and other financial institutions as a measure of financial depth, and investigate the non-monotonic effect of the marginal effect of financial depth on output growth. With country-level data covering 1960-2010, they estimate models for different sub-periods. Their regressions include log of initial GDP per capita in order to control for convergence, and credit to the private sector as a second measure of finance. They use initial stock of human capital, trade openness, inflation and the ratio of government expenditure to GDP as control variables – to show a positive relationship going from financial depth to economic growth.

In simple cross-sectional regressions, they replace the log of credit to the private sector with the level of credit to the private sector (PC) and a quadratic term of the same variable (PC<sup>2</sup>) to test for a “too much” finance hypothesis. They find that both variables are statistically significant, and the coefficient of the linear variable is positive, while that of the quadratic term is negative. This is a necessary condition for a non-monotonic relationship between credit to the private sector and economic growth. Their test of a sufficient condition is in accordance

with Lind and Mehlum's (2011) and Sasabuchi's (1980) (as cited in Arcand et al. 2015, p. 114-115) likelihood ratio approach, which test the hypothesis of a monotonic relationship in the following manner:

Given a model of the form  $y_1 = PC_{\alpha} + PC_i^2\beta + Z_i\gamma + u_i$ , the SLM test for an inverted- $U$  needs to be based on the following joint null hypotheses:

$$H_0 : (\alpha + 2\beta PC_{min} \leq 0) \cup (\alpha + 2\beta PC_{max} \geq 0) \quad (1)$$

$$H_1 : (\alpha + 2\beta PC_{min} > 0) \cap (\alpha + 2\beta PC_{max} < 0) \quad (2)$$

Where  $PC_{min}$  and  $PC_{max}$  are the minimum and maximum values of the credit to the private sector, respectively. Their results show that the marginal effect of credit to the private sector is positive and statistically significant at  $PC_{min}$  but negative and statistically significant at  $PC_{max}$ . Thus, the SLM test, based on the slope of the estimates of their regressions, rejects  $H_0$ , indicating that their results are consistent with the presence of an inverted- $U$  relationship between credit to the private sector and economic growth. They show that the marginal effect of financial development on growth becomes negative when credit to the private sector reaches 80-100% of per capita GDP. They note that their threshold is similar to where Ramey and Ramey (1995) and Cerra and Saxena (2008) find that financial depth starts having a positive effect on volatility.

However, Law and Singh (2014, p. 5) have criticised the technique used by Arcand et al. (2012) to investigate a non-linear relationship in the nexus, particularly their approach to investigating 'too much finance'. According to Law and Singh, "the square term of the financial development variable used to capture the threshold impact of finance and growth imposes an *a priori* restriction that the effect of finance on growth monotonically and symmetrically increases and decreases with the level of financial development." Therefore, such relationship

is bound to behave in a prescribed non-linear manner, and results obtained are bound to be biased if the true relationship is linear or not quadratic.

Arcand et al. (2012), however, note that the variable, legal origin, is not a good Instrumental Variable (IV) for addressing causality in a model that includes both the level and square of credit to the private sector as endogenous variables. Based on the literature that proposes that it is possible to identify causality through exploiting the existence of discrete regimes or not, with different levels of heteroscedasticity, they assume a model:  $Y_1 = a + \beta_1 X + \gamma_1 Y_2 + \varepsilon_1$ , with endogeneity problems because  $Y_2 = a + \beta_2 X + \gamma_1 Y_1 + \varepsilon_1$ . They argue that besides the standard assumption that  $E(X_{\varepsilon_1}) = E(X_{\varepsilon_2}) = cov(X, \varepsilon_1 \varepsilon_2) = 0$ . They also assume that there is heteroscedasticity in the data, i.e.  $cov(X, \varepsilon_2^2) \neq 0$ . If so, then,  $X_{\varepsilon_2}$  can be used as an IV for  $Y_2$ , because the assumption that  $cov(X, \varepsilon_1 \varepsilon_2) = 0$  guarantees that  $X_{\varepsilon_2}$  is uncorrelated with  $\varepsilon_1$  and the presence of heteroscedasticity i.e.  $cov(X, \varepsilon_2^2) \neq 0$  guarantees that  $X_{\varepsilon_2}$  is uncorrelated with  $\varepsilon_2$  and thus with  $Y_2$ . If  $X$  includes more than one variable, the condition  $cov(X, \varepsilon_2^2) \neq 0$  needs to hold only for a subset  $Z$  of the  $X$  matrix. If this subset  $Z$  includes more than one element, the model will be over-identified and can be efficiently estimated with GMM (Arcand et al., 2015, p. 117).

They exploit the time variation of their data using GMM system estimator, by splitting the data into 6 non-overlapping 5-year periods and estimate the same regressions with time fixed effects, and lagged values of the log of the control variables. They apply the inverse hyperbolic sine transformation to zero values, in the form  $\hat{x} = \ln(x + \sqrt{x^2 + 1})$ , and find that the relationship between financial development and economic growth decreases and their results become less statistically significant as more recent data are used for estimation. These results for panel regressions are similar for parametric and semi-parametric estimators (the linear and quadratic fit), and country- and industry-level data. Cross-country analysis using panel data

also suggests that the relationship between credit to the private sector and growth, estimated by a quadratic functional form, is concave and non-monotonic.

By altering periods, length and samples of their data, they emphasise that their “results are robust to different specifications, different length of growth spells, different definitions of financial depth, and for controlling for the convergence effect of financial depth” (Arcand et al., 2015, p. 126). Their results are positive and statistically significant for observations where credit to the private sector is less than 90%, and negative and statistically significant for observations with credit to the private sector greater than 90% of GDP. For ten-year growth spells, they find the same results, except that the correlation between finance and growth is no longer statistically significant for 1960-2000 data, when credit to the private sector is between 80-90%. Here, the marginal effect of financial depth is negative. Also, financial depth – with a negative and statistically significant interaction term or coefficient – has a positive effect on convergence for the ten-year growth periods (also interpreted as the speed of convergence) but has no effect on long-run growth.

By using bank credit as their measure of financial development to replicate a non-monotonic relationship (at a lower threshold), they show that their results are not dependent on their preferred measure of financial development – credit to the private sector. Furthermore, they maintain that their results of non-monotonicity are not completely driven by crises and volatility by controlling for macroeconomic volatility and banking crises – creating dummy variables of ‘one’ for countries above the “within-country standard deviation” of the annual output growth for each of the five-year spells, and ‘zero’ for countries below this threshold), as put forward by Kaminsky and Reinhart (1999), Easterly et al. (2000), Rousseau and Wachtel (2011), and Schularick and Taylor (2012). Volatility and banking crises are negatively correlated with GDP growth, and controlling for them does not change the baseline result of the non-monotonic relationship of the nexus. They also show that the result is robust to

controlling for institutional quality by interacting credit to the private sector with International Country Risk Guide (ICRG) index of quality of government, since credit to the private sector is not statistically significant with low institutional quality. The conclusion, then, is that the relationship between finance and growth is consistently non-monotonic, irrespective of volatility and crises, and other heterogeneous factors such as institutions. An implication of this is the possibility of ‘too much’ finance, since finance can, in of itself, be negatively correlated with growth. This implies that there should be a limit to financial depth in an economy.

In addition, Arcand et al. test the robustness of the non-monotonicity of the relationship between financial depth and growth using household-, firm- and industry-level data. They obtain similar results for household credit, with a statistically significant non-monotonic relationship between household credit and growth. Growth is maximised when total credit to the private sector reaches 50% of GDP for household credit, 80% of GDP with insignificant quadratic term for firm credit. They note that these results suggest that the non-monotonic relationship of the nexus may be driven by excessive lending to households. Industry-level data show that financial depth starts having a negative impact on industry-level growth when total credit to the private sector reaches 120% of GDP. The results remain the same even after controlling – as in Rajan and Zingales (1998) – for the interaction between external dependence and GDP per capita; augmenting their model with the interaction between external dependence and the square of GDP per capita; controlling for outliers; and changing the index of external financial dependence from 1990s to 1980s as commonly used in the literature and to control for differences in technology between industries in the USA and the average of other countries in their sample.

Arcand et al. observe that different financial depth thresholds is the only reason why their result differs from Rioja and Valev (2004), who set their financial depth threshold for high regions at

37% of GDP, and find that even for financially advanced economies, finance still has a positive, albeit small, impact on economic growth. And, as indicated, they also observe that the threshold at which they find that financial development starts having a negative impact on growth is consistent with the threshold at which Easterly et al. (2000) (and other literature on finance and volatility) show empirically that financial development starts to cause volatility on growth. For Easterly et al., volatility growth starts increasing when financial development, measured by credit to the private sector reaches 100%, with the relationship between financial development and growth being an inverted-U and non-monotonic. Also, their results is consistent with other studies (Cecchetti and Kharroubi, 2012; Pagano, 2012; Law and Singh, 2014; Aizenman et al., 2015) which use different data sets, methodologies and measures of growth.

They add that their result is consistent with the “vanishing effect” of financial depth on growth found by Rousseau and Wachtel (2011) and also consistent with De Gregorio and Guidotti (1995) who find credit to the private sector and growth to be positively correlated only up to the 1970s. As suggested by the term, the vanishing effect refers to when financial development starts to have less and less impact on economic growth. They argue that this vanishing effect is not due to any fundamental change in the relationship between finance and growth, but caused by the rapidly growing financial sector over the last twenty years. They maintain that as a result of this vanishing effect, models that do not allow for non-monotonicity between finance and growth are mis-specified and neglect the vanishing effect of financial development, because they omit the quadratic form of credit to the private sector. This omitted variable increases with increasing financial development, so does its impact on the models.

To test this, they use a standard biased formula and a simple Monte Carlo simulation to show that the downward bias increases with the expansion of the financial sector. Suppose the true relationship between the left- and right-hand sides of an OLS regression is given by  $y = x\alpha +$

$z\beta + \varepsilon$ , but one estimates  $y = x\alpha + u$  instead,  $z$  is therefore an omitted variable. Given the standard formula for omitted variable bias in  $\alpha$  as:  $\text{bias} = E[\alpha_{OLS} - \alpha] = \frac{\text{cov}[x,z]}{\text{var}[x]}\beta$

Where  $x$  is credit to the private sector,  $y$  is economic growth and  $z$  is the quadratic form of  $x$ . They show that:  $\text{bias} = E[\alpha_{OLS} - \alpha] < 0$ , since, from their results,  $\alpha > 0$ ,  $\beta < 0$  and  $\text{cov}[x, z] = \text{cov}[x, x^2] > 0$  for  $x > 0$ . To see how this bias increases over time, leading to the “vanishing effect” phenomenon, they add a time index to the variables, and show that if credit to the private sector increases at a positive rate  $\theta$ , and  $x_{t+1} = (1 + \theta)x_t$ , then the bias at  $t + 1$  is:  $\text{bias}_{t+1} = \frac{(1 + \theta)\text{cov}[x_t, x_t^2]}{\text{var}[x_t]}\beta$ .

Therefore:  $\frac{\text{bias}_{t+1}}{\text{bias}_t} = 1 + \theta > 1$ , which shows that the bias increases in absolute terms over time as credit to the private sector increases. Nonetheless, the bias is likely to be small for regression with few countries with high financial development above the threshold at which the marginal effect of financial development becomes negative (Arcand et al., 2015, p. 121).

Arcand et al. (2015, p. 109) put forward, quite rightly, that the hypothesis that the reason for a vanishing effect in the relationship between finance and growth would either be that something fundamental has changed in the relationship or the true nature of the relationship is non-monotonic. But the word ‘true’ is used elusively. They also assume a strict and narrow kind of relationship between finance and growth without an explanation of the social changes that could have occurred in the economy as finance increases. Surely, it is not only that something fundamental has changed in the relationship as they claimed, but such relationship is not exclusively between finance and growth and should not be so reduced. Also, Arcand et al. draw conclusions on the nature of finance based only on statistical methods, conflating correlation with the so-called ‘true’ relationship. This understanding of the nature of the relationship between finance and growth is deficient, as discussed around diagram 2.4.



In seeking for an explanation for their results, they argue in the later version of their paper that “if the optimal structure of the financial system evolves with the level of economic development”, then countries may not necessarily have too much finance but the wrong sort of finance. This is because, the results show that certain countries have too much credit and not enough financial services. This is also underpinned by the notion that, as countries become richer, credit to the private sector, which becomes the dominant measure of finance, has a less significant impact on economic growth. Arcand et al. (2015) further show, by developing a model that ‘endogenises’ the probability of a default and credit rationing, that the presence of a bailout may cause firms to engage in excessive credit taking which could also lead to “too much” finance with respect to the social optimum – one in which there is a correlation between the size of the financial sector and the political and lobbying power that ‘endogenises’ the probability of a default.

Apart from the moral hazard of firms taking excessive credit, the rest of the argument narrowly focuses on size alone as the problem with finance, without recognising the problematic nature of the interest-bearing or speculative nature of finance – despite issues raised around volatility. This is not in and of itself related to the size or the level of economic development, although the problem may be enhanced by the volume of finance. It is also not logical for countries to have too much credit and not enough financial services as they argued, since the proliferation of credit is due to the presence of financial and non-financial institutions that provide financial services. Except by financial services they mean those of a (required) certain kind. Therefore, the problem of finance and the issue of ‘too much’ finance or not, cannot be narrowly explained away as treated in their contributions, but should be hinged on the productiveness of finance or not – whether the growing financial system is contributory to economic development or not.

One main implication of Arcand et al.’s analysis (as they acknowledge) is that there is no guarantee that increasing financial development will necessarily increase economic growth,

given that as more and more years (with corresponding financial development) are added to their regressions, the share of countries which fall below their threshold goes from 96 to 34% of their sample. The growth effect is thus reversed with increasing financial development. Despite this, they offer no concrete explanation for this anomaly other than a reference to Minsky's financial volatility theory (Minsky, 1974, Kindleberger, 1978) and Tobin's financial sector suboptimal allocation of talents (Tobin, 1984). They do, however, admit that there is a tendency for lending to be misallocated to non-productive assets or used to "feed speculative bubbles" (p. 110) in mortgage lending or other excessive household consumption, besides financial fragility arising from hedging opportunities. Indeed, it might be argued that Arcand et al. spend disproportionate effort empirically establishing lack of monotonicity without a corresponding depth of interrogation of why and how it should prevail.

In their empirical study, inflation figures have an upper limit of 500 percentage points, with those above this bound rounded up to 500. Also, negative figures are excluded, because they cannot be captured in a regression analysis. One would imagine that the reason for exclusion of excessively large values was to reduce the disproportionately large effect of high inflation figures on the best unbiased (linear) estimator. But this is unnecessary, since the test was to capture non-linearity. Such containment of inflation values, for minimising the effect of one variable and for the sake of statistical conformity, has, in of itself, the potential to create a bias that undermines and conceals the impact of fluctuating price levels (including high asset prices that cause bubbles). The elimination of high inflationary prices that capture credit bubbles and periods leading to crises, and deflationary negative prices that capture credit bursts and the effects of crises may be the reason for one of their findings; that financial crises and volatility have no impact on the non-monotonicity of the nexus. Perhaps, if inflation variables are included without any upper limit, their finding would be different. The inclusion of both negative inflation variables and those above 500 percentage points may reveal the real

fluctuating nature of financial development, even a possible negative relationship for middle-income countries. This, therefore, requires further investigation.

Nonetheless, Arcand, et al. further attempt to infer on the nature of the nexus with respect to the short- and long-runs. They find that their results are consistent with longer-growth spells of ten years, that is, a positive nexus in the short run and negative in the long run. This however, contradicts Loayza and Ranciere (2006) who find a positive nexus in the long run and negative nexus in the short run, and explain that it is possible that countries with large financial sectors pay a price in volatility but are rewarded with higher growth. Despite finding a negative relationship in the long run, they affirm the convergence of countries with financial development. Arcand et al. (2015, p. 107) assert that, “the presence of a non-monotonic relationship between finance and growth is robust to controlling for the convergence effect of financial depth.” This construed linkage of convergence despite non-monotonicity in the nexus resonates with the finding of Aghion et al. (2005), who had noted that financial depth had no effect on steady-state growth – alleged to be in the long run. For them, “the long run is a fixed equilibrium and cannot be affected by anything, including the short run and whether its deviations from the equilibrium are due to monetary or other disturbances” (Fine and Dimakou, 2016, p. 41). The flawed notion of growth convergence is taken up below as part of the critique of the threshold analysis and within the context of non-convergence of developing countries.

### **3.3 Other Threshold Analyses of the Nexus**

Yu, et al. (2012) investigate the general economic assumption that financial development, stock markets in particular, acts as a catalyst to economic growth especially for highly developed OECD countries. They allude to mitigating the shortcoming of heterogeneous cross-sectional country data and homogeneity of geographical regions and income, as discussed earlier, by

using homogeneous panel data both across geographical regions and different income groups. However, their approach is flawed in that their panel data lack the required cross-sectional dimension. They use the World Bank nested panel data structure of 172 countries, which categorises all WB member states with population of more than 30,000 by seven geographical regions and four income groups – from which they obtain average values of financial development across countries of same geographical regions and similar income groups. As such they assume that high income countries automatically have higher levels of financial development.

Surely, there is an exaggerated claim of homogeneity of financial development among the clusters of countries in the work of Yu et al. (2012) given that these countries are bound to have heterogeneous and asymmetric levels of financial development. They use number of years of financial institutions to measure financial depth, whereas it is not necessarily the case that a country's financial depth level increases as years pass by. Financial underdevelopment is largely dictated by other social and institutional factors, and has little to do with the length of time these financial institutions have existed. An example is the case of Nigeria and Zimbabwe, with the latter having financial institutions almost twice as old, but lower financial development. Such unsubstantiated method of achieving homogeneity is bound to produce biased results as the World Bank country grouping, they agree, is riddled with “homogeneity in the level of financial development, stock market development and economic growth to some degree” (p. 3480).

They investigate the real impact of different financial development indicators on growth. Their findings reveal that stock market development indicators have no significant impact on growth. Having also investigated Granger causality across these different geographical regions and income groups, they find stock market proxies to be significant in Granger-causing growth in other low/middle income countries like South Asia, SSA and MENA. The finance-growth

relationship was found to be weak in low income economies like East Europe, Central Asia and Latin America, and strong in the OECD countries. Therefore, they conclude that different policy bearings should be pursued depending on the income level, geography and institutional development of a country. However, they do not provide an explanation for the differences in results for these regions apart from alluding to the role of financial speculation.

With the above findings, they generally advocate an increase in savings and investment irrespective of geography or income level to increase economic growth. This position is compromised by their research because despite finding no relationship between the financial variables used with growth in East Europe and central Asia, Latin America and the Caribbean and South Asia, they insist on increasing savings for investment and growth. Also, the Middle East and North Africa and sub-Saharan Africa only show a short-run relationship between credit to the private sector and growth. Yet, they make policy recommendations with no justifiable reason that increased credit to the private sector and domestic savings across all regions are necessary. Despite the feature of this study in seeking to capture homogeneity across geographical regions and income groups, there is minimal acknowledgement, nearly a denial, of the enormous negative impact of the GFC. The inclusion of time-fixed effects in the empirical estimation is alleged to capture the periods of crises, and leads to a conclusion of a positive relationship between finance and growth. However, the problem is that the period examined, 1980-2009, was saddled with numerous banking and financial crises (lost decade in LAC, Asian crisis of 1997, Russian crisis of 1998, and many more), with very debilitating effects of financial development on both developing and advanced economies. These observed negative experiences of finance make the conclusion of a positive impact of finance on growth questionable.

Yilmazkuday (2011) observes that the threshold analysis of the nexus now cuts across levels of financial development, deviations from optimal financial development, rates of inflation and

levels of economic development. And, since these thresholds have been achieved through discrete analyses, there remains within it the tendency to suppress the real nonlinear long-run relationship between growth and the variables investigated. Therefore, he used the rolling-window two-stage least square regression with constant and large sample sizes to capture nonlinearities and thresholds in his analysis. With a data set for 84 countries over the period 1965-2004, Yilmazkuday (2011) used the growth rate of real per capita output averaged over 5-year periods, together with control variables of log of initial per capita GDP, log of initial secondary enrolment, the ratio of liquid liabilities (M3) to GDP, the ratio of M3 less M1 to GDP, inflation rate, openness and government size to measure thresholds in the finance growth nexus. The rolling-window two-stage least squares regression, with a constant window size of 120 after ordering the data according to the threshold variable, was used to produce a continuous threshold analysis.

He found that inflation impacted negatively on the positive effect of financial depth on growth in the long run. And the size of government had a positive relationship with the finance-growth nexus in low-income countries and a negative relationship in high-income countries. In terms of trade openness, a high level of trade was needed for low-income countries for a positive relationship between finance and growth and vice-versa for high-income countries. Finally, the supposed catch-up effect for the finance-growth nexus was higher for moderate per capita income countries. This implied that middle-income countries would benefit more from financial development than low- and high-income countries. The study succeeded in capturing thresholds in other control variables other than financial development and inflation.

However, Yilmazkuday (2011) initiates his research on an unfounded proposition that instabilities have no impact on growth in the long run. He argues that the impact of instabilities on an economy is negligible, especially when viewed from the perspective of the poor as they are not directly affected in a financial crisis. He assumes this position because of the short-term

nature of instabilities, and that it will be possible to achieve long-term growth despite these short-term fluctuations. However, instabilities and indeed financial crises can be seen to have adverse effects on the economy and in particular aggregate demand, given the high level of unemployment and low income that follow, as was evident in the 2008 GFC.

It is appropriate to be wary of the econometric techniques used in the threshold analyses, not least the questionable methods of disaggregating income groups, types or levels of development, and geographical regions. As pointed out by Rousseau and Yilmazkuday (2009) and Rousseau and Wachtel (2011), the splitting of countries in most research was only based on discrete measures that suppressed the actual nonlinear relationship between other variables and growth. However, Rousseau and Wachtel, (2002; 2011) tried to account for this problem by using a rolling regression that ordered data according to inflation rate averages that are continuous rather than discrete. Other variables, such as initial per capita income, trade openness, government size and financial development, were also used to reduce the generalisation in ranking countries. But Yilmazkuday (2011) notes that not much information was obtained from this type of rolling-regression ranking. He also observes that sequential regressions tended to have different sample sizes and so the estimated coefficients would have been incomparable to the changes in the power of the estimation.

Barajas et al. (2012) re-examine the finance-growth nexus argument by theoretically and empirically testing whether all countries benefit equally and whether impact differs across countries and regions depending on type of economy. They found that the relationship between finance and growth is weak in low income countries, although increasing with income level, and significantly positive at high income levels. This is in contrast to Arcand et al.'s findings of a significantly weak relationship in more financially developed economies. Their finding, is however influenced by many factors such as whether countries are oil exporters or not. For example, in the Middle East and North African countries, financial development (measured by

banking sector depth) produced lower growth when compared to non-oil producing regions of the world. The level of regulatory framework in place also tends to affect the strength of the nexus. In any case, they found that weaker growth may be derived from the banking sector depth and higher growth from stock market depth. Therefore, they maintain that MENA countries may lack the necessary institutional infrastructure to exploit the existing level of financial depth. Institutional inefficiency, thus, weakens the impact of finance on growth.

Other threshold analyses with findings akin to Arcand et al. (2012) are those of Hassan (2011), Ductor and Grechyna (2011), Cecchetti and Kharroubi (2012) and Law and Singh (2014) which use dynamic panel data to arrive at a significant positive relationship between finance and growth up to a certain level of financial development, beyond which finance exerts a negative impact on economic growth. Cecchetti and Kharroubi (2012) find a threshold of 90 per cent, using credit to the private sector by banks relative to GDP as a measure of financial development and, similar to Arcand et al., they use the square term of their financial development variable to investigate thresholds. They also find a threshold for employment level in finance, for which, if the financial sector employs more than 3.9 percent of total employment, further financial development will have a negative effect on economic growth. Law and Singh (2014) use a dynamic panel threshold method that extends static setup to endogenous regressors. They lay emphasis on the appropriate type and quality of finance as opposed to a simplistic expansion of the financial sector.

More recently, some economists have put forward reasons why there may not be an absolute and consistent positive relationship between finance and growth. Beck (2013) revisits the finance-growth nexus theory and offers three reasons for a negative relationship across high-income countries. First, the problem with finance may be its directions of flows. He notes that household credit, mostly comprising mortgage, constitutes 80% of overall bank credit. The empirical evidence between household credit and growth shows an insignificant relationship,



while on the other hand enterprise credit is found to have a positive correlation with growth. A second reason is in line with Tobin's financial sector sub-optimal allocation hypothesis, which presents a possibility that the financial system outgrows the real economy and attracts more talents towards it by extracting excessively high information rents.

Third, he points out that the measures of financial development in the literature may not capture efficiency and development, the absence of which may cause a divergence of financial development from growth. The make-up of private credit may capture financial intermediation functions of institutions but it remains a crude and imperfect measure of efficiency and economic development. This measure has become incongruous with the reality of modern financial systems. Beck (2013) points out that the choice of the measure of financial development in the literature is usually underpinned by the view of the financial sector to which one subscribes. On the one hand, academics mostly focus on the facilitating role of the financial sector – which includes the mobilisation of funds for investment and the efficient allocation of capital to productive areas of the economy. On the other hand, there is the view (to which policy makers often subscribe) that questions whether financial services contribute to growth or not. This third dichotomy is alleged (having only been nuanced) to be expanded upon by Beck et al. (2014) who used a sample of 77 countries in the period 1980-2007 and find that financial intermediation increases growth and increases volatility in the long run. However, it has no long-run effect on the real sectors of the economy. In the short run, however, the increase in growth incurs higher volatility, especially in high-income countries. This finding, nonetheless, raises questions around the productivity of financial services, which will be discussed in detail in chapter 6 of this thesis.

In an effort to exonerate finance, particularly banks, Beck (2013) puts forward the case that the fragility and non-linearity in the finance-growth nexus implies that the growth benefits of financial intermediation do not derive from finance and banks, but from financing and banking

(with the risk of becoming tautological as the latter are defined as what contributes to development). However, this is only a technical differentiation, and a poor attempt at differentiating banks from their non-productive activities. But Beck makes no clarification of which banking or financing activities are unproductive and impact negatively on growth. It is, in fact, difficult to separate finance from financing or financial actors, and banks from banking or bankers. Earlier on, De Gregorio and Guidotti (1995) hinted more simply that the negative effect of financial development in high income countries may be hinged on the proliferation of finance outside the traditional banking system.

### **3.4 Critique of the Finance-Growth Threshold Analysis**

Remarkably, most of the threshold literature finds a pattern that informs the conclusion of a strong positive correlation between financial depth and economic growth in countries with small and intermediate financial sectors. This conclusion situates the nexus argument in a simplistic dichotomy between the level of development and the level of financial deepening. “This is entirely to overlook the composition of assets in reality, and those particularly associated with contemporary shifts in financial deepening [...], namely the proliferation and expansion of assets associated with speculation and financialisation more broadly” (Fine and Van Waeyenberge, 2013, p. 11). Table 3.1 below presents a summary of the conclusions drawn for the threshold above studies. A few of them, such as Yilmazkuday (2011) and Barajas et al. (2012), find a weak relationship for low income countries. But Yilmazkuday also indiscriminatingly finds that higher levels of trade openness are needed for low-income countries for a positive nexus, while high-income countries need low levels of trade openness. Apart from Barajas et al. (2012), they all find a weak and negative relationship for high income

countries. This conclusion of a negative nexus for high income countries in the threshold literature is at best, only a seemingly response to the recent financial crisis.

Notwithstanding threshold conclusions that point to constraining financial markets, there is markedly a shift towards the endorsement of financial development for emerging economies. Some of these conclusions are drawn despite findings in some of the research that the relationship between finance and growth is never statistically significant within the LDCs (Arcand et al., 2012 for example). Unfortunately, this conclusion is drawn without any consideration for the short-term nature of finance predominant in these countries nor the directions of flows of finance. The flow of finance in these countries is exploitative, mostly to facilitate domestic short-term consumption or short-term investment from abroad for the purpose of speculation in assets. The increasing levels of finance in developing and emerging economies therefore, is not necessarily used to fund investment for development. Contrary to the threshold literature, finance will have no positive impact on long-term growth. In short, it has the tendency to undermine development. This is exactly the point alluded to by Berglof and Bolton (2002) in the context of the transition economies of East and Central Europe, when they argued that an excessive focus on financial development has the potential to undermine the role of the real economy in transition.

**Table 3.1 Table of Selected Threshold Studies and their Conclusions.**

Authors/Dates	Methodology/Period	Nexus Conclusions for Countries		
		High Income	Middle Income	Low Income
Ductor and Grechyna (2011)	Dynamic panel model	Positive	Positive and significant	Weak
Arcand et al (2012, 2015)	Cross-sectional household, firm and industry regressions, and panel data GMM system analysis from 1960-2010	Positive and significant	Positive and significant	Negative and significant
Yu et al (2012)	Panel data analysis of 84 countries from 1965-2004 categorised according to WB income groups.	Positive and significant	Positive and significant	Weak
Yilmazkuday (2011)	Rolling window two-stage least square regression of 84 countries over the period 1965-2004	Weak	Positive and significant	Negative
Barajas et al (2012)	Cross-section and dynamic panel estimation of 130 countries from 1975-2005	Weak	Positive	Positive and significant
Cecchetti and Kharroubi (2012/2015)	Dynamic panel model	Positive	Positive and significant	Weak

Law and Singh (2014)	Dynamic panel threshold method	Positive	Positive and significant	Weak
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Source: Author's compilation.

Nonetheless, the consensus in the threshold literature that a negative relationship exists between finance and growth for high income countries can be explained by the fact that financial liberalisation exposes the economy to instabilities, making any gains from finance elusive. Also, the insignificant relationship for low income countries in most cases, will be obvious, given the unequal distribution of finance, largely leaving the poor out of economic development. What is left of a positive nexus argument is the conclusion drawn for middle-income countries. A concentration on middle-income countries, henceforth, for examining the nexus might be thought to be able resolve the finance-growth once and for all. Some conclusions from regional cross-country specific studying middle-income countries are already tending towards a negative nexus. For example, Samargandi et al. (2014) revisit the nexus and investigate monotonicity for a group of middle-income countries. Using mean group estimations in a dynamic heterogeneous panel data to estimate a threshold model, they find an inverted U-Shaped relationship in the long run and an insignificant relationship in the short run.

This threshold analysis of the nexus has been tested for African countries. Ikhida (2015) use the conventional dynamic panel data methodology for a cross country analysis of 21 sub-Saharan African countries between 1970 and 2013 and found a positive relationship between financial development and growth. The presence of a threshold is then found by using a multiple equilibria model. For African countries, the data is divided into the periods 1970-

1980, 1981-2005 and 2005-2013. An inverted U-shape is also said to exist in the case of Africa. The positive relationship in the period between 1970 and 1980 is explained as a period of financial repression and underdevelopment in the continent, and the negative relationship between 2005 and 2013 is explained as a slowing down of growth due to higher levels of financial development. Again, this is simply to conflict number of years or periods for levels and stages of financial development.

These conclusions of the threshold analysis for different income groups raises questions on the nature of finance. Does finance exhibit differing behaviours depending simply on a country's level of development or does its behaviour depend on a complex combination of social relations? Even beyond the very form in which finance is composed, there often exists complex systematic social relations between classes in the flow of financial transactions. Whether it is high volume of finance, as with high-income countries, or low volume as with low-income countries, these complex social relations in the flow of finance remain pervasive, steadfastly embedded in its interest bearing and profiteering nature, beyond the form of finance or a country's level of development. In the end, its uneven distribution is inevitable. This attribute seems to be consistent, and also independent of the level of financial development. For this reason, it is unlikely for finance to exhibit different behaviours depending only on the geographical environment in which it exists or the level of financial development within that environment. As such, there is a need to capture more of the complexities in the nexus by focussing systematically on what sort of finance, what sort of economic activity, and how they interact with one another in specific contexts with necessarily heterogeneous outcomes across time, space and form. It is also important to find out the nature (amidst form) of financial development that might be best suited to developing countries.

As with other studies of the relationship between finance and growth, the threshold literature contends that despite short-term systemic shocks in the short run, the growth of developing

countries will converge with those of advanced economies in the long run. However, there is the misconception of a dichotomy between the short and the long run. It is also unclear when the long run starts to set in. Despite the convergence narrative, evidence has shown that developing countries have become farther apart from advanced economies in their per capita income. This is amidst perpetually increasing levels of financial liberalisation and openness in developing countries. It becomes necessary to ask, how long it will take for such convergence to be achieved through financial development, given that no developing country has 'converged' solely on the basis of financial liberalisation, as put forth by the threshold literature.

The notion that instabilities have no impact on long-term growth also points to attempts at justifying this long-run convergence. Just as in DSGE models, where short-run income distribution has no long-run effect on macroeconomic outcomes, these conclusions of long-run convergence through financial development is seen to be in line with the notion of a steady-state growth through financial development. This is simply an excessive commitment to finance. If anything near convergence is possible, evidence has shown that it is not through financial liberalisation and openness, but through industrial policy tailored to meet developmental goals. As Keynes pointed out in the *General Theory of Employment, Interest and Money*, there can be no long-run solution to the problem of development without a demand boost. As such, financial development, in of itself, is insufficient to achieve so-called convergence, if its inherent re-distributional efficacy is not addressed, to boost aggregate demand. Within development, one way to address such inefficiency of redistribution arising from financial appropriation, is through development finance as opposed to speculative finance. This differentiation is largely ignored in the threshold literature and the nexus in general.

What cannot be neglected about this revisionism is that it has been heavily driven by research at the IMF, the World Bank and other International Financial Institutions (IFIs). The study on “too much finance” by Arcand et al. (2012) was first published as a working paper with the IMF. Two of the three authors in the research done by Barajas et al. (2012), Adolfo Barajas and Ralph Chami, are staff of the IMF. Yilmazkuday’s (2011) cross-country analysis on thresholds in the finance-growth nexus was also published in the World Bank Economic Review. Cecchetti and Kharroubi (2012/2015) are economist at the Bank for International Settlements. Despite the disclaimers that accompany these publications, indicating that the views represent those of the authors and not necessarily the institutions, there is undoubtedly an association, even subtle endorsement. A lot of the discussion papers in the research departments of these institutions subscribe to these views. It is well known that these institutions are not usually associated with views that are contrary to theirs. Another point to note here is that all these studies have been done in the same period – after the GFC – and all drawing very similar conclusions.

It is striking that these institutions, which were hitherto of the putative belief in a positive relationship between finance and growth, pursuing this in all their areas of influence, now turn to a threshold nexus beyond which finance will no longer contribute to growth. The reason for this cannot be far-fetched. In the wake of the GFC, and the corresponding loss of legitimacy, having been at the fore front of the financial liberalisation agenda and corresponding commitment to markets, the World Bank and the IMF have sought to regain their position of dominating scholarship around the economics discipline and development in particular. This revisionism of the nexus into thresholds serves as another attempt in keeping with its tradition of historically revisiting its scholarship after every crisis. However, it is as inconsistent across time, space and form of finance, as with other policies from these institutions. It is seen to sustain the “complex, diverse and shifting set of combinations of scholarship, ideology and



policy in practice” of the World Bank (Fine and Van Waeyenberge, 2013 p. 1). So, the threshold analysis retains these inconsistencies of results and applicability across regions and levels of development. But, at the same time, it maintains the unrelenting drive for a market and financial liberalisation agenda for developing countries, in its “promotion of private capital in general and finance in particular” (p. 2).

Marois and Pradella (2015) believes that the unrelenting prominent role assumed by the International Financial Institutions (IFIs) is due to their survival being dependent on the progress of the world capitalist economy – increasingly defined by financial globalisation which ensures that hot money flows freely in and out of emerging economies. Hence, the reason for persistent support of financial development in these countries. The effect of such arrangements is that it reduces developing countries to centres of accumulation, where quick profit is made from short-term investments at the expense of human capital and industrial development. These implications for development finance and countries in general will be taken up more broadly in chapter four.

### **3.4 Conclusion**

This chapter has critically analysed the threshold literature of the finance-growth nexus and the implications of this revisionism. The threshold argument has been located as an extension of the non-linearity literature found earlier in the nexus. The gaps and questions in this revisionism have also been discussed, not least the role of the IMF in advancing it. The flaws in the literature remain even if it places difficulties over drawing conclusions that financial development is necessary for growth, or causal for that matter. Nevertheless, threshold investigation of the nexus implies an increasing recognition of the complexity of financial markets and their channels for attaining growth and development. But having admitted the complexity of the

nexus, this revisionism has fallen short in other ways. One is that it identifies the problem only in part. By simplistically reducing the nexus to thresholds, it fails to recognise more importantly, the broader factors that affect this relationship, not least the social relations that accompany financial development. As Fine and Dimakou (p. 17) put it in the context of DSGE models and macroeconomics in general, such “refinement at the technical level [is] considered without sufficient critical reflection on the methods, techniques and aims of the research programme as a whole as opposed to minor modifications to its individual parts.”

Second, conclusions in the revised threshold have been drawn solely on the basis of econometric modelling, despite its known limitations. Therefore, revisionism does very little to correct the limitations of the empirical literature. As it is impossible to correct all the flaws of empirical modelling, it is important to recognise the limitations that accompany such models and be cautious when drawing conclusions. One fundamental problem that remains with the threshold analysis, as with other econometric estimations of the nexus, is that it continues the error of drawing conclusions on the relationship between finance and growth, by conflating correlation with causation. Econometric modelling should draw from theoretical debates in the discipline, together with empirical cases. Within the context of the finance-growth nexus, one of these considerations is how finance and growth are computed and what economic activities should be included in their computation. The overall evidence of the destabilising effect of finance on growth should be taken into consideration and factored into any finance-growth regression, given that finance does not necessarily have a fixed let alone a positive relationship with growth. A correction of the nexus model that recognises this deficiency is taken up in chapter seven. Yet, Arestis (2005) goes further to proposes that the available evidence can be interpreted as indicating that the theoretical propositions of the nexus are at best weak, as is inadvertently, painfully slowly and in piecemeal revealed by the literature, and as such, ought to be abandoned.

Therefore, it is necessary to turn to African countries, and Nigeria in particular, in the next chapter to investigate the claim of a positive impact of increasing financial development on economic growth of middle- and low-income countries as results in the threshold analyses show. As argued in this thesis, it is necessary that such impact of finance on developing countries is measured against development objectives of poverty, inequality, infrastructure and broader development required in these countries. This approach is taken, to account for the context-specific impact of finance on growth. The case of Nigeria aims to correct the limitation of lumping all countries together in the threshold analysis of the nexus.

## **CHAPTER 4.0 – FINANCIALISATION OF DEVELOPMENT IN AFRICA**

“We are throwing more and more of our resources [...] into financial activities remote from the production of goods and services, into activities that generate high private rewards disproportionate to their social productivity.” - James Tobin (1984)

### **4.1 Introduction**

There has been an upsurge in finance across Africa, characterised by increase in financial flows, expansion of commercial bank branches, growth of regional banks, expansion of capital markets, rise in microcredit and success of mobile payment systems (Allen et al., 2012). Particularly, the increase in flows is also changing the nature of finance in Africa from public to private capital, intensified since the 2008 financial crisis (IMF, 2014). A significant driver of the growth of finance in Africa is shaped by China’s investment which rose steeply in the mid-2000s (Weisbrod and Whalley, 2012). This has changed the landscape of finance in Africa. The literature on financial development in Africa has been largely optimistic about this expansion, with most country and regional studies of the impact on growth, poverty and inequality painting a strikingly positive picture (Beck et al, 2007b; Agu and Chukwu, 2009; Beck et al., 2009; Demirguc-Kunt et al., 2013). Despite so-called evidence of a positive relationship between finance and growth, reinforced by econometric results, finance has also demonstrated the potential to outgrow real output, shift towards speculative purpose and be unevenly distributed, thereby leading to instability and increasing inequality.

In fact, evidence shows that poverty and inequality remain persistently high in sub-Saharan Africa amidst financial development. There are more poor people in Africa today than in 1990, and seven of the ten most unequal countries in the world are in Africa (Beegle et al., 2016). Barely has any progress been made in addressing a most obstinate infrastructure gap unsettling the continent. In addition, Africa’s recent average growth of 1.5 per cent is at its lowest in two

decades. Even the supposed success story of microfinance in Africa is not what its proponents have claimed it to be (Kaboski and Townsend, 2011; Chang and Bateman, 2012; Bateman, 2014a; Banerjee et al., 2015). Similar caution has been expressed about the celebrated rise of electronic payment systems (Dos Santos and Kvangraven, 2016), prominent in Kenya, Nigeria, Uganda and growing in other parts of Africa. And many studies express some reservation around the regulatory environment. As such, the excessive belief in financial development as a driver of growth and development is problematic, given the lack of progress in addressing the immediate needs of the people on the continent.

Yet, more than just caution is needed to ensure that the proliferation of finance does not halt economic development in African countries. Therefore, this chapter analyses the far-reaching impact of financial development on the broader development of Africa. It draws from the financialisation literature to understand the structure and processes of financial development and the basis for ascertaining its impact on economic growth. It takes a critical view of the existing literature that analyse the relationship between finance and growth solely on the basis of econometric techniques, by pinpointing the lapses in understanding of the context and the limitations of measures chosen to analyse the impact of finance on development. Financial development concepts such as access and inclusion, as used by the International Financial Institutions (IFIs) and mainstream literature, are seen to be ascribed meanings that are estranged from the context of African countries and, as such, illusory and rhetorical. Therefore, their use confirms the push for financial development at all cost, and as the main driver of development

A review of development in Africa shows that financial development is forced on the region through capital inflow, mostly short-term, seeking financial arrangements, not least institutions to accommodate it. This has led to the rise of all manner of institutions serving as agents of finance. Another driver of Africa's financial development is the conditionality requirements

that come with aid, loans and other transfers, causing countries to pursue so-called robust financial policies to secure them and in some cases service repayments. Despite private capital inflow recently superseding donor aid, the impact on African economies is worse, as the former seeks to extract short-term profit. Interestingly, Beck et al. (2009) observe that this increased capital inflow is concentrated in certain resource rich African countries. This stirs suspicion around the kind and direction of flows that drive financial development in Africa.

The role of the Washington Consensus (WC) is considered here on the basis that the trajectory of financial development in Africa has been driven by the policies advanced by the World Bank, delineated in the WC. Despite its purported aim of macroeconomic stability and development, it continues to promote financial liberalisation as necessary means for achieving these. This is evident in its consistent policy conclusions of financial development for growth, despite evidence to the contrary. Notwithstanding the revision of the finance-growth nexus to a threshold analysis in light of the GFC, the role ascribed to the state, particularly development finance, remains unchanged. It maintains the conclusions of an inherently dysfunctional state and efficient market (Global Financial Development Report, 2013). By so doing, it downplays the impact of the crisis, upholding the body of (unfounded) evidence around the relationship between finance and development in spite of the crisis. It also ignores the persistent underdevelopment, poverty and rising inequality in regions such as Africa, despite increasing financial penetration. Thus, more than anything else, a market ideology lies behind the financial development narrative, without considering the implications this may have for developing countries.

The case of financial development in Nigeria is investigated to broaden the understanding of the structure and processes of financial development in Africa and the literature on financialisation – which such critical analyses have been more recently located. The need for locating this discussion resonates with Bayliss et al. (2017; see also Finlayson 2009, Bryan and

Rafferty 2014, Montgomerie and Budenbender 2015), who note the importance to understand the flow of finance from high-income countries to developing countries on the basis of the broader dynamics of financialisation. Thus, Nigeria reveals an interesting process of financialisation, specifically the location of financialisation around development plans among other factors. The misplacement of financial development policies for national development plans and the disproportionate advancement of the former over the latter re-emphasises the argument of the potential of finance to undermine development. As such, it is referred to as the financialisation of development.

The rest of the chapter provides an overview of development in Africa in the following section 4.2 to understand the drivers of financial development and the processes undergirding this. This is followed by a review of financial development in Africa in section 4.3. It touches on the debates in the literature, tracing the developments in Africa's financial sectors. It discusses the role of economic theory advanced by the WC and PWC and the implications of these for development in Africa. The misunderstanding of the narratives associated with the theory of financial development in Africa, namely financial access and inclusion, are discussed in section 4.4. This is done alongside a critical analysis of the main expression of these narratives, which is microfinance. A case study of financial development in Africa with respect to banking sector and capital market developments and the foray into microfinance in Nigeria follows in section 4.5. From the foregoing, a theory of the financialisation of development is put forward in section 4.6 by combining the features of financial development that have been identified. Conclusions are drawn in Section 4.7.

## 4.2 Overview of Development in Africa

An overview of the macroeconomic environment in sub-Saharan Africa shows that the continent has experienced very strong economic growth in the last 30 years, although highly driven by export and concentrated in commodities. Data from the WDI show that since 2010, 60 per cent of Africa's GDP has been generated from trade. But trade has concentrated around a few low-priced commodities. Kvangraven (2016) use the Herfindahl Hirschmann Index,<sup>19</sup> which measures export concentration for a country or group of countries, to demonstrate that African countries mostly export a narrow range of commodities in fewer sectors than other regions of the global economy. The paper which reviewed the changing nature of the economic environment in Africa also shows that there is decline in value-added in sectors such as agriculture, industry and manufacturing, while value-added for wholesale/retail, mining, transportation and services is rising.

The result of a concentration of economic activities on trade is weak and undeveloped markets that are prone to vulnerability from external markets deficiencies and attendant fluctuations. The fall in the continent's export share to GDP from 2008 to 2009 arising from a weakened global demand in the wake of the financial crisis is a case in point (WTO, 2010). There is also the 2015 crash in commodity prices in Africa due to reduced demand from a weakening Chinese economy. Lui and Drummond (2014) show that a 1% decline in China's investment growth reduces average export growth rate in sub-Saharan Africa by 0.6%, and up to 0.8% for the top five resource-rich countries, weighted by export to China as a share of GDP — Angola, South Africa, the Republic of Congo, Equatorial Guinea and the Democratic Republic of the

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<sup>19</sup> Herfindahl–Hirschmann index measures the degree to which a country's exports are concentrated around certain sectors. It uses a range of 0 to 1, where values closer to 1 show exports are concentrated in a few sectors and values closer to 0 show that a country's exports are less concentrated.



Congo. The overarching result of the commodity price crash is a sharp decline in the average growth rate in Africa, which stands at 1.5 per cent, the lowest in two decades.

Kvangraven (2016) shows that international private capital flows<sup>20</sup> and remittances to Africa has increased from \$20billion in 1990 to a record \$120billion in 2012 – despite the 2008 financial crisis. This increase in private financial flows to Africa over the last decade is associated with an apparent shift in form from public to private financial flows, characterised by a decline in aid and non-concessional lending and increase in foreign direct investment and portfolio investment. The changing forms of finance in sub-Saharan Africa are noteworthy as detrimental for development, a discussion taken up more broadly in the following section 4.3.

Nevertheless, foreign direct investment (FDI) has increased. FDI to Africa has risen from 0.4% of total GDP in 1990 to 2.4% in 2013, most of which goes to resource-rich countries and extractive industries (p. 236). South Africa ranked one of the highest recipients of portfolio investment, only behind China, Mexico and Brazil (Chang and Gabel, 2014). What is often ignored is the direction of flow of capital. Significantly, the direction of flow shapes the core structures of the economies receiving these investment, and in some cases, the nature of the relationship between the investor and recipient countries. The type of sector being invested in determines whether such capital will be long-term or not. The high rate of market fluctuations in African economies reveals the high rate of repatriation of capital and the short-term nature

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<sup>20</sup> International capital flows consists of public and private capital flows. Public flows are capital transfers between governments or lending from multilateral institutions such as the World Bank/IMF. Private capital flows comprise foreign bank lending (loans extended by commercial banks or multilateral bank), portfolio investment (investments in stocks, bonds derivatives and other financial instruments in countries other than that of the investor) and foreign direct investment (FDI). According to the Balance of Payments Manual of the World Bank, FDI is taken to be net inflow of investment used to acquire at least 10% long-term management interest (determined by voting rights) in another economy other than that of the investor. This is measured by net inflow of capital into a country

of flows to Africa. Fluctuations arising from these sectors are transferred to other sectors of the economy, underpinning the instability inherent in African economies.

Kvangraven further shows that there has also been a rise in short-term domestic bond markets issuance and treasury bills in Africa, as these have become the preferred investment option for foreign investors seeking high yields. Despite foreign debt being less expensive for developing countries, they have been argued to increase the level of market volatility in these countries as they are susceptible to reversals. Repayment in foreign currency end up making them more expensive. The paper also pointed out that there has been a drive for international reserve accumulation in sub-Saharan Africa to mitigate external costs and boost investor confidence. External reserves grew from around a total of 17 percent of total external debt in 2000 to 74 percent in 2008. Although this has reduced since the crisis, it still stands at a relatively high 45 percent of total debt compared to other regions of the world. In most cases, the boost to external reserves is driven by the conditionality for borrowing from IFIs. This undermines development, as it poses a challenge for fiscal expansion.

Griffith-Jones and Karwowski (2013) argues that the impact of global financial crises on African countries has been through trade, remittances and ODAs. They put some of the impact of the 2008 financial crisis on African countries at 0.7 percentage fall in GDP growth in the two years that followed the crisis, and a fall in taxes collected in sub-Saharan Africa by 1.7 percent of GDP in comparison to pre-crisis levels. This led to an average 1 percent budget deficit across the continent. They also show a 1.5 percentage fall in gross capital formation as a share of GDP in the year after the crisis.

Amidst these developments, the macroeconomic landscape in Africa is largely unstable, in addition to the already noted high rate of poverty and inequality. The continent is also faced with an obstinate infrastructure gap that continues to undermine its development. Therefore,

the existing market structure that promotes financial development and capital markets in particular, has been unable to deliver development to the continent. Instead, financial development is continuously advanced as the main channel for achieving development in Africa. The expansion of finance is discussed in the section that follows.

### **4.3 Review of Financial Development in Africa**

Financial development is the term used to describe the general expansion and diversification in the range of financial products, institutions and regulation of the financial sector. Roe (2006) notes that the literature hinges this expansion and diversification in the financial sector around size, depth/diversity, access/inclusion, efficiency and soundness/regulation. He refers to size as the sheer expansion in volume of savings, credits and payments channelled through the financial sector. And depth is the level of diversification of specialised and innovative financial products. Access/inclusion is seen as the level of penetration of financial services to different levels of businesses and groups defined by geography, gender and age. Efficiency is said to be the productivity of delivering financial services at a lower per unit cost. This is usually made possible by innovations as mobile payments and other profit maximising systems. Regulation is referred to as a developed and competent supervisory role of institutions that enhances trust between providers of financial services and users, as such bringing stability to the market.

The inclusion of developing countries in the financial development literature may be traced back to McKinnon and Shaw (1973) who argued in their financial repression hypothesis that repressed interest rates were causal for low growth and savings rate in developing countries. The real rate of interest, it was proposed, will adjust to an equilibrium level that enhances efficiency. Increase in the real rate of interest would cause increase in savings and the total real supply of credit, this then induces a higher volume of investment. Growth, therefore, is

supposed to be impacted through increased investment, due to an increase in the average productivity of capital. As such, interest rate liberalisation was proposed to spur savings and growth.

However, the ability of interest rates to generate savings and spur growth has been criticised in the financial development literature. For example, savings was found to be non-responsive to interest rates in developing countries (Giovanni, 1985) and particularly for poor households (Ostry and Reinhard, 1992). Despite these counter-arguments financial liberalisation has been alleged to cause growth in developing countries. This has been accompanied by the call for the development of capital markets (Levine, 1993; Demirguc-Kunt et al., 2013) and integration with the global economy. Many IMF papers have put forward the argument that developing African countries' domestic debt markets will strengthen the economy and in particular, the financial sector (Abbas and Christensen, 2007; IMF, 2013). This has led to a build-up of both domestic and foreign debt around the continent. In particular, the combination of the following factors underpinned financial development in development; financial liberalisation agenda in developing countries, the role of IFIs in advancing this agenda and, the increasing difficulty of debt management in developing countries which culminated in the international debt crisis of the early 1980s (Williamson and Mahar, 1998; Bonizzi 2016).

Early studies of the impact of financial development on development include the work of Jalilian and Kirkpatrick (2002) which found that besides increase in growth, income distribution was necessary for a positive impact of financial development on poverty. In fact, Beck et al., (2007b) claimed to have found evidence that as growth increases with financial development, it “disproportionately boosts the income of the poor” and reduces income inequality. On the contrary, the experience of African countries make this conclusion questionable. Nonetheless, these studies opened the literature to debates on the distributional

effect of financial development, which has been noted to underpin the financial access and inclusion literature that came later (Bonizzi, 2016), taken up below in section 4.4.

The increase in financial flows to sub-Saharan Africa has been driven by an expensive focus on financial development in the region at the expense of the development of other sectors of the economy. This disproportionate focus can be said to be underpinned more by ideology. In fact, (Karwowski and Stockhammer, 2016) believe that financial activities in the advanced capitalist economies forces upon developing economies an imported and extraneous form of financial development, through the push for financial liberalisation and surge of capital flows to developing countries. This push is evident in the influential studies of Levine (1996) which put forward that foreign banks possess superior expertise for financial intermediation, and that they will efficiently stimulate existing domestic financial institutions (Levine, 1997). It was even found that foreign banks entry to developing countries' financial markets will increase efficiency by reducing high cost of transaction, non-interest income and profit (Claessens et al., 2001).

Financial development in Africa has deepened following the combination of the above-mentioned factors. Despite many attempts at financial reforms African countries' financial sectors remain relatively underdeveloped. So, many African countries have set financial development targets as they navigate their visions of becoming middle-income countries. Financial development indicators such as liquid liabilities to GDP at 2007 was less than 30 percent in many African countries compared with over 40 percent in other parts of the world. And the ratio of private credit to GDP was an average 17 percent in comparison to almost 40 percent in other developing countries (Allen et al., 2012). The financial systems landscape in Africa is also very diverse, ranging from well-developed systems in middle-income countries such as South Africa, Mauritius, Nigeria, to underdeveloped financial systems in countries such as Sudan and Central Africa Republic (Beck and Cull, 2014b). At firm and household levels,

most Africa countries have small, shallow and costly financial systems (Beck and Cull, 2014a). Banking penetration at 2009, measured by access to checking accounts, stood at an average of less than 20 percent in Africa, with the exception of South Africa which recorded over 40 percent banking penetration. This is far from other regions of the developing world which recorded between 30-50 percent penetrations (Beck et al., 2009).

But there is the problem of inadequate representative measures of the forms and levels of financial development in the literature. Despite this problem, most studies of financial development in Africa use the same measures used in advanced economies in analysing the relationship between finance and growth, especially in econometric analysis. The reasons for this range from data unavailability to research sloppiness. For example, the time series data analyses of Odedokun's (1989), Lyon and Murinde (1994) and Agu and Chukwu (2009) investigate causality using the ratio of domestic credit to income. Odedokun argues that this variable represents the domestic assets of the financial sector, given that it can easily be accessed from the asset side of the consolidated balance sheet of banks and the financial corporations. The variable is also anticipated to be responsive to price, not least changes in real interest rates. But it may not be representative of financial markets in developing countries due to the underdeveloped credit markets, and the presence of thriving informal markets which are usually outside the control of monetary authorities. The inadequacy of the use of credit to the private sector in measuring financial development has also been noted by Levine (2005), Arcand et al. (2012) and Beck et al. (2014) in its inadequacy to capture social impact. But this measure continues to be used as representative of financial development in developing countries, including research on financialisation by heterodox economists, as in Karwowski and Stockhammer (2016).

Research is as inconclusive for the finance-growth nexus in Africa as in other regions. However, most studies find a positive long-run relationship is found in the studies of Lee and

Chang (2009), Hassan et al. (2011) and Bangake and Eggoh (2011). While Murinde (2012) leans in favour of a positive nexus in his survey of the nexus literature in Africa, he acknowledges that the evidence is unclear and results inconsistent for some methods of analyses. Atindehou et al. (2005) investigate the relationship between financial development and economic growth for West African countries, and find an insignificant relationship. Their causality test showed that economic development led financial development in most West African countries, with some showing financial development causes growth. Credit by banks and other financial institutions was seen to have no positive impact on growth.

The obsession with causality tests in the nexus literature in Africa is notable, despite its conflicting results. Ghirmay (2004) finds evidence that finance causes growth in twelve African countries. Likewise, Gries et al. (2009) and Akinlo and Egbetunde (2010) find a unidirectional relationship in which finance causes growth. On the other hand, Odhiambo (2008a) and Hassan et al. (2011) find the direction of causality to be from growth to finance. Lee and Change (2009), Ahmed (2010), Abu-Bader and Abu-Qarn (2008), Odhiambo (2008b) find a bi-directional causality. These studies used mostly the traditional VAR vector error correction (VECM) models and Granger Causality tests<sup>21</sup>.

Following findings of a predominantly positive nexus, there has been a surge in private credit in sub-Saharan Africa. Griffith-Jones and Karwowski (2013) show the sharp increase in the percentage of credit to GDP advanced by banks and other financial institutions in Benin, Mali, Malawi, Niger, Nigeria, Sao Tome and Principe, Sierra Leone, Swaziland, Sudan, Tanzania, and Uganda. The percentage of credit to GDP even exceeds the 0.7 IMF threshold for a negative relationship between finance and growth in Mauritius, Namibia, Seychelles, South Africa and Tunisia. Interestingly, the credit is mostly comprised of household consumption and mortgage.

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<sup>21</sup> See chapter 2 for a discussion on the limitations of these methods.

For example, the housing boom in South Africa – with one of the highest real price gains in housing market globally, and where the ratio of household to business credit is approximately 1:1 – between 2000 and 2010, has been driven by over 500 percent rise in real price of housing loans. They show that a similar case obtains in Mauritius, where according to a 2012 survey, one third of private credit is allocated to households, of which 60 percent is towards mortgage finance and 40 percent towards consumption. Even in low-income sub-Saharan countries such as Mozambique, private credit increased from 15 to 23 percent of GDP between 2000 and 2010. This reality of increasing credit and its disconnection from real investment in these African countries makes them vulnerable to financial instabilities. In general, credit to GDP has doubled in Benin Republic and Swaziland, increased by between 300 and 1000 percent in Malawi, Mali, Niger, Nigeria, São Tomé and Príncipe, Sierra Leone, Sudan, Tanzania and Uganda, and by 1500 percent in Angola (p. 22).

Yet, the cost of delivering financial services in sub-Saharan Africa remains relatively high. The documentation required for eligibility to access financial services are stringent, consisting of formal identification for opening an account, especially in predominantly informal environments. Also, it is characterised by high interest rates spreads between savers and borrowers, with very low interest rates earned for the former and, on other hand, very high rates of borrowing for the latter (p. 24). Interest on loans in these markets is relatively higher than obtain in other advanced economies, and there is a higher margin between savers and borrowers in sometimes relatively fewer (but more profitable) transactions. Flamini et al. (2009) show the relatively higher cost of premiums charged by banks in sub-Saharan Africa. This cost is generally attributed to underdeveloped credit markets considered to be riskier, with higher overhead costs of financial intermediation.

Ncube (2007, p. 23) provides an explanation for the high cost of financial intermediation in African countries using a macro model that shows that “interest rate spread depends negatively



on the rate of growth of the economy and capital depreciation and inversely on the marginal productivity of capital and the savings rate.” He used a micro-model of bank behaviour to further explain that interest rate spread is dependent on a “banks’ attitude to risk, interest rate risk, market power, administrative cost of loans, interbank rate, credit risk and size of a bank’s equity capital, on interest rate margins.” These factors determine the bank’s optimal interest margin. This margin can then be set equal to the inter-bank rate for a risk-neutral bank or higher for a risk-averse bank, with the notion that African banks are risk-averse. Despite this extensive explanation, banks in sub-Saharan Africa are the most profitable in the world (Beck et al., 2009). Also, Hesse and Poghosyan (2016) show that the return on assets of banks in Middle East and North African countries is relatively higher than those of their Western countries. That means, the business of financial intermediation remains profitable, as cost is shifted to the consumers, serving as disincentive to savers and borrowers.

However, the literature inaccurately recommends more financial development to address the problem of cost without addressing the source of relatively high cost. Some of the obvious drivers of cost include the lack of infrastructure as electricity, transportation, communication, etc., and the failure of regulatory institutions to keep the reckless lending and other activities of financial institutions in check. High cost also derives from the pressure of external finance seeking to make profit, and exerting upward pressure on interest rates. However, it is of much concern that despite this high cost, banks in Africa are more profitable than their counterparts in other parts of the world, and continue to attract foreign short-term capital seeking to profit from higher returns.

Despite penetration, finance is inaccessible to SMEs which make up a significant proportion of firms in African countries. Beck et al. (2006) identifies financial constraints, specifically the lack of appropriate financial services designed to fit the needs of SMEs. In Beck et al.’s (2009) extensive review of the achievements and challenges of financial development in Africa,

emphasis is placed on improvements in resource allocation and productivity growth. They argue that financial deepening has a transformative impact on industrial structure, firm size distribution and organisational structures, with cross-country studies showing a pro-poor effect. In a more recent study using World Bank Group Enterprise Surveys, which captures firms' perception of their most binding constraints in around 100 countries, Beck and Cull (2014b) show that banks disburse less loans in sub-Saharan Africa than any other region of the world, although with a large variation across countries on the continent, ranging from 3% of firms in Guinea-Bissau to 53% in Mauritius. Other heterogeneity exists around the size of firms and level of financial development.

Yet, African firms have as much access to savings and checking accounts as other regions. They, however, noted that older firms with more than fifteen years of operation are more likely to have access to loans than younger firms. They argue that the reluctance of African businesses to borrow could be due to low return on investment in Africa. But this is hardly the case, as many sub-Saharan African countries have the highest return on investment in the world. But they also point out that less firms in Africa relative to the advanced economies allude to lack of demand as reason for not using bank loans in their operations, suggesting a paucity of loans for SMEs.

Beck and Cull (2014b) make some recommendations on how to drive lending. First, they maintain the view on more foreign bank penetration, those with foreign ownership structures, in order to mitigate the slow and bureaucratic corporate management structures in Africa. They call for transaction- and asset-based lending techniques, such as leasing facilities, which are not asset-backed and therefore require no collateral. They also recommend other related lending techniques such as factoring, which is the discounting of sales receivables, and equity financing. These lending modes rely less on a country's contractual framework and more on the legal framework governing the transaction itself. In addition, they call for financial

innovations such as the “psychometric assessment” of entrepreneurs in order to identify high-risk ventures, not least more microfinance innovations. But these recommendations do not acknowledge that the so-called impediments to financial development in Africa derive from inadequate economic structures, which require a different development approach.

**Table 4.1 Differences in Financial Development Variables for Africa, Other Middle and Low Income Economies (East Europe and Central Asia).**

	<b>Africa</b>		<b>Other middle and low income economies</b>	
Financial development variables	Mean (%)	Standard deviation (%)	Mean (%)	Standard deviation (%)
Liquid liabilities/GDP	31.8	16.8	55.4	32.7
Private credit/GDP	19.4	16.9	40.0	24.7
Account at formal financial institution	21.0	16.3	35.2	21.5
Loan from a financial institution	5.2	3.2	10.1	6.1
Mobile phone used to send money	8.8	13.2	2.3	4.1
Mobile phone used to receive money	11.9	15.3	3.5	6.1
Mobile phone used to pay bills	3.3	5.1	2.5	4.4

Source: Allen et al., (2012).

The table above compares the level of financial development in Africa with other middle-income countries. It shows how African countries lag behind in measures such as liquid liability to GDP, private credit to GDP and the number of accounts in formal financial institutions. However, it has outperformed its counterparts in mobile financial penetration. A critical view to the underpinning structures for the success of mobile finance in Africa is taken up below in the discussion on the illusions of financial inclusion amidst the infrastructure gap that exists in the continent in section 4.3.3. Nonetheless, it is evident that despite financial expansion and penetration, access to finance by businesses remains challenging in Africa. But the drivers of affordable finance have been abandoned, in the declining role of state-owned development banks in the provision of financial intermediation, abandonment of targeted credit to certain sectors of the economy and regulation on capital flows and interest rates. However, the financial system continues to be dominated by the private sector, short-term capital inflows from international markets, as African banks now expand into regional banks. Capital markets across the continent have continued to grow astronomically. The financial environment is also characterised by the rise of financial innovations such as mobile finance in Kenya, Nigeria and Uganda. And regulation is purported to have improved in these markets with close compliance to the Basel regulations.

Some analyses have been made on the extent to which the financial sector in Africa has experienced crises. Griffith-Jones and Karwowski (2013) take the position that the financial sector in most African countries are yet to be hit by crises, especially the kind originating within them, with Nigeria being an exception. On the contrary, Ikhide (2015) draws on series of surveys that show that African countries have had their fair share of financial crises. These include Nigeria 1991-1995, Kenya 1993-1995, Uganda 1990, Cameroon 1987-1993, Cote d'Ivoire 1988-1991, Ghana 1982-1989 and Senegal 1988-1991. He linked the severity of the crises in each of these countries to their share of non-performing loans to total bank loans.

Given the more recent threshold analysis of the relationship between finance and growth, which concludes that finance starts to exert a negative influence on growth after a certain point, financial development is held to contribute positively to growth in most African countries, as they are categorised as underdeveloped. This has been tested for African countries. Ikhide (2015) uses the conventionally-embraced dynamic panel data methodology for a cross-country analysis of 21 sub-Saharan African countries between the period 1970 and 2013, controlling for country-specific effects and endogeneity, and arrive at a threshold by using a multiple equilibria model. The wide-ranging implications of these conclusions have been discussed in Chapter 3 of this thesis which covers the threshold analysis in detail. Nonetheless, the impact of increase in foreign capital flows to Africa is notably domestic price bubbles, exchange rate volatility and other markers of financialisation. The role of institutions in advancing financial development in Africa is taken up in the section that follows.

#### **4.3.1 Financial Development in the Washington and Post-Washington Consensus**

The Washington Consensus and its subsequent change in economic policy is seen here as one of the instruments for advancing financial development in Africa, and for development in general. Arestis (2005, p. 254) notes that the liberalisation agenda of the Washington Consensus, especially of finance, was highly underpinned by the McKinnon (1973) and Shaw (1973) argument of letting the market determine the allocation of credit without any intervention. In line with this, the policy recommendations of the Washington Consensus – referred to as its Ten Commandments – as summarised by Williamson (2003) are as follows: (1) fiscal discipline, (2) re-ordering public expenditure priorities, (3) tax reform, (4) liberalisation of interest rate, (5) financial liberalisation by way of capital inflow and foreign direct investment, (6) trade liberalisation, (7) competitive exchange rate, (8) privatisation, (9)

deregulation, and (10) property rights. It is however necessary that empirical evidence from countries/regions which have implemented these policies at different periods should form the valid basis on which to judge the policy approach of the Washington Consensus.

Despite unfounded evidence, the IMF is relentless in pursuing the combination of these policies as conditionality for its loans for developing countries. This is echoed by The Wall Street Journal (2003), which rightly observes that the IMF has been consistent in tying its loans to conditions that favoured high taxes and the devaluation of currencies, which has resulted in austerity borne by the poor. This is besides meddling in local governance without understanding the intricacies of the political environments in these countries. This is found to further deepen the dependency of such countries on the IMF. Bayliss and Fine (2007) echo this in their argument that the policy of the Washington Consensus was to privatise as much of the public services as possible, especially in developing countries, without any attention to the complexities underpinning the provision of these services.

Fine (2001) illustrates extensively the inconsistency of the World Bank, in its scholarship, ideology and rhetoric and, policy in practice, more especially for development. He further points out the impact of this inconsistency on the development literature by arguing that “the developmental thinking deriving from the World Bank [...] has always distanced itself from” the issues of development which it seeks to address. Rather, through its “commitment to the Washington Consensus [...] it set the analytical, ideological and policy agenda of market versus the state in which the developmental state situated itself on the opposite to the pro-market side” (Fine, 2007a, p. 2).

Thus, the financial liberalisation thesis advanced by the World Bank/IMF, despite its attendant criticisms, has largely shaped development policy in particular and the economics discipline in general. The insistence on liberalisation as expected, was followed by the development of all

manner of domestic financial institutions and instruments. This further enhanced the role of finance and private capital in economic activities. But the heightened role given to finance in development in the WC could not be justified, as evidence from countries revealed increase in macroeconomic instability and financial market inefficiency. Arestis (2005, p. 255) observes that the policy recommendation of the WC created the conditions conducive for excessive risk-taking, and ended in bank failures. And the overarching impact on countries has been low growth, alarming rates of inequality and increasing poverty levels. Many African countries attest to this reality.

The failures of the WC experience led to its revision, with the World Bank and IMF introducing institutional preconditions which should be in place before financial development is implemented. These include: adequate banking supervision which ensured that banks maintained the required reserves and have a well-diversified loan portfolio; macroeconomic stability, measured by low and stable inflation rates and a sustainable fiscal deficit; and the break-down of financial reforms into stages. Rodrik (2002) calls this the Augmented Washington Consensus, inferring that the former and latter may be more of the same.

But Kuczynsky and Williamson (2003) are sceptical and argue that the movement from the WC to what became known as the post-Washington Consensus (PWC) will be rhetorical if reforms do not meet the following conditions: fiscal discipline must not be crisis-prone by being adopted alongside inflation-targeting; liberalisation policies should be gradual and phased; institutional reforms, financial reforms and banking supervision and enabling business environment determined by the government before the matured stage of liberalisation; and income distribution reform through extended property rights to informal sector, land reforms, SME credit and progressive taxation. In short, these accounts go far in demonstrating that the manner in which both the Washington- and post Washington -Consensus of the World Bank pursued a finance-growth nexus agenda was without regard for the negative impact of finance.

Nevertheless, Fine (2007a) is even more sceptical of the shift from the WC to the PWC. He points out that “between scholarship, advocacy and policy in practice, there are extreme limitations on the capacity of the post Washington Consensus” (p. 13). Because it “entrenches new modes of corporate governance and assessment of performance, privatisation and state support to it rather than public provision, lack of coherent and systematic industrial and agricultural policy, pressure for user charges for health, education and welfare, and priority to macroeconomic austerity to allow for liberalisation of financial capital” (p. 13). As such, he argues that “in practice, what the Bank proposed was less a rethink than a demand upon the state to use its own resources and capacities to facilitate further privatisation” (Fine, 2009 p. 6). For example, the World Bank and IMF at this stage embarked on a massive shifting of infrastructural aid to “its private sector branches in order to leverage the participation of the private sector in public sector provision” (p. 6). This shift from public to private, he notes, is also evident in domestic pension reforms in 26 countries across Eastern Europe and Latin America, between 1992 and 2004. Thus, the shift from the WC to the PWC reveals an “increasingly sophisticated approach to teasing out as much private sector financial participation as possible whilst managing contentious demands for state support for social reproduction” (p. 7). In short, the movement from Washington- to post Washington -Consensus has been underpinned by a deliberate agenda that contains the role of the state in development while promoting private and international capital.

In addition, Fine (2010, p. 24) observes that the trajectory of the shift has been characteristic of seeking greater relevance in mainstream economics, expanding the scope of interest of the World Bank across the economy and from the economy to the social, (mis)understanding the nature of development in its reliance on the market or its correction. Greater relevance is sought in its projection as a knowledge bank as it seeks relevance in developmental thinking, policy and ideology. But it does so in a variegated nature, as observed in the inconsistency across time



and space in the relationship between the Bank's ideology, scholarship and policy in practice. For example, the shift from the ideology of discarding intervention in the markets in the WC, to more market intervention on the basis of correcting the market in the PWC, is undermined by the policy in practice of promoting private capital. As such, both the Washington and post-Washington Consensuses have only offered a piecemeal understanding and often estranged from the issues of development (p. 24).

Another area of inconsistency is the conditionality for borrowing from the Bank by advanced and developing countries, which command different sets of requirements. Such inconsistency is even more reflected across different sectors of the economy. This resonates with Van Waeyenberge, (2009) who found that the Washington and post-Washington Consensus command different sets of conditionality for investment, with relatively more stringent conditionality for welfare sectors such as education and health care. In fact, report shows that more than 50 percent of those eligible for social safeguards in developing countries, on the basis of their income, are excluded due to the proxy means test poverty targeting mechanism promoted by the IFIs (see Kidd et al., 2017). Given these lapses, the shift from the WC to the PWC is not to be seen only as mandated by the need to address the flaws of the former, but as being influenced also by the need to strengthen the role of finance and indeed, private capital in development. And this was without serious consideration of the immediate needs of developing countries, nor the best path for achieving development.

#### **4.3.2 Exclusion of Development Finance**

While the implementation of the WC and PWC meant advancing the role of finance in development and the exclusion or containment of the state from the development space, it had other consequences for the finance-growth nexus, for developing countries and, more generally

for the discipline of economics. It meant that development finance, as a form of financial intermediation, became excluded from the nexus literature and invariably neglected by policy makers as necessary for development. This was despite revisions made to the economic theory of development. As Fine (2007, p. 2) puts it, “development finance [ ] did not emerge triumphant from the demise of the Washington Consensus. Instead, it was ignored or outflanked by the past Washington Consensus, not least through a remarkable rewriting of intellectual history although one that is far from rare in the practices of the World Bank as it partially incorporates longstanding ideas in opposition to it and claims them as due to its own originality.” The issue then became whether the state has the required capacity and efficiency to adopt policies that will be beneficial for development and not drawn towards corruption, special interests and an agenda that promotes poverty and inequality. This debate on state inefficiency is long-standing.

Thus, the literature of financial development was persistently removed from the domain of state involvement. While there has been some comparison of capital market versus bank-based finance, there is barely any such comparative analysis of development banking against other forms of finance, even in the much-needed context of developing countries. Initial arguments on forms of finance in the nexus were located around channelling finance through either capital market or commercial (and retail) banks. This became insufficient for analysing the relationship between finance and growth in different countries and regions. As such development finance was brought in to sustain the nexus argument. Barth, et al. (2004) and Demirguc-Kunt, et al. (2008) concluded that, although development banking leads to concentrated lending, it is also associated with lower growth and systemic fragility. They maintain that both the financial system and regulatory framework need to be managed by the market. The role of the state is thus seen to be only complementary, creating an environment for the private sector to thrive, by reducing transaction costs and information asymmetries.

These studies take the position that different forms of government intervention, not least directed credit, have the potential to encourage moral hazard, and as such could serve as disincentive for investment.

But such views simply tow the argument of efficient markets versus inefficient states set by the WC and PWC without any country or regional evidence to support them other than econometric analyses. While the Global Financial Development Report (2013, p. 2) of the World Bank, acknowledges there are sound economic reasons such as social welfare for more active state involvement in the financial sector, it upholds that in practice the state does not intervene successfully. It outlines in detail the role of the state to include three main points: (i) Regulation and supervision through timely and anticipatory supervisory actions, complemented with market discipline (ii) Ensuring healthy competition through aligning “private incentives with public interests without taxing or subsidising private risk-taking” and “through healthy entry of well-capitalised institutions and timely exit of insolvent ones.” This includes the promotion of transparency of information in order to reduce counterparty risk. (iii) Strengthening financial infrastructure through lending by state-owned banks in downturns in order to stabilise aggregate credit. However, they caution that lending by state-owned banks leads to resource misallocation and deterioration of the quality of intermediation. But the Report ignores the simple fact that the market has also been even more inefficient, evidenced, not least by the GFC.

On the contrary, Cull and Peria (2010) find empirical evidence that state-owned banks increase access to credit, which is necessary for targeting infrastructural development, sectorial development and boosting aggregate consumption in developing countries. Panizza (2013, p. 16) argues that despite the economic profession’s consensus of the negative impact of state-owned banks, we “actually know less than what we think we know [about] the relationship between state-ownership of banks and economic development”. He calls for the need to

ascertain the channels through which state-owned banks may affect economic and financial development. He points out the inconsistency in the profession's approach by emphasising that the negative view of state-owned banks does not have a solid empirical justification, and that whatever criticisms have been raised of state-owned banks – like political and selective funding – also apply to multilateral development banks such as the World Bank and its affiliates.

The discussion on state involvement in banking raises the question of how to best address the infrastructure gap that is a bane of the African continent. It stands out as a most pressing obstacle, without which development will not be realised. Thus, an implication of the shifting attention from development banks to commercial banks is the tendency to exclude the state from the development space and leave it to the private sector. To imply, therefore, through abandoning development banking, that the infrastructure gap in Africa can be filled primarily by the private sector is problematic, since the main objective of the private sector is profit-making. The profit motive of commercial banks, and the private sector in general, means that many development objectives cannot be realised, because they are not necessarily profitable (especially in the short term), except where the burden of cost is transferred to consumers.

The view that there is the need for financial development in low income countries to contribute to addressing the existing infrastructure gap is shared by Griffith-Jones and Karwowski (2013, p.5). They recognise “the need of a financial system in LICs that assures enough access to sustainable finance for the different sectors of the economy, including long term finance to fund structural change, as well as different segments, such as small and medium sized enterprises (SMEs) and infrastructure.”

But the abandonment of development banking has relegated the state to a decreasing role of maintenance of a regulatory environment for the private sector to thrive. Consequently, developmental state policies that are driven by infrastructure development are hindered.

Evidence of development in other places shows that the state played an important constructive role (in some cases, engaging the private sector in a multi-stakeholder approach) in the development experiences of countries in Europe, America and Asia (Chang and Grabel, 2014) with context-specific development plans. It is unsettling that such convincing historical “collective capabilities” and forms of state agencies, through which certain forms of finance have eliminated poverty in advanced nations of today, have been abandoned (Chang, 2002). Successful cases of state intervention also abound in developing countries, in the areas of subsidies provisions and development banking (see Bateman 2014a)

Accordingly, since the early 2000s, there has been a decline in aid flows and Official Development Assistance (ODA) to Africa, targeted at development finance, and a corresponding rise in private capital in the name of Public Private Partnerships (PPP). Van Waeyenberge (2016) shows that this trend is underpinned by amendments from the IFIs and other multilateral organisations, of financing development through private capital instead of public finance. Despite the presumed allocation of finance through the private sector as potentially causal for development, what obtains in practice is the flow of finance into developing countries’ capital markets and certain industries mainly the extractive sectors. Such finance is targeted at short-term profit or exploitation. The result is increasing levels of inequality, and little or no improvements in the poverty levels in developing countries.

#### **4.4 (Illusions of) Financial Access and Inclusion**

The long-standing underpinning argument is that access to finance is a binding constraint on growth. Initial research in the area was focused on how certain socio-economic groups were discriminated against by financial institutions, and how financial capital was a means for creating and advancing class relations that undermine the poor (Dymski and Veitsch 1992,

Leyshon and Thrift 1996). Following this, proposals were made to address the discrimination of the poor in the financial system. Instead of addressing the structural factors that drive exclusion, the discussion shifted on individual accessibility and inability to afford materially and psychologically, the cost of financial inclusion (Gabor and Brooks, 2017).

Financial inclusion has also been driven by some acknowledgement of the destabilising potential of private finance. In which case, proponents of financial expansion maintain the narrative that improved regulation and access to finance in developing countries will correct the misallocation of finance (Ikhide, 2015). Beck et al. (2005) alleged that finance is even more binding than other factors, for small- and medium-scale enterprises in less developed financial markets. Beck (2005) identifies SME finance as the channel through which finance affects growth positively, and Beck et al. (2006) found that finance allows small firms to expand and achieve larger equilibrium size by exploiting investment opportunities. So, financial inclusion narrative became focused on the expansion of financial services, products and literacy programmes and campaigns to the excluded, which comprised the poor and SMEs.

There has also been some recognition of social context, especially Africa's informal sector as necessitating financial inclusion in order to be addressed (AfDB, 2013). However, this ignores the underpinning structural factors of informal societies and focuses on the protection of private property right and incentivising businesses through tax cuts, low wages, reduced regulation and barriers to entry, as corrective mechanisms for businesses to formalise their activities<sup>22</sup>.

While, the above arguments may seem logical, supported by the necessity for businesses to have access to finance in order to achieve economic growth, the literature conveys a misplaced understanding of financial access and inclusion, not least how financial access plays out in

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<sup>22</sup> See <https://www.afdb.org/en/blogs/afdb-championing-inclusive-growth-across-africa/post/recognizing-africas-informal-sector-11645/>

practice. According to the World Bank, financial inclusion means that individuals and businesses have affordable financial products and services that meet their (development) needs, delivered in a responsible and sustainable way. Access refers to the distribution and diffusion of finance in such a way that it reduces inequality, empowers women, generates local employment opportunities and increases growth. The first step to inclusion is said to be access. But these concepts are inadequately captured in empirical studies. For example, Beck and Cull (2014) measure access using the number of bank branches or financial institutions per square kilometre. And the IFIs measure inclusion by the number of loans (supposedly) disbursed to SMEs or in rural areas.

The financial inclusion narrative is used to justify the role of finance in development, and advocates continue to use the above narrow measures. But this view of inclusion and access conveys some degree of naivety in that it abstracts development from the context-specific complexity of the development needs of the areas or individuals being investigated. This point is confirmed by Dos Santos and Kvangraven (2016) in the recent expansion of mobile banking across Africa. In addition, the view completely ignores the actual social relations that (may) derive from specific contexts and subsequently underpin the nature of financial development therein. At best, reference to the social context is misconstrued. It is deficient to affirm unequivocally that proximity to financial institutions, in of itself, has the potential to elicit positive outcomes for the poor, or because loans have been disbursed in rural areas, they have certainly gone to the poor and are beneficial to improving those societies. In a recent global survey conducted by the World Bank, it was found that 59% of adults without bank accounts do not have the money to maintain one<sup>23</sup>. Even the high transaction costs of financial intermediation discussed above is seen to prevent financial inclusion.

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<sup>23</sup> See <http://www.worldbank.org/en/topic/financialinclusion/overview>

Some studies, such as Roe (2006), erroneously assume that the problem of access and inclusion in African countries has been resolved in the ease at which domestic financial institutions raise capital from international capital markets and the growing prominence of micro credit institutions, alongside purported growth and macroeconomic stability. Allen et al. (2012), argue that financial development and indeed recent innovations in financial access such as mobile banking have been developmental and even helped to overcome the infrastructure gap in Africa. Such arguments simply undermine the extent to which infrastructure is lacking in Africa, and development dependent on it. They also exaggerate the role of private finance in bridging this gap. The recent rise in the number of cash machines and the much celebrated mobile payments systems in Africa is also misconstrued as a bridge of the infrastructure gap, in order to deliver financial access and inclusion. But the question is whether access to finance, at the expense of road, rail and other transport networks, is the infrastructure badly needed in Africa? In fact, the success of mobile banking in Africa cannot be ascribed to any other factor other than the incidence of the lack of infrastructure around the continent. Therefore, another way to view this penetration of finance, is to recognise that despite the lack of adequate transport facilities and other basic amenities, banks and other financial institutions have resiliently found their way into the lives of the poor. It is troubling to think of the power and dominance in the proficiency with which finance forcefully penetrates barriers with the aim of only expanding the cycle of financial expropriation.

In light of financial penetration, many have pointed out that the plight of the poor has become the avenue for profiteering and accumulation (Gabor and Brooks, 2017, see also Elyachar 2012, Soederberg 2013), particularly with financial inclusion via digital finance (Kear 2013). Gabor and Brooks, (2017) put this succinctly in discussing ‘financial government’, in which financial inclusion is seen as a means for production of financial subjectivities for control and exercise of political power (see also Bayliss et al., 2017). Surely the inclusion of Africa’s poor into the



cycle of financial expropriation through the drive for inclusion and access without addressing poverty itself is simply to strengthen the control over their lives through the expansion of global capital. Thus, “financial inclusion as a development paradigm, therefore, envisages no material change in the (changing) structures that generate marginality, but rather seeks to channel individual behaviour, through digital surveillance and education, to engage and identify with these structures” (p. 432). The way in which financial inclusion is achieved further supports this claim. According to (Kear, 2013) this is achieved through surveillance of individual’s repayment capability and profiling (World Bank, 2015), a set of information which is then exploited to strengthen the hold on the poor.

But not everyone who accesses credit, including microfinance is able to repay. As such, inclusion and access is found to lead to crisis. Cihak et al. (2016) found empirically a negative correlation between financial inclusion and financial stability, and draws the conclusion that financial inclusion policy should be accompanied by policies that enhance credit information. However, their study inadequately uses Non-Performing Loans (NPLs) as a measure of financial inclusion. The study narrowly acknowledges that NPLs are the cause of crises but ignores the fundamental role of asset bubbles from speculation as their main driver.

#### **4.4.1 Microfinance Banking**

Financial inclusion and access also underpin the rise of microfinance banking. The financial inclusion and access literature puts forward the narrative that finance can be made available to the poor, mainly through microcredit to raise average income, empower women, generate local employment opportunities, reduce inequality and create a sustainable bottom-up local economic and social development. Thus, micro-credit and microfinance banking gained

prominence, underpinned by the Local Economic Development<sup>24</sup> (LED) agenda that emanated from the World Bank and other international donors, and propped up by mainstream economics.

The LED approach to development ensured a popular abandonment of funding for state banks, sealing the relegation of development banking to a historical epoch in finance. By the late 1980s, the World Bank advocated a full commercialisation of microcredit by insisting on full cost recovery.<sup>25</sup> So, microcredit institutions became more market-oriented by: pursuing a profit motive that ensured that poor individuals could access as many loans as possible even when they could not repay; charging market-based interest rates; paying large rewards and salaries to senior staff akin to Wall Street style bonuses for shareholders; and engaging in international borrowing through large volume funding from the global investment community (Bateman, 2014b, p. 97). The mass privatisation of local public services, promoted in the LED (including health, education, water, electricity, transport, among others), which restructured these entities into private for-profit businesses, further gave finance a new impetus in development. Local governments were encouraged and in many cases bullied into investing scarce resources for the appropriation of profit. Notwithstanding, the abysmal track record and failures of such policies in advanced economies (Pigeon, et al., 2002).

It was within the above context that microfinance banking was embraced as soon as it was being introduced, modelled on Muhammad Yunus' internationally-funded Grameen Bank in the late 1970s. Microfinance banking became known as a system of banking by specialised financial institutions which provide un-collateralised loans to groups of individuals, mostly

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<sup>24</sup> Bateman (2014a, p. 3) describes this as “the full panoply of local economic development units, business incubators, financial institutions for enterprise development, business support centres, SME Agencies, technology parks, industrial and agricultural extension services, Regional Development Agencies (RDAs), vocational education and training organisations, and so on.”

<sup>25</sup> A concept that dogmatically specifies that no entity functions in the market as anything other than a financially self-sustaining one. See Bateman (2014b, p. 96).

comprising the poor. These groups of individuals are not required to commit the same levels of asset required by commercial banks before loans are granted. Thus, the strength of this form of banking was supposed to be that the poor and SMEs could access finance, a daunting task for commercial banks. The argument for microfinance is that the poor and SMEs usually lack the required collateral to gain access to finance in the same way that they lack access to information in the market.

However, Bateman notes that the microfinance model was embraced without vetting its claims of success nor any supporting empirical evidence. He argues that there is no evidence to suggest that microcredit has met its original objectives of generating significant local employment opportunities, increasing income and reducing inequality nor so far created any bottom-up development (Bateman, 2014b, p. 93). Instead, using South Africa as a case study for microcredit implementation, the level and experience of finance in these local environments is described as de-industrialising, informal, disconnected (from the poor) and primitive and funding further indebtedness consumption or emergency payments as opposed to SME activity (p. 94).

The microfinance objective of addressing poverty is in question on the basis of what looks more like a drive for profit. Cull et al. (2009) and Buera et al. (2012) point out that most of the funding required to service the borrowing engaged in by these microfinance institutions are either from commercial banks seeking high returns on short-term capital, private for profit institutions or NGOs. Funding from the former will still be profit-driven and jeopardise the purpose of microfinance banking. For the latter, there is usually insufficient funding for the many poor and SMEs as they are reliant on subsidies. According to Aitken (2010), microfinance funds has become a way of diversifying portfolio by investors and financial institutions, as such, an avenue for financialisation. It is therefore susceptible to interest-bearing characteristics facing short-term finance, as providers of microfinance misallocate resources in

search for investment with the highest returns. The implications of interest-bearing capital for development is taken up below in section 4.6.

Kaboski and Townsend (2011) show evidence for the above position in the high cost of securing funding for microfinance banking, with some repayments rates for these funds going as high as 97 per cent for several years. They caution that microfinance banking is only found to increase actual business investment for very few borrowers, given that most of their participants use the loans for consumption. The level of poverty and initial income of a household was a main determinant of whether they were able to start a business with a microfinance loan or not. Bateman and Chang (2012, p. 16) also found high interest of up to 195 percent in microfinance borrowing, and argue that this can be a source of deindustrialisation as no robust business operation can survive such high interests other than unsophisticated businesses like trade. These high interest rates show the level of financial expropriation in the microfinance industry.

Nevertheless, the number of borrowers from microfinance institutions in Africa rose from 1.6 million people in 2003 to 8.5 million in 2009 (Roe, 2016). Buera et al. (2012) note that there was up to 29 percent growth in access to microfinance between 1997 and 2006, with about 3,552 institutions serving 155 million borrowers globally by 2010. They estimated that this would have a positive impact on around 533 million people. They use a model of entrepreneurship that factors in a priori the positive impact of financial development. This model assumes that microfinance is a form of “financial intermediation technology that guarantees access to—and full repayment of—productive capital up to a limit, regardless of their collateral or entrepreneurial talent” (p. 3). They find significant positive aggregate and distributional impact of microfinance. In general equilibrium, it leads to low savings and capital accumulation, causing exit of low productivity entrepreneur due to higher wages and, increase in TFP. This proposes that microfinance is a redistributive policy that benefits the poor,

consisting of small-scale entrepreneurs and low-income earners, through higher wages, but potentially increases the factor costs of large-scale entrepreneurs. In partial equilibrium, they find a positive impact of microfinance on capital, demand for labour and output, but negative impact on TFP. Overall, microfinance is said to have a positive impact on consumption and output.

However, the study ignores the abstracted assumptions underpinning partial and general equilibrium theory and includes another far-reaching assumption that financial intermediaries will make zero profit. In practice, these will not hold in the case of microfinance banking in light of profit motivation. Also, the decrease in the number of entrepreneurs in their general equilibrium result is attributed to higher wages that serve as a barrier to entry of unproductive entrepreneurs. Again, this can only be an assumption, as it is difficult to ascertain the actual causal factors for reduction in the number of successful entrepreneurs, notwithstanding increased cost through wages.

Buera et al. (2012) are right to note that theories in the microfinance literature have comprised ‘joint liability testing’, ‘high frequency repayment’ and the so-called ‘dynamic incentives’ which are conditional loans linked to meeting other requirement, such as keeping children in school. They note that neither of these empirical approaches has produced a definitive answer on the factors that ensure repayments of loans are made. A lot of the empirical studies on microfinance banking are based on randomised interventions. These form the basis upon which conclusions are drawn. The main technique used is Randomized Controlled Trials (RCTs), as in Banerjee et al. (2015), which found that small business investments and profits of pre-existing businesses increased while consumption did not, neither did education, health or women’s empowerment. Notwithstanding the partial negative results in the above study, the

method has been shown to produce different results in uncontrolled contexts (Deaton and Cartwright, 2016)

Admittedly, in a World Bank report by Demirguc-Kunt, et al. (2008), it became obvious that the impact of microfinance on the poor does not solve the issues identified with finance, namely access, inclusion and efficiency of allocation, let alone financial under-development. What was evident in the microfinance setting was that the funding given to the poor was used to finance daily needs instead of funding credit. In practice most microcredit borrowers redirect their loans to healthcare, education, food and other subsistence (Beck and Ogden, 2007). As such, Chang and Bateman, (2012, p. 18) argue, that it is excessively overambitious to ignore the reality of the survivalist level of subsistence in Africa, and the hostile political structures that confront development initiatives. The belief in a direct positive impact of microfinance on development also assumes that supply elastically creates its demand in these societies, ignoring the demand constraint that exists. This speaks to the need to rethink the microfinance agenda, since extreme levels of subsistence in African countries implies that households cannot scale the obstacle of infrastructural and systemic divide that prevents them from being entrepreneurs from small loans.

#### **4.5 A Case Study: Financial Development in Nigeria.**

Financial liberalisation in Nigeria dates back to the structural adjustment programme of the 1980s, characterised by interest rate liberalisation, increase in credit allocation through a market-based financial system, and the emphasis on competition, efficiency and (constrained) regulation (Ikhide, 1997). Some research has investigated the impact of financial liberalisation on growth in Nigeria. More often than not, these studies arrive at positive results. These include the work of Odedokun (1989) who employs the Granger-causality test on quarterly data of 50

observations from 1970 to 1983 to investigate the relationship between financial aggregates and economic activities in Nigeria. He found different degrees of responsiveness of economic variables to financial development. Agu and Chukwu (2009) extend the analysis on financial depth and economic growth in Nigeria by investigating the years 1971 to 2008. They use the multivariate VECM to analyse causality through loan deposit ratio and bank deposit liabilities and show a stable long-run relationship.

An analysis of the deregulation of the banking sector in Nigeria in the period 1993-2008 was carried out by Zhao and Murinde (2011). They find that deregulation together with prudential regulation increases risk taking among banks, making them more productive. They also showed that excessive risk taking would decrease and efficiency increases as competition increases. The ever-increasing inefficiency in the Nigerian banking sector despite increased competition shows that in practice, their conclusion hardly obtains. These and many other studies focus mostly on the use of econometric techniques to analyse the finance-growth nexus, with little acknowledgement of the limitations of this approach. However, Ikhie (1997) does a qualitative study, citing reliability of data points in Nigeria as limitations of econometric studies – and as the only reason for a qualitative study.

It is tempting to continue the tradition of econometric studies with more recent data (on Nigeria), following previous methods to show whether banking activities, and finance in particular, contribute to growth, as mostly obtains in the literature. However, a more robust analysis of the drivers of the expansion in the financial sector in Nigeria and the corresponding impact on development is needed to corroborate existing econometric investigations. While there is some acknowledgement of the disconnection between financial development and economic growth, with this being mainly ascribed to insufficient regulation, there is no work on the detrimental effects of fast expanding finance in Nigeria. In general, there is paucity of research that discusses financialisation in the emerging and small open economies, particularly

in Africa. A few studies find heterogeneous characteristics of financialisation in different countries, with distinct forms between advanced and developing economies. Lapavistas (2009a) associates financialisation in developing countries with the shift from bank- to market-based financial systems, which derives from the pursuit of capital market development in the WC.

In the case of African countries, South Africa has often been the centre of focus, understandably due to its relatively larger financial market. For example, Karwowski and Stockhammer (2016) investigate the nature of financialisation in South Africa. Their research focuses on changes over time around the financial regulation landscape of the country, capital flows, asset price and market volatility, changes in forms from bank- to market-based finance, debt levels of financial and non-financial corporations and household indebtedness. They note that previous critical analysis of financial development, “stress the destabilising effects of financial activity, highlighting pervasive unemployment, endogenous business cycles and financial instability as features of capitalist economies” (p. 8).

As seen from the literature, most of these studies on financial development in Nigeria still focus arduously on issues such as the measure used, causality, and relegated to complex econometric techniques. Despite a place for these, recent issues of finance such as the financial crisis in high income countries, the rise of vested interest and corresponding increase in inequality in developing countries, shows that the debate must advance beyond the choice of existing variables for financial development to actually ascertaining the welfare impact of finance on growth, and fundamentally rethinking existing measures of financial development. It is also vital to understand the nature of financial development and the processes involved. A political economy study of the financialisation of the Nigerian economy is therefore necessary for understanding why financial expansion has not delivered economic development in Nigeria.



As such, this analysis contributes to the financialisation literature by focusing on Nigeria. This is necessary owing to the importance of the Nigerian economy as the largest economy by GDP in sub-Saharan Africa. It reviews the literature on financial development in Nigeria, showing the impressive use of dominant econometric techniques in the literature. It discusses the evolution of the financial system in Nigeria, not least banking sector recapitalisation, and argues that desired economic development has been increasingly removed despite financial development in the country.

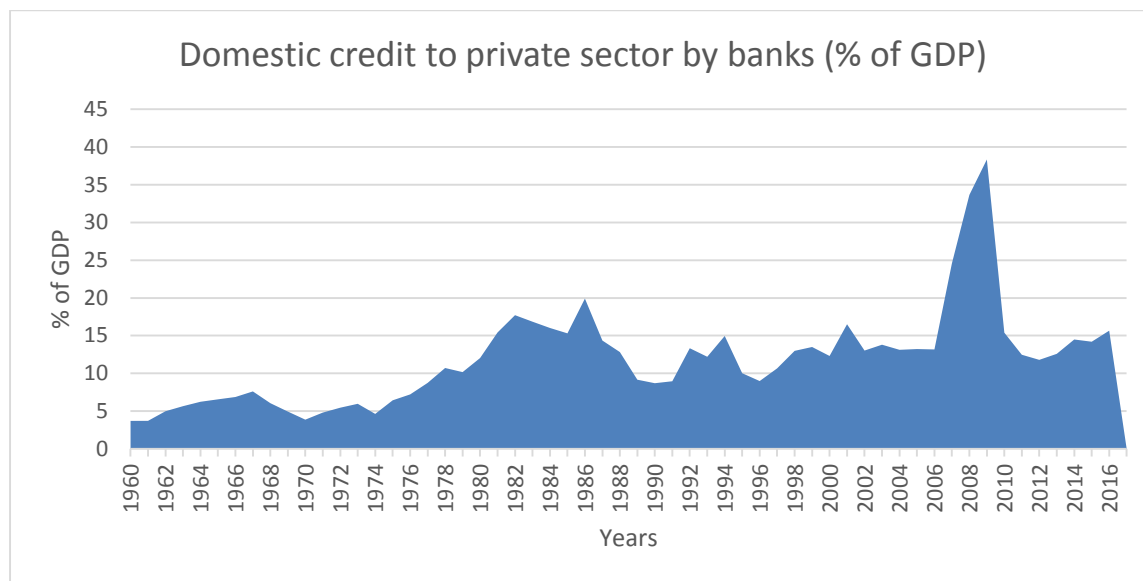
#### **4.5.1 History of Financial Development in Nigeria – The Banking Sector**

The establishment of the African Banking Corporation in 1892, among other foreign banks, was the advent of banking in Nigeria (Beck et al., 2005). A number of domestic banks were established in the 1930s and this led to a surge of banking activities. The Banking Ordinance came into effect in 1952 to regulate and boost banking activities. Following this, the Central Bank of Nigeria (CBN) was created in July 1959 to regulate the banking industry, as the country prepared for its independence from the colonial government. The indigenisation policy of the government that followed in 1972 was an attempt, amongst others, to reduce the dominance of foreign banks in the Nigerian banking sector and transfer ownership to its citizens. However, many have alleged that alongside the indigenisation policy, the banking sector was also characterised by interest rate setting and other forms of financial repression. This is said to have contributed to the economic crisis that necessitated the adoption of the Structural Adjustment Programme (SAP) by the mid-1980s. However, this argument ignores the slump in global oil price at the time, and its impact on the Nigerian economy, which had become an oil exporter. The argument also ignores the reality of weak states and underdeveloped institutions in African countries at the time, a legacy of colonialism.

According to the Central Bank of Nigeria (2004), the weak macroeconomic environment in the country at the time meant that the adoption of the SAP, as fully delineated by the international financial institutions, could not be avoided. Thus, it is alleged that it was necessary for the banks to be fully liberalised in order to promote savings and allocate such efficiently to the most productive investments. Nonetheless, the foregoing liberalisation of the banking sector saw an increase in the number of banks in the country by 1987, as the conditions for licensing were relaxed to allow easier registration. Interest rates were also deregulated in August of the same year. The combination of these factors caused a sharp growth in credit in the economy. Therefore, what seemed like an economic development strategy in the SAP created the conditions for the explosion of private finance. In line with the SAP, the government continued its privatisation exercise by selling its equities in eight commercial banks and six merchant banks by 1992. The surge in banking activities within this period led to the establishment of the Nigerian Deposit Insurance Corporation (NDIC), which was tasked with the objective of insuring depositors and boosting public confidence in the banking sector.

The financial boom in the Nigerian banking industry following privatisation, saw a rise in rent-seeking and arbitrage activities, as opposed to traditional banking, which prompted the government to re-nationalise the banks in a bid to clean up the industry. A failed bank decree was then established for prosecuting banking misconduct (Beck et al., 2005). After the country's transition to a democratic rule in 1999, many of its bureaucrats and politicians, comprising free market enthusiasts from the private sector and IFIs, alleged that the failure of Nigerian banks to perform efficient intermediation service was due to their low capitalisation.

**Figure 4.1: Bank Credit Growth in Nigeria (1960-2016)**



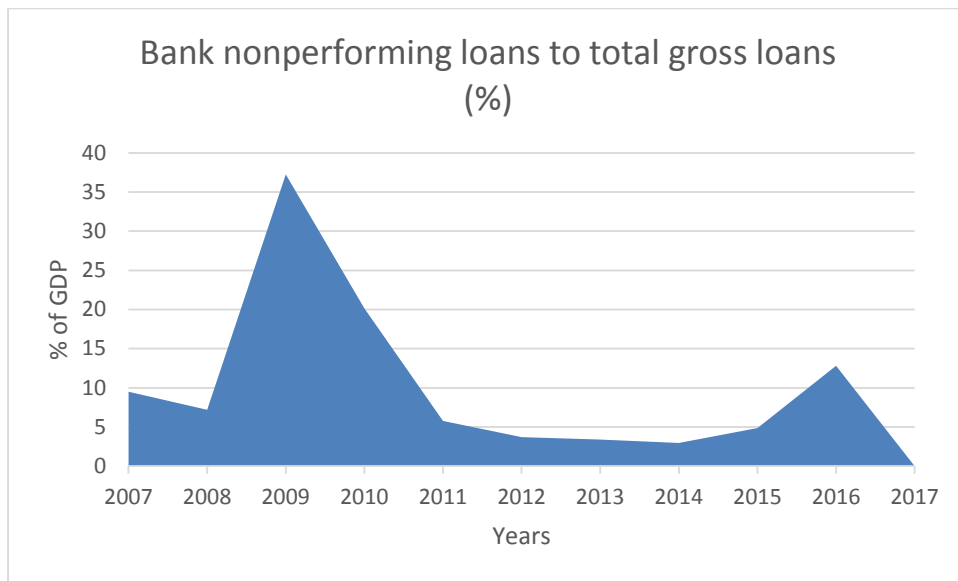
Source: World Development Indicators, World Bank

As such, another banking consolidation process was embarked upon between July 2004 and December 2005, with the objective of strengthening domestic banks to be able to finance large long-term capital projects. This directive for recapitalisation of all Deposit Money Banks (DMBs) in Nigerian saw a 1250 per cent rise in paid up capital. It was underpinned by the four-year (2003-2007) medium term development plan, the National Economic Empowerment and Development Strategy (NEEDS). It laid down the strategy for linking development to the grassroots with its complementary State Economic Empowerment and Development Strategy (SEEDS) and Local Economic Empowerment and Development Strategy (LEEDS). The banking consolidation process in this period required each bank, through a combination of mergers, acquisitions and offers to recapitalise to the tune of N25 billion (approximately \$200 million). As such, the number of commercial banks in Nigeria shrunk from 89 to 25.

But domestic credit as a percentage of GDP advanced by banks rose sharply in the period leading up to the GFC in 2008, as shown in figure 4.1, due largely to the recapitalisation exercise in the Nigerian banking sector, and remains high. Consequently, there has been a rise in non-performing loans (NPLs) as percentage of GDP evidenced by figure 4.2. This saw a corresponding spike in the period leading up to and preceding the GFC. Also, non-performing loans as percentage of gross loans also rose significantly in the same period, from 9.5% in 2007 to about 30% in 2009. Although the percentage of non-performing loans to gross loans decreased in the period 2011-2015, due largely to the recent economic recession in the country, it has shown an upward trajectory since 2015.

Griffith and Karwowski. (2013, p.22-23) show that the capitalisation achieved following the 2004-2005 banking recapitalisation exercise in Nigeria was high even by advanced economy standards. The availability of capital alongside rising oil prices led to excessive credit creation at alarming speed to different sectors of the Nigerian economy, but with little impact on growth. Private credit tripled from 12 percent to 36 percent between 2006 and 2009, with domestic credit to the private sector growing by almost five times in real terms. This private credit was channelled towards consumer loans, credit cards and purchase of shares. The sharp rise in credit is said to contribute significantly to the systemic banking crisis experienced in 2009, in which nine banks were bailed out by the CBN at the cost of \$4 billion. Today many Nigerian banks have grown into regional banks dominating the African banking system, and expanding their branches across Europe and the USA. Some are listed (raising capital) on stock exchanges abroad, such as the London Stock Exchange (LSE) and the Johannesburg Stock Exchange (JSE).

**Figure 4.2: Bank Loan Performance in Nigeria (2007-2017)**



Source: World Development Indicators, World Bank.

The presence of Nigerian banks in foreign capital markets and their expansion into the rest of Africa, Europe and America, an undertaking that was hitherto the preserve of Western financial institutions and a few South African banks but now increasingly dominated by Nigerian banks, may be a significant process of the international financialisation of its economy. The extent to which this internationalisation of Nigerian banks has contributed to the financialisation of its economy needs to be ascertained, including the financial instruments with which this process has been made possible. And how this bank internationalisation has been affected by existing hierarchical structure of the financial system, as highlighted by Powell (2013) and Kaltenbrunner and Paineira (2016), may be viable for future research.

#### **4.5.1.2 Microfinance Banking in Nigeria**

The history of microcredit schemes in Nigeria dates back to the mid-1970s, when the CBN encouraged commercial banks to direct credit to certain sectors like agriculture – backed by Agricultural Credit Guarantee Scheme (ACGS) of 1977. With the shift towards private finance, these schemes were soon left to the private sector. Many informal lending schemes developed, such as savings clubs/pools, Esusu, Ajo and other money lenders (CBN, 2017). There was also a rise in financial scams like pyramid schemes promising quick and ambitious return on investments. By the early 2000s, the Muhammed Yunus type microfinance banking story had spread across Nigeria, proclaimed successful by analysts, mainstream media and the IFIs. With only about 35 percent served by formal financial institutions and the need for a grassroots development plan, the government was set to adopt microfinance banking. In 2005, the Microfinance Policy, Regulatory and Supervisory Framework for Nigeria was adopted. This led to an expansion of microfinance banking. The recapitalisation exercise of the banking sector also required microfinance banks to have a minimum paid up capital of about \$2million and 10 percent reserve ration with the CBN.

This saw massive inflow of capital from domestic and foreign commercial and investment banks and NGOs. Microfinance banking spread across all nooks and crannies of Nigeria as private capital found an avenue into households and small businesses. Interestingly, many commercial bank managers who could not meet the required paid up capital for commercial banks, or had lost their positions through mergers and acquisitions in the commercial banks, found an avenue to return to banking. They brought with them the practices and profit motive of commercial banking, earning the same salary scales and allowances while in the business of microfinance. The same goes for the way in which interest rates were set by these microfinance banks, same or just short of commercial banks rates. In the ultimate pursuit of profit, as opposed to enabling development through SME finance, many of these institutions went to the stock

market to raise extra funds as they sought to expand their branches into other states and regions of the country.

By 2007, many of the microfinance banks experienced high rates of defaults from their customers as they were unable to repay loans given to them due to high interest rates. There was only a marginal increase in the percentage of those serviced by financial institutions, from 35 percent in 2005 to 36.3 percent in 2010 (CBN, 2017), despite proliferation of microfinance banking. What followed were many bank failures. This caused the CBN to clamp down on the practices of microfinance banking. It was discovered that many of the banks did not pay the full capital requirement before being granted licences. Others had taken up mortgages and car financing collateralised by their microfinance businesses and were soon unable to service these facilities. The failure of microfinance banking in Nigeria caused a revision through the Microfinance Policy, Regulatory and Supervisory Framework in 2011. The revised regulatory framework extended the monitoring of microcredit to cover informal schemes and tightening reporting requirements for microfinance institutions. Still, the number of microfinance banks in Nigeria stands at about 600 and is set to increase, as the country continues dogmatically to pursue financial development in this form.

#### **4.5.2 History of Financial Development in Nigeria – The Capital Market**

Nigeria's financial development has evolved from early domination by the banking sector at inception to one complemented by a thriving capital market. The process surrounding this evolution is not less than dramatic. The history of the Nigerian capital market goes back to the establishment of the Lagos Stock Exchange in 1960, now known as the Nigeria Stock Exchange (NSE). It is licensed under the Investment and Securities Act (ISA) and regulated by the Securities and Exchange Commission (SEC) (The Nigerian Stock Exchange, 2016). Ikhide

(1997) points out that the Nigerian capital market is made up of the securities and non-securities markets. The securities market is said to comprise debentures, government bonds and is dominated by shares of private enterprises. The non-securities market is made up of savings, mortgage and development banks and insurance companies, trading in term loans, mortgages and leases. Ikhide gives a detailed overview of the history of the Nigerian capital market, discussing widely the impact of interest rate deregulation, privatisation, debt conversion programmes and efficiency of the capital market, in one of the early assessments of the impact of capital market liberalisation on economic growth in Nigeria. He concludes that it is unclear whether the improvements in the institutional and asset pricing characteristics can be attributed to financial liberalisation.

He notes that some early legislations gave rise to capital market development in Nigeria. These include the Income Tax Management Act of 1961 which guaranteed tax exemptions for pension and provident funds that held a third, and subsequently 50 percent, of their total investment in government securities. The Trustee Investment Act of 1962 also ensured that Trustees invested in government securities listed on the stock exchange. Also, among these was the Insurance (Miscellaneous Provision) Act 1964 which required insurance companies to invest a minimum of 40 percent of their funds in Nigerian securities, of which 25 percent should be in government securities (p.6). The Nigerian Enterprise Promotion Decree (NEPD) of 1972 (and revised in 1997), also referred to as the indigenisation policy, has also been noted by many, to be causal to the boost in the capital market in the period leading up to the structural adjustment programme. It opened up the market to local participants, which led to a capital market growth of about 45 percent in the value of securities traded between 1972 and 1977.

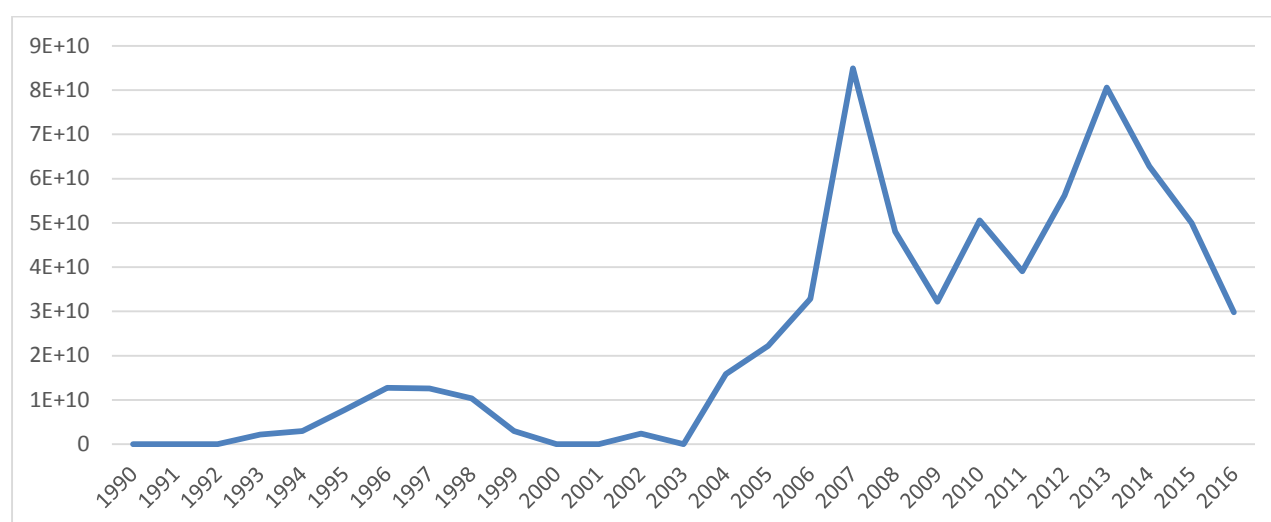
According to Ikhide (1997, p.13) the privatisation programme in the SAP, heralded by the report of the Technical Committee on Privatisation and Commercialisation (TCPC), now known as the Bureau for Public Enterprises (BPE), impacted the growth of the Nigerian capital



market immensely. The report of the committee led to the enactment of the Privatisation and Commercialisation Decree 25 of 1988. What followed was full and part privatisation of 67 and 25 companies, respectively – comprising finance, petroleum, construction, agriculture, tourism, manufacturing, and services – and full and part commercialisation of fourteen and eleven federal government enterprises, respectively.

These factors boosted activities in the Nigerian capital market. The number of listed companies grew from 93 to 153 between 1972 and 1992, and the number of securities grew from 163 to 251 between 1981 and 1992, amidst more involvement and speculation by the private sector. In fact, new equity share issues as a percentage of gross national savings rose from 6.2 percent to about 17.5 percent in the same period. The ratio of market capitalisation to GDP also increased from about 1.8 percent between 1972 and 1975 to 7.8 between 1986 and 1990 (Ikhide, 1997).

**Figure 4.3: Market capitalization of Listed Domestic Companies in Nigeria (US\$)**



Source: World Development Indicators, World Bank.

Following the above developments, trading in the Nigerian stock market was decentralised and expanded throughout the country in 1997, as new trading floors were opened in the other regions of the country – Kaduna in the north and Port Harcourt in the East, in addition to the western region of Lagos. The market was said to be poised to deliver development and reduce national inequality through efficient resource allocation. But this developmental objective was soon relegated, if not lost, to a different set of objectives, market speculation and profiteering.

The banking recapitalisation exercise of 2004-2005 also saw market capitalisation in the NSE rise sharply (figure 4.3) as all banks were listed on the stock exchange. There are currently 254 securities listed on the NSE, comprising equities, bonds and Exchange Traded Products (ETFs),<sup>26</sup> with a total market capitalisation of about \$54billion and about 50 percent average value daily trade. It is dominated by the financial services sector. Foreign flows by March 2017 into the NSE stands at 46.4 percent, up from an average 46.2 percent in 2015. Foreign Portfolio Investment (FPI) inflow<sup>27</sup> currently grows at about 2.5 times FPI outflow. The NSE is a member of many international and regional securities commissions, exchanges and financial regulatory organisations.

### **4.5.3 Financialisation through Bank Credit Allocation in Nigeria**

Financialisation in Nigeria can be traced back to the Structural Adjustment Programme (SAP) of the late 1980s, put forward as a development policy, advanced by the World Bank and the IMF. This development agenda was accompanied by banking liberalisation, which was the

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<sup>26</sup> These are derivatively priced securities or actively managed funds on a stock exchange, benchmarked to indices, stocks, commodities or interest rates, and traded intraday.

<sup>27</sup> The FPI outflow includes sales transactions or liquidation of portfolio investments through the stock market, whilst the FPI inflow includes purchase transactions on the Nigerian Stock Exchange (Equities only) (Nigerian Stock Exchange, 2017).

major basis for financial development and the expansion of credit in the country. Credit became easily accessible with the banking sector and capital market providing the platform for ease of penetration mainly for pursuing higher returns, but such credit was not targeted at the real sector of the economy but directed at certain high-yield sectors and financial assets for short-term profit. One implication of this development was that the Nigerian economy experienced enormous growth, especially in the 2000s, but also increasing fluctuations, driven by financial expansion. This is depicted below in figure 4.4, which shows annual growth rates in Nigeria, with sharp rise between 2004-2005 due to the impact of the banking recapitalisation exercise.

**Figure 4.4: Annual growth rates in Nigeria (1960-2017)**

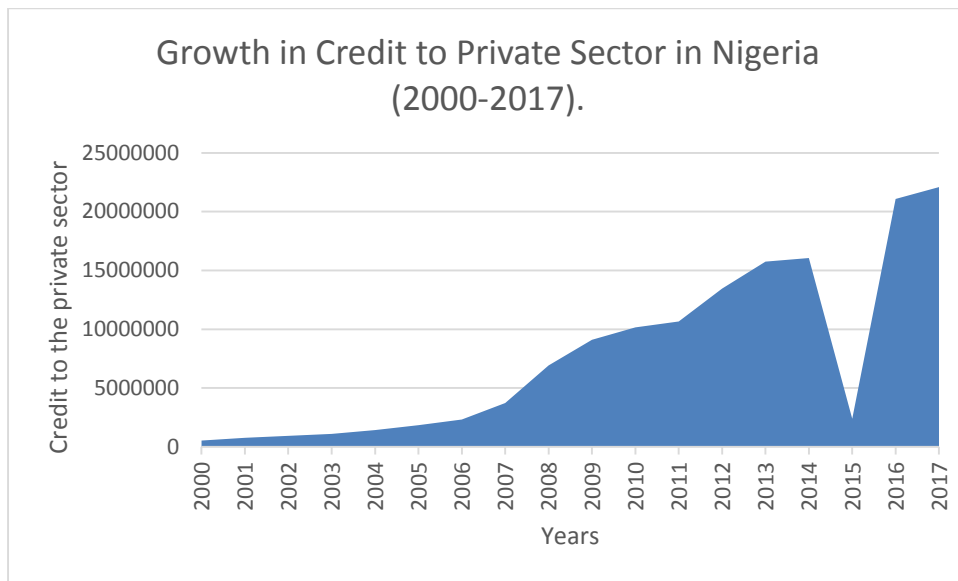


Source: World Development Indicators, World Bank.

The expansion of finance after the 2004 banking consolidation in Nigeria increased the penetration of finance into households and other non-financial corporations (NFCs). There was an explosion of household lending by way of credit cards, consumer loans and financing of

private and corporate purchase of assets from the NSE by households. Similar explosion of household credit in other regions have been considered markers of financialisation (Lapavitsas, 2009b; Gabor, 2013). Asset management companies emerged in droves to broker mortgage refinancing, oil and gas-related speculation and other instruments, bundling together all manner of short-term financial assets. Commercial banks provided loans of up to 300 per cent equity contribution to customers buying shares from the primary and secondary capital markets. Banking halls became platforms for trading all kinds of financial and non-financial instruments as commercial banks engaged in forex trading (both in physical locations and online), mobile phone top up cards, lottery cards, and other short-term assets. This shows the far-reaching extent to which financial profit was pursued in the Nigerian banking sector. The sale of mobile phone top-up and lottery cards in banking halls was later stopped by the CBN, but trade on financial instruments of all sorts continued. Figure 4.5 shows the consistent increase in private credit in Nigeria. This tripled from 12 percent to 36 percent between 2006 and 2009. Despite a dip between 2014 and 2015, due to economic recession in the country, credit to the private sector has exceeded previous years and continues to grow significantly.

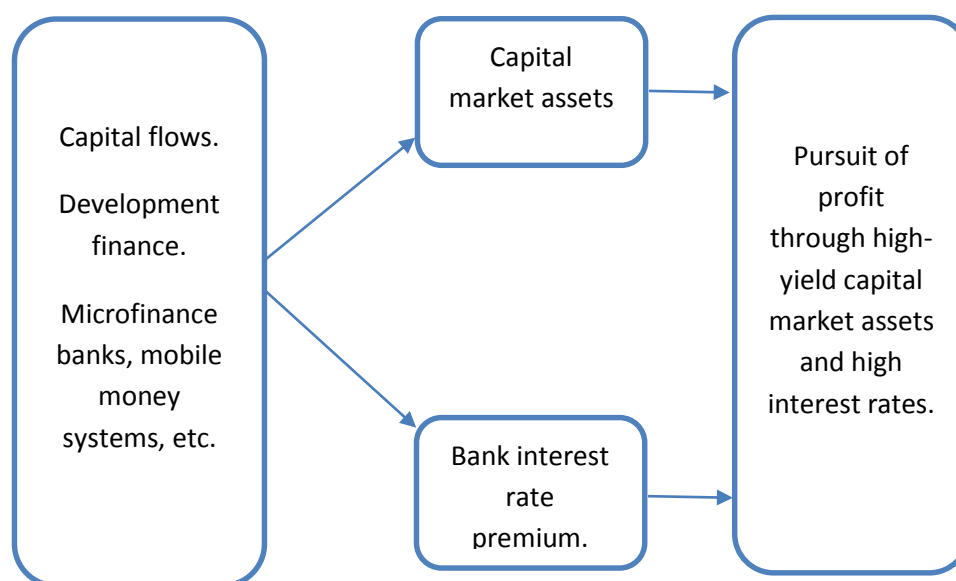
**Figure 4.5: Credit Growth in Nigeria**



Source: Central Bank of Nigeria.

Therefore, financial accumulation, emanating from international and domestic capital and development banks, including deposit money banks, fuelled the economy through microfinance banks, mobile money systems and other hybrid forms, supposedly targeting the poor with the aim of delivering development. But this is mostly diverted away from productive activities and development in general through the capital market and speculative activities of commercial and investment banks in pursuit of high yield. This can broadly be described as the one way of viewing the process of financial accumulation in Nigeria. Figure 4.6 below presents a schematic of this nature of financial accumulation.

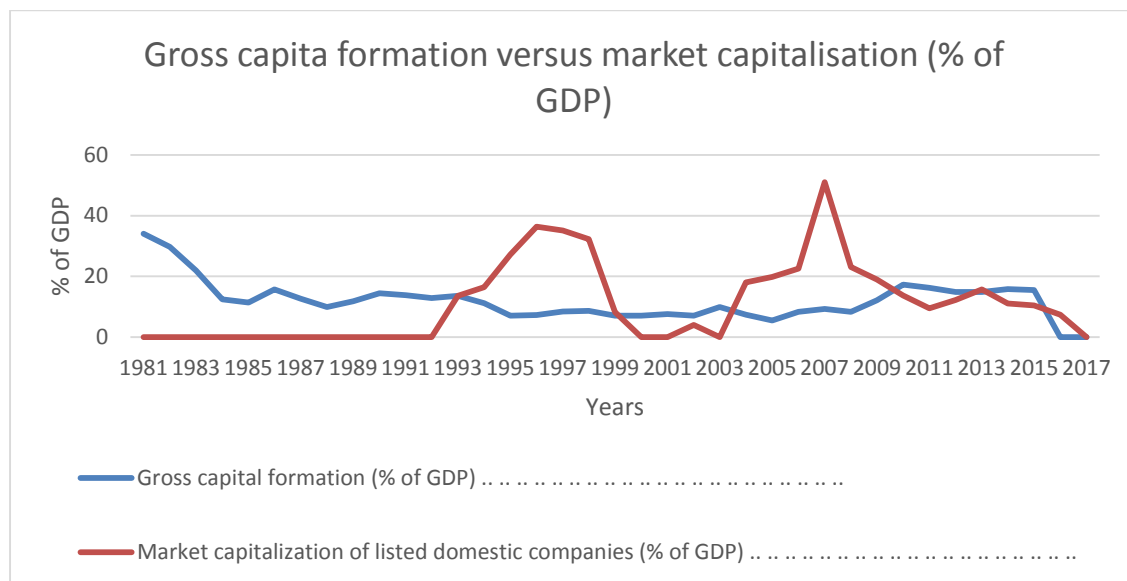
**Figure 4.6: Schematic of Financial Accumulation in Nigeria.**



Source: Author's arrangement.

One implication of this process of financial accumulation in Nigeria is that targeted development objectives are not met, despite increase in financial investments. For example, the growth in capital mobilisation in Nigeria, measured by capital formation between the periods 1970-75 and 1986-90 was only a meagre 1.1 to 1.6 percent. Also, divergence between stock market capitalisation and gross fixed capital formation grew sharply from 41.1 percent in 1980 to around 119.6 percent in 1985 (Ikhida, 1997, p.25-26). Figure 4.7 traces the divergence between stock market capitalisation and capital mobilisation percentages of GDP in the Nigerian economy. Market capitalisation also shows greater volatility compared to gross capital formation.

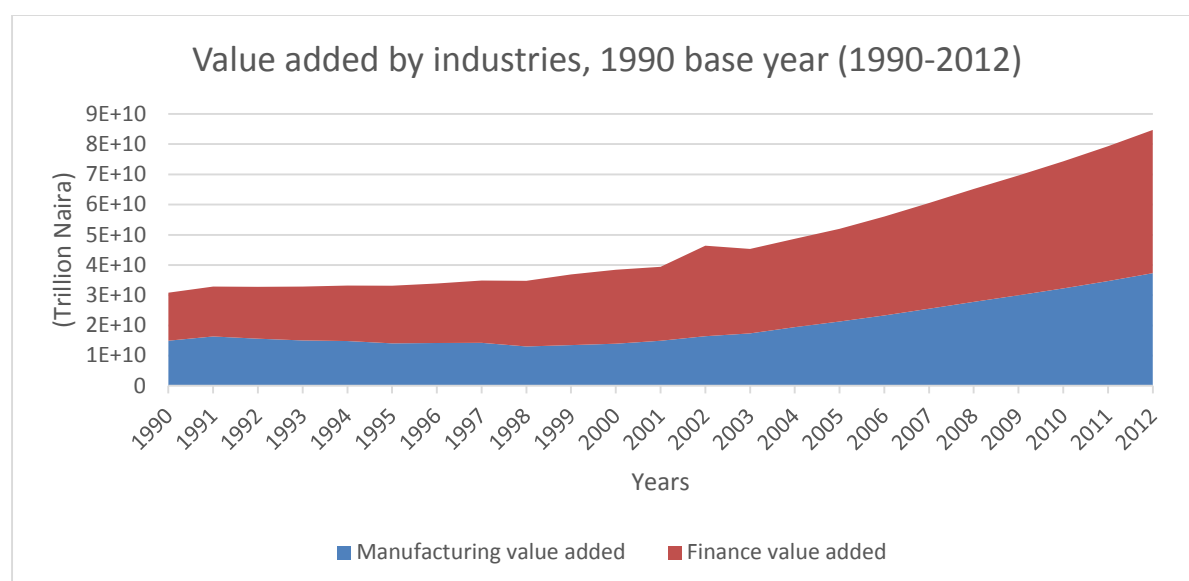
**Figure 4.7: Divergence between Stock Market capitalisation and capital mobilisation**



Source: World Development Indicators, World Bank.

There has also been an increasing divergence between finance contribution to GDP relative to real output as finance value added in output continues to grow disproportionately from value added in manufacturing. This is shown in figure 4.8, with the rate of change in finance value added higher than manufacturing value added. Finance value added also shows more volatility relative to manufacturing value added. This is particularly problematic and has been a marker of financialisation in many countries, as pointed out by Stockhammer (2004) who points out the decline in accumulation of capital goods as the financial sector expand.

**Figure 4.8: Divergence Between Finance and Manufacturing Value Added**



Source: National Accounts Official Country Data, United Nations Statistics Division.

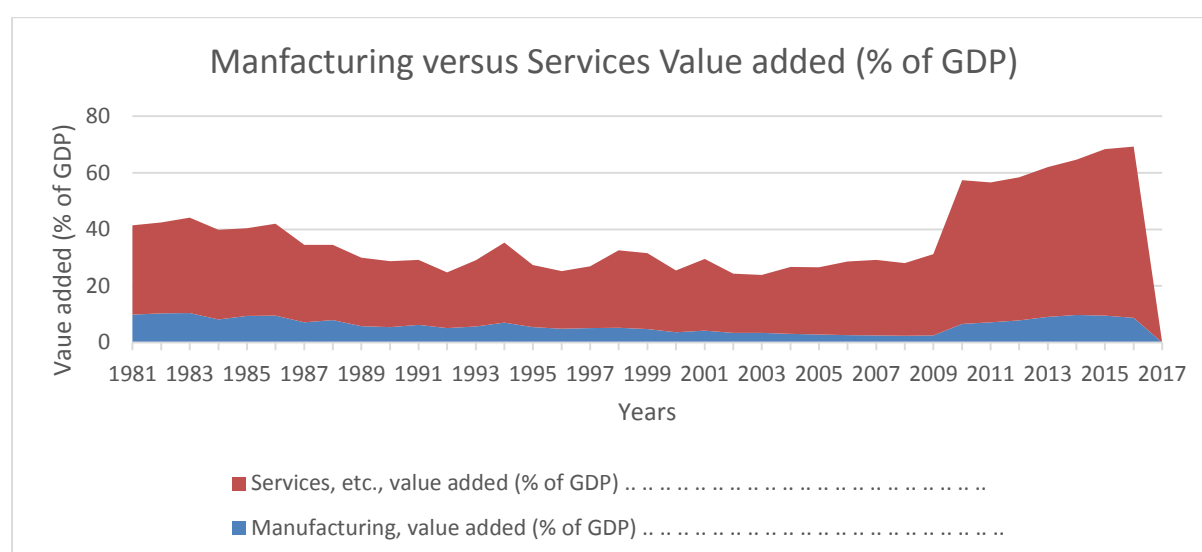
In terms of value addition to GDP and besides the decline in accumulation of real investment, a corresponding disproportionate accumulation is seen to occur between manufacturing and the services sector, considered the non-real sectors of the economy. This is depicted in figure 4.9, which shows a divergence between value added of manufacturing and services. These trends show that value added in services relative to manufacturing has not only diverged but the proportion of this divergence has been on the increase since the post-crisis period of 2009.

This is telling of the nature of financialisation by accumulation in the Nigerian economy. The non-material productivity in the services industry (except for construction and tourism services) makes it unable to absorb the residual low-wage labour that arises from a decline in the manufacturing sector (Hallward-Driemeier and Nayyar (2017)). The impact of declining manufacturing value added in output in Nigeria is that its unemployment rate has been on the rise and is seen to have increased steadily from 6.4 per cent in January 2015 to 18.8 per cent at the end of 2017 (National Bureau of Statistics, various years). Similar location of the



financialisation phenomenon around the link between decline in productive investments and negative impact on employment and wages can be seen in the studies of Demir (2007) and Araujo, et al., (2012) in a regulationist approach for the case of Brazil.

**Figure 4.9: Divergence Between Manufacturing and Services**



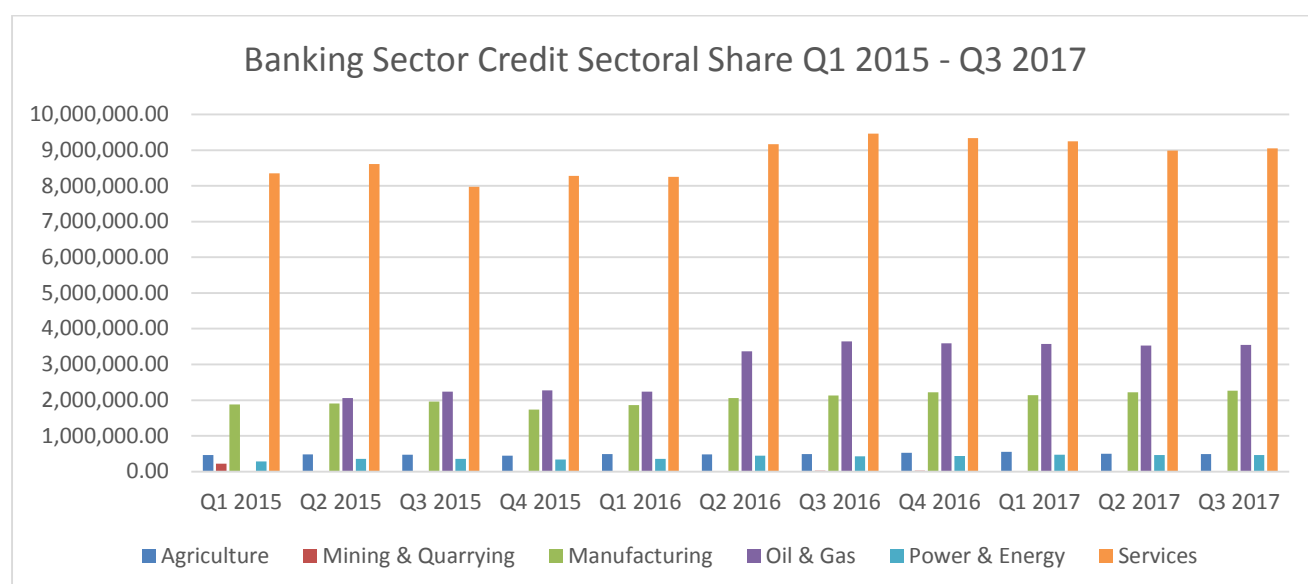
Source: World Development Indicators, World Bank.

It is necessary to note that the disproportionate growth in services in Nigeria can be linked, at least in part, to a corresponding disproportionate allocation of bank credit to the private sector as a percentage of GDP. Figure 4.10 is a graphical representation of bank credit allocation. From 2015Q1-2017Q3<sup>28</sup>, allocation to services is in the range of five times that of manufacturing, at about 60 per cent of total credit by banks. Services is followed by the oil and gas sector as highest recipient. These reflect the contribution of different industries to Nigeria's

<sup>28</sup> Quarterly data for the period 2015-2017 is used in this analysis due to the unavailability of annual data before this period.

GDP. Bank credit to these two sectors is evidence of the financial sector's preference for high yield, non-productive investment. Therefore, financialisation in Nigeria may be defined by this disproportionate allocation of bank credit between the real sector and other sectors, essentially services. Therefore, the banking sector has been a main driver of financialisation in the case of Nigeria.

**Figure 4.10 Sectoral Allocation of Credit in Nigeria**



Source: Author's Compilation from National Bureau of Statistics (NBS) and Central Bank of Nigeria (CBN)

Note: 'Services' in Bank credit to the private sector as categorised by the Nigeria Bureau of Statistics (NBS) comprises construction, trade/general commerce, government services, real estate, finance, insurance and capital market, education services, oil and gas, power and energy services, information and communication, transportation and storage, general services and others.

Furthermore, within the allocation of bank credit to services, FIRE attract the largest proportion of about an average 18 per cent of total allocation to services, and 10.6 per cent of total bank

credit to the private sector (see appendix 4 and 5). This disproportionate allocation of bank credit to the FIRE sectors reflects the growing influence of finance in the economy and another area of departure for analysing financialisation in the Nigerian economy.

#### **4.5.4 Wither Nigeria's Finance-Growth Nexus?**

But the role of finance as undermining the country's economic structure in its deficient allocation has hardly been a subject for consideration. As the country considers its path into the future, it is evident that it retains a financial inclusion strategy that is in line with the mainstream rhetoric of promoting finance without considering its impact on broader development. According to the CBN (2017) the importance of microfinance banking derives from its potential for economic development, particularly in promoting poverty reduction, employment generation, wealth creation and improving the welfare and general standard of living of the poor. As at 2008, about 53 percent of the adult population in Nigeria were excluded from financial services. Such simplistic measures of development make inclusion erroneously reduced to access to forms of payment and availability of financial services such as insurance, mobile payment services, and bank branches. This objective of financial inclusion has been stipulated in a National Financial Inclusion Strategy, launched on the 23<sup>rd</sup> of October 2012, with a target of increasing the percentage of adult Nigerians with access to financial services from 21.6 to 70 percent by 2020. It also includes targets of 24 to 60 percent for access to savings, 2 to 40 percent for access to credit, 1 to 40 percent for insurance services and 5 to 40 percent for pension in the same period. These targets are said to reduce the exclusion rate by 20 percent.

The achievement of this objective by 2020 is said to be dependent on a collaboration with deposit money banks and microfinance banks and mobile money operators, within a framework

comprising telecommunication providers and the Ministry of Agriculture. Targets have been set for DMBs to increase the number of bank branches from 6.8 to 7.6 per 100,000 adults and microfinance banks to increase the number of branches from 2.9 to 5.5 per 100,000 adults, with the aim of mainly locating these branches in the rural and under-served areas. ATMs are to increase from 11.8 to 203.6 units per 100,000 adults and POS terminals from 13.3 to 850 units per 100,000. For this to be achieved, the number of mobile agents would also have to increase from zero to 62 units per 100,000 adults by 2020.

However, the way in which inclusion continuous to be measured remains inadequate, with the assumption that nearness or access guarantees income. Therefore, such financial inclusion policy aimed at poverty reduction through increasing the penetration of finance into households and SMEs is again misplaced for a development plan, and over-ambitious. Although the policy recognises the infrastructure gap for accomplishing the set targets, underscored by lack of power and telecommunication facilities, it is silent on the provision of these infrastructures or how they can best be provided.

Despite financial development in Nigeria, growth in real output and wages have declined. Even the rise in GDP in Nigeria analysed against other measures of development, such as poverty and inequality, show a very weak and underdeveloped economy. Nigeria still ranks very low on many development indices, and it is among the poorest countries in the world according to the World Bank, with about 60 percent of the population living on less than \$1 a day as at 2012 according to the country's National Bureau of Statistics (NBS). Unemployment rate in 2017 is 14.2 percent, with youth unemployment at 47.40 percent. This state of development in the country is despite findings of a positive relationship between financial development and growth, said to be evidenced-based through fanciful econometrics.

It suffices to say that the financialisation of the Nigerian economy has not caused development. The combination of financial reforms misplaced as development plans and the ensuing expansion of financial markets point not just to the financialisation of the Nigerian economy, but in fact the financialisation of Nigeria's development. This is because of the tendency to divert much needed development finance into commercial banks for short-term investments and equities for speculation in pursuit of high yield. And the high cost of financial intermediation characteristic of developing countries, and evident in Nigeria, means that SMEs and the poor are unable to access credit. There is also polarisation and discrimination on cost of financial intermediation in Nigerian banks, where different accounts are assigned different interest rates and charges on transactions depending on the account balance. This ensures that the poor end up paying proportionately more than the rich subsidising them.

What is obvious, is that there is no substantial improvement in the standard of living in the communities experiencing so-called innovations in financial development and extreme poverty perseveres. So, despite so-called inclusion and access, the poor continue to be alienated from the gains of financial development. Only a few people who control finance are enriched. The pertinent point then needs to be made: financial inclusion and access without a re-distributive element is rhetorical. Countries continue to be further removed from development as they pursue financial development policies. It is therefore necessary to rethink mainstream financial development narrative and change the approach, as the financialisation of Africa's development is unlikely to deliver desirable outcomes even in the future.

#### **4.6 Conclusion**

This chapter has investigated the relationship between finance and growth in Africa by first presenting an overview of the development space in the continent and then tracing the link

from this environment to the factors underpinning the expansion of finance in Africa. Clearly, the literature is not focused on fixing the problems that may have caused instabilities in advanced economies or uneven development. Instead it is focused on recommendations of financial expansion for low- and middle-income countries. The role of the IFIs and the World Bank is seen as advancing a positive finance-growth nexus and the shifts in economic theory from the WC to the PWC. The limitations of this revisionism come to the fore in the dissenting voices around this shift. But more importantly, the incoherence between scholarship, policy and ideology in practice speaks to the ideological and policy insistence on private finance for development.

Measures of financial development in the literature are seen to be inadequate in capturing the real forms of finance in Africa. And the concepts, not least financial inclusion and access, used to advance financial development is more rhetorical as supposed to a genuine and concise agenda of delivering development. The experience of microfinance banking as the main channel of achieving inclusion and access provides evidence of the ineffectiveness of the mainstream approach to financial development. Closely associated with the drive for financial inclusion in Africa is a misplacement of financial policies for development policies. The impact of this misplacement is the redirection of efforts and resources away from actual development into the financial system, which is then used for speculation and expropriation.

The form and processes underpinning financial development in Africa is further investigated through the case of Nigeria. Investigation into financial development in Nigeria, not least microfinance banks has been met with data availability challenge. Nonetheless, the impact of this process is evident in the expropriation and uneven allocation of finance in Nigeria. Based on this, the conclusion is drawn that the expansion of finance in Africa has been located around national development plans with an expanding role for the private sector, in what is referred to the financialisation of development. The defining characteristics of the financialisation of

development are further expanded upon by drawing on the overarching processes for the expansion of finance.

There is no doubt around the logical argument on the possibility of finance to spur investment and create growth for economies. But this has not been the case. What is obvious is that finance continues to proliferate beyond the boundaries of production or productive activities, even in developing countries. Nevertheless, the processes through which financial intermediation can be successful remains unclear in the argument for finance. Honohan (2004) makes the point that it remains unclear how the process of financial intermediation causes growth. He alluded to the fact that this may usually be intertwined with other factors, not least regulatory and institutional environment of a country. It is also not enough to continue to emphasise the need for regulation and so-called efficiency as necessary for a well-functioning financial sector, as obtains in most mainstream studies. No doubt, these are relevant. But despite increasing regulation of financial systems globally, crises, instabilities and uneven distribution of finance are prevalent, even rising to worsening levels. In short, more regulation strikingly seems like no regulation at all.

So, what is needed is a better approach and understanding of the structures of finance, markets and the social interactions that underpin financial transactions that will enable finance to grow the real economy. The processes involved for advancing such understanding of finance lies within the realm of the financialisation discussion. Understanding financialisation in country-specific contexts helps shed light on the political determinants of financial policy, not least the beneficiaries and losers from these policies. The issue is not so much about modelling historical data to analyse the relationship between finance and growth, but about understanding why increasing financial development has not contributed to growth and development and how this can be addressed. This is necessary given the more recent growth in credit and of finance in Africa amidst very little development.

## **Chapter 5.0 - The Finance-Growth Nexus and Non-Productiveness of Finance**

“The method of computing national income has been “overwhelmingly important, in [...] setting [the] boundary and the formal adjudication of what ‘is’ productive and what is not. This is the domain of national accounting: the formulation and publication of statistics designed to capture the overall level and composition of the economic activity of a nation state. Foremost among these statistical measures are the headline numbers for national income and output, including most recognisably gross domestic product (GDP) and gross national product (GNP)” (Christophers, 2011, p. 115).

### **5.1 Introduction**

The construction of Gross Domestic Product (GDP) in general is acknowledged to be subject to dispute, change and some degree of arbitrariness. In part, this depends upon teasing out the distinction between what causes growth (and so increases in GDP) and what contributes to it (and should be part of GDP or not). For example, consumption and investment are both potentially viewed as causing growth (consumption-led or investment-led growth) and both are seen as components of (contributing to) growth in the expenditure approach of computing GDP. But the same cannot be so readily said of finance. Its contribution is not obvious and its causal role for growth has been long debated. However, finance features prominently in the production (value-added) approach of calculating GDP. Its contribution to output has been questioned, not least in the arbitrary way in which it is alleged to achieve this (Christophers, 2011; Basu and Foley, 2012; Mazzucato and Shipman, 2014; Assa, 2015). Besides this arbitrariness in determining the contribution of finance, other issues in the computation of GDP are the long-standing academic debate on the productiveness of certain sectors, the difficulty in measuring output in many sectors such as the service industries, and the omission altogether of certain productive activities (See for example Sangolt, 1999, for a discussion on productivity of household labour). It is also contentious whether certain services and sectors contribute to



growth as much as the output recorded as measured by the aggregate of the net value earned. The latter point no less applies to finance than any other sector.

In the past, finance was primarily excluded from contributing to output (treated as transfers) even if potentially causing growth as debated in the nexus literature, reviewed in chapter 2. So, two different debates exist around the relationship between finance and growth. On the one hand, whether finance causes growth. And, on the other, whether finance contributes to growth. Not only have both subjects been widely debated, they have been so through processes of revision. The debate on the causal role of finance for growth has undergone revisions from the initial treatment of finance as homogenous, through the disaggregation of the forms and channels by which finance causes growth, to a more recent revision into thresholds as a response to the financial crisis. Likewise, the debate on the productiveness or not, of finance, is seen to have undergone revisions in the historical amendments associated with the shifting definition of financial services from non-productive to productive in the Systems of National Accounts (SNA). This is also seen in the adoption of these revisions, sometimes hesitantly, in different countries' approaches to computing their national income.

A starting point of the analysis here is to note that no such controversy exists for the consumption-growth or investment-growth nexuses. Therefore, an analysis of the shifting relationship between the debates on the facilitating role of finance, and so causal for growth (nexus), and the productiveness of finance or not is the subject of this chapter. Both debates may appear to have proceeded in parallel, with their developments barely analysed together. This is an original contribution as such, since, to the best of our knowledge, no detailed analytical study of the relationship between finance and growth has been located around both debates. We argue that it is necessary for both debates to constitute the discussion on the (real) relationship between finance and growth for better understanding that includes a political economy of the argument.

This chapter interrogates the relationship between finance and growth, not in the conventional manner of statistically proving or disproving the relationship. We draw closely from the work of Brett Christophers, who is of the position that, a keener consideration of the political conundrums surrounding the productiveness of finance is critical to understanding and resolving the question of whether finance is productive. He argues that the “hegemonic discourse of ‘productive finance’ is untrue because it is partial - so, while an element of truth may reside in the representation specifically of finance’s economic benefits, the facts that the costs are ignored makes the overall representation a false one” (Christophers, 2011, p. 114). He notes that the SNA has, since the mid-twentieth century, been “overwhelmingly important, in the Western world, in the setting of this boundary and the formal adjudication of what ‘is’ productive and what is not”, as in the quote above. He argues that instead of debating the productiveness of finance, it may be worthwhile turning to the politically potent perception of productiveness of finance, to understand how finance has come to enjoy its current hegemony. In short, this chapter mainly explores the other, relegated, strand of the literature on the relationship between finance and growth, the political economy of the nexus.

Interestingly, the mid-twentieth century was the period in which the positive relationship between finance and growth was critically debated. However, the debate was abandoned in the 1990s, despite evidence to support financial markets inefficiency. Correspondingly, an abandonment of the theoretical debate on the productiveness of finance – comprising the difficulty in measurement, inclusion of certain sectors or not, the unavailability of data and unreliability of sources, variety of questionable assumptions to arrive at headline numbers, discrepancies on production boundaries, double counting, and so on and so forth – is observed in the same period. This is due in part to the triumph and ascendancy of global finance and neoliberalism in general.

The rest of this chapter discusses the history of the computation of financial services in the SNA in section 5.2. It follows the different revisions of the SNA and pinpoints the changes made in the treatment of the finance sector's contribution to output, with an emphasis on the impetus to recognise finance as productive, following its expansion in the economy. The differences in approaches used in the national accounts of different countries, coupled with different times of adopting the recommendations of the SNA, points to the non-consensus on the proposed productiveness of finance. The reluctance to embrace in entirety the touted productiveness of finance will be located in ideological inclinations and (national) vested interests. The case for unproductiveness of finance is analysed in section 5.3 in line with the literature. This is followed by analysis of the shifting debates of the nexus and the productiveness of finance in section 5.4. Section 5.5 locates these debates in the evolving definition and understanding of the financialisation literature. Conclusions are drawn in section 5.6.

## **5.2 The History of Financial Services Computation in GDP**

Various accounting methods have been used by different countries and at different points in time in computing national income, not least, in the treatment of financial services in output. One of the earliest of these systems of determining the productiveness of an activity was the Material Product National (MPN) accounting system. It was initiated by the planning and statistical offices of the USSR in the early 1920s (Rangelova, 2007). In this approach, value was based solely on tangible material production. This approach continued to be in use in many countries (mostly emerging economies) after most Western countries had abandoned it, amidst the debate on the inclusion of financial services in output. In fact, as at 1970, the MPN and GDP had equal status in the UN Systems of National Accounts.

However, the limitation of the MPN is that there is no absoluteness to the composition of value in the production chain. Thus, it encounters a problem, referred to as the ‘productive factor’ problem. This productive factor problem, the inability to directly determine whether value has been created is seen to apply even more prominently to financial services. It underpins what has been termed the ‘banking problem’<sup>29</sup>. According to Christophers (2011) this is a problem that arises when the banking sector records a negative output which makes it seen as unproductive. This will be the case if costs are simply deducted from fee-based revenue (Assa, 2015) with no other output. It arises in the output/product method<sup>30</sup> of computing GDP.

A look at the historical developments of national accounts in countries is thought-provoking. The USA up until 1947 in its GDP computation treated financial sector’s output as equal to the sum of its profits and wages paid. It also used this method for other intermediation services (Arndt, 1996). It then continued not only to push this method for all its sectors but for other countries as well. This was evident in the 1953 recommendation to treat intermediation services as productive, and as such, de jure part of GDP computation. This was implemented in SNA 1968. While other countries quickly recognised the flaws in this approach and thought it imprecise and manipulative, the USA continued to use it until 1993 (Christophers 2011).

The computation of financial services in output around Europe is even more revealing of these flaws. France, until 1975, omitted revenues derived from financial intermediation in the computation of its GDP, because it considered these essentially unproductive (Vanoli, 2005).

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<sup>29</sup> The potential of recording a negative output in the financial sector, since its so-called financial intermediation service, creates no material output.

<sup>30</sup> The product/output approach is one of the three methods of calculating GDP. It sums up all economic activities across industries that are considered productive in an economy. It can be estimated with the equation  $GDP = \sum_{i=1}^n (Y_i - IC_i) + NT$ , where Y represents output in sector i, IC is corresponding intermediate consumption and NT is net taxes (i.e. taxes minus subsidies). The others methods for computing GDP are the expenditure and income approaches. The expenditure approach is a sum of all final expenditures in an economy, summed up by the following equation:  $GDP = C + I + G + X-M$ . C is consumption by households, I is investment by firms, G is final consumption/spending by government and X-M is net exports. The income approach sums up all compensation (i.e. wages and salaries) of employees, net taxes and gross operating surplus (profits). It can be denoted by the equation:  $GDP = CE + NT + GOS$ . A ‘statistical discrepancy’ amount is usually imputed to reconcile differences in the three methods in national income statistics (Assa, 2015).

Later on, it alleged that the revenue from financial intermediation derives from its role in the allocation of resources. From then on, financial intermediation was considered productive in France. In the UK, financial sector intermediation (comprising net interest receipts by financial institutions) was considered to be unproductive until 1980. Afterwards, it was treated as both input and output of the financial sector, instead of being treated as intermediate consumption. Here, interest payments to banks by third parties were deducted from banks' income, but at the same time added to output as financial sector contribution (Christophers, 2011). These bizarre modifications show the extent of machination in the accounting systems, in the move to make the financial sector appear productive.

Australia, prior to 1948 treated all banking sector interests as transfer earnings, just as in other sectors of the economy, because a significant amount of the income generated in the banking sector is from the difference in interests between lenders and savers. This approach resulted in negative output for the financial sector (Arndt, 1996). But as we will see, this changed in the SNA approaches that followed.

In the USSR, the MPN was used from the early 1920s when it was designed, until 1990 when it was abandoned. According to Rangelova (2007), it was not only used in the USSR, but also adopted by Central and Eastern European countries around 1948 and 1950. Notably, financial services was not considered in the national accounting framework of these countries before 1990. The adoption of the MPN by such a large number of countries meant that a standardised basis for comparison with countries using other methods was sought by the UN. This proved to be difficult.

We now turn to the arbitrariness of financial services in the historical development of the SNA. In SNA 1953, financial intermediation in the VA approach was treated as transfers like benefits, etc. thus unproductive (Assa, 2015). Net interest revenue from the financial sector

was treated as input of other sectors (based on deposits received from those sectors). This was apportioned as final demand for consumers and intermediate demand of other business sectors. It ensured that financial sector's contribution to output was greater than other sectors contribution. This approach was criticised by Haig (1973) who argued that determining financial intermediation contributions based on deposit ownership from other sectors was a misconception of banking.

Following this, SNA 1953 was replaced by SNA 1968. But even more desperate was the treatment of financial intermediation in the SNA 1968 with a renewed objective of making finance productive. In SNA 1968, the net interest from financial intermediation was treated, neither as an input of the finance sector nor as distributed input of the consumer and other business sectors accounts, "rather as the input of a new notional industry sector with no output" (Christophers, 2011, p. 130). This was quickly adopted in Finland, France, Italy, the Netherlands, Norway, and used until 1996. The USA only abandoned the approach in 1993 and was the first to do so (OECD, 2001).

In SNA 1993, Financial Intermediation Services Indirectly Measured (FISIM)<sup>31</sup>, as it became known, was said to be final demand for consumers and intermediate demand for businesses. This was based on an IMF recommendation to the United Nations Statistical Commission in 1991 to allocate the output of financial intermediation in such a manner (Vanoli, 2005). In SNA 1993, Assa (2015, p. 5) notes two approaches to the estimation of FISIM. One was the recommendation to allocate FISIM across sectors that benefit from financial services in order to be able to classify them as either intermediate consumption, final consumption expenditure, or exports. Here, FISIM was to be deducted industry by industry depending on where it is

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<sup>31</sup> This is interest-based financial intermediation. It is treated as input to other industries, and deducted from total value added to arrive at GDP.

consumed as intermediate consumption. But the information to do this “is not readily available” (OECD, 2001 p. 8).

The other method was a much simpler approach that deducts all FISIM as intermediate consumption of a ‘nominal sector’, similar to SNA 1968. These approaches in SNA 1993 made financial intermediation appear explicitly productive. The supposed productivity was hinged on the claim that the financial sector incurs liability on its own account by acquiring financial assets from lenders, repackaging and channelling them in a suitable way to borrowers. This includes the issuance of bonds, treasury bills and other securities. It was concluded that considerable risk-taking was involved in these activities, as such labelled “risk management” and “liquidity transformation”. FISIM became the difference between the property income receivable and total income payable (Chakraborty and Das, 2007).

Given the idea of a difference between income receivable and income payable, a notional ‘reference’ rate of interest (as a proxy for the inter-bank lending rate or repo rate) was introduced as a productive base from which bank lending could be assessed. The difference between this reference and the interest generated by creditors and financial institutions is then taken as the productive output of financial intermediation in GDP (Christophers, 2011). FISIM was computed using the formula  $(r_L - r)T_L$ , where  $r_L$  is the interest rate on loans by the financial institution,  $r$  is a reference rate that lies between (perhaps the average) interest rate on loans and interest rate on deposits.  $T_L$  is the nominal amount of total outstanding loans. But the notion of a reference point as an independent productive base in the SNA 1993, “returns us to the very genesis of the banking problem” (p. 134). This is because a large portion of banking profit is generated simply by setting a margin of lending, without any material production.

The linking of this reference rate to so-called risk by the financial sector is to ignore the risk brought upon the real economy by extracting enormous profit from the financial sector without

backing this with commensurate productive output. A profit margin cannot simply be deemed productive in itself if no output is created. The putative risk allegedly borne by the financial sector also ignores completely the guarantee (insurance) of deposits provided by the state and tax payers, and not by financial institutions themselves. This means the state bears the risk and not the financial sector. It is therefore, a case of the state guaranteeing the cost created by the financial sector in the expropriation by finance. The alleged risk further ignores the disproportionate profit and bonus pay-out realised by financial institutions, their investors and shareholders. Although SNA 1993 recognised respective levels of lending, debt and banking activities, and excluded capital gains, a major failing is that it was silent about addressing this disproportion in the different channels of financial system revenue. It carried on legitimising the financial sector as a productive part of the economy.

With the aim of further absorbing into the SNA all income generated in the financial sector, a revised international standard for the compilation of national accounts, SNA 2008, was approved by the United Nations Statistical Commission in 2009 to replace the SNA 1993. This was quickly adopted and made more detailed in the European equivalent, the European Systems of Accounts (ESA) 2010 (Van de Ven, 2015). While the main conceptual changes in the SNA 2008 was targeted at enlarging the capital base through the inclusion of R&D and military systems, there were changes affecting the computation of financial services in the national accounts, comprising pensions, capitalisation in holding companies and Special Purpose Entities (SPEs). Pension entitlements provided by governments via social security were to be treated as liabilities to households. The contribution is to be estimated through its net present value in SNA 2008, as opposed to actual contributions paid in SNA 1993. This was to factor in any appreciation in value and capital gains, given the heavy involvement of pension companies in the capital market. Investment income on pension assets “is now to be set equal to the winding down of the net present value of the entitlements. In the SNA 1993, this



investment income had to be set equal to the actually earned income (excluding holding gains and losses)” (p. 3).

In the SNA 2008, financial services by banks have been expanded to include non-performing loans, insurance, mutual funds, pension funds, including output of central banks – with little consideration of what these services are and how income is generated from them (Chakraborty and Das, 2007). The activities of holding companies are now to be allocated to financial services, enlarging the sector, as opposed to their parent companies in the SNA 1993. This is despite the fact that holding companies invest heavily in shares, bonds and all manner of debt instruments. So, while capital gains from banks themselves are excluded from value added, income from the same activities by holding companies are now included in gross value added. Van de Ven (2015) points out that this will increase the debt levels of the economy. SNA 2008 also recognises the activities of SPEs as productive. These are transactions of foreign companies whose main economic activities consists of group financing, or intermediation of funds between foreign companies (ISWGNA, 2014).

In addition, SNA 2008 sets out to capture income from central banks activities and count these in national output. It recognises three categories of central bank activities: financial intermediation services, monetary policy services and, supervisory services. Output can be determined and measured for only two of these roles. Output for financial intermediation is to be determined by the difference between a reference rate and the actual rate of interest. This may sometimes result in a negative output, in which case, it is recommended that the total output for the central bank be valued at the negative difference incurred – by the difference in rates (SNA, 2008, Paragraph 6.151-156, 7.122-126). Output for monetary policy is considered a non-market output, but can be measured at the total costs of pursuing monetary policy changes. Output for supervisory services is to be based on whether fees are charged to cover the cost of these services. The recognition that central banks engage in activities that would

generate output for the financial sector and economy, beyond the traditional role of the central bank, can be viewed as the endorsement of monetary policies targeted at creating bailouts. These have now become the norm. The adoption of the role of the central bank as guaranteeing other bank deposits and the channel through which the government provides bailouts implies an acceptance of the reckless speculative behaviour of banks and other investors, the cost of which is to be incurred by the central bank.

Like banking, the activities of the insurance sector were expanded through the introduction of an “adjusted claims” based on a long-term pricing average that captures unexpected future events, which may result in high claims (SNA, 2008). The use of unrealised future so-called “adjusted claims” was to change the possibility of negative output in the insurance sector, which may present it as unproductive. However, the use of this approach, as opposed to the simple difference between premiums received and claims paid, in SNA 1993, also means that output in this sector will expand substantially.

SNA 2008 redefined financial activities to comprise the following: monitoring of risk, assumption of risk, provision of liquidity, underwriting, convenience services and trading. FISIM, which is excluded from total value added, was unexcitingly re-defined as comprising loan provision and deposit services, as opposed to the broader definition of property income receivables and interest payable by banks and other financial institutions, as previously defined in SNA 1993. In practice, the expansion of the financial sector to include central banks, insurance, holding companies, SPEs, etc. means that financial services value added will grow enormously. Given these changes in SNA 2008, a new method of calculating FISIM was introduced, under the recommendations of the Advisory Expert Group (AEG) for SNA revisions, “based on the difference between the property incomes receivable and total interest payable of the financial corporations” (Chakraborty and Das, 2007, p. 3765). FISIM in SNA 2008 is computed as  $(r_L - r)T_L - (r_D - r)T_D$ . Where  $r_D$  and  $T_D$  are interest on deposit and total

deposit respectively. Other variables remain as previously defined in SNA 1993. This was simply to indicate that financial services income is now derived from difference in interest earned from loans and made on deposits. But Das and Jangili (2017, p. 518) show that the proposed change in computation is likely to raise the size of FISIM, as long as  $T_D > T_L$  and  $r$  is positive (i.e. total deposits greater than total loans and the reference rate is positive), which is usually the case in the banking sector.

The table below gives an overview of the significant differences exist between the revisions made to the SNA and among countries in their adoption of the changes. While a few countries quickly embraced and implemented these changes to the treatment of finance in their national accounts, others were reluctant. This reluctance will be interpreted as resistance to the notion of a productive finance. What is also obvious about the SNA is that these revisions have been aimed increasingly at capturing unproductive new and innovative forms of financial development. The ambiguity involved in the productiveness of finance in the SNA is laid bare in its transitions from non-productive, though – as Christophers puts it – explicit unproductiveness, implicit productiveness, to explicit productiveness<sup>32</sup>.

**Table 5.1      Revisions, Dates, Changes and Country Adoptions of SNA Amendments**

<b>Years/SNA Revisions</b>	<b>Treatment of Finance and FISIM in particular</b>	<b>Countries/Years of Adoption</b>
Before 1948	MPN: based on material production only. Value apportioned on a sector-by-sector basis.	All centrally-planned countries where national accounts were computed in 1920s-1970. Afterwards,

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<sup>32</sup> See categorisation in Christophers (2011)

		former Soviet Union until the 1990s.
SNA 1948	Finance is explicitly unproductive: excluded from national output, considered as transfers.	Mainly the USA (1948)
SNA 1968	Implicitly productive: output from financial sector treated as input to an imaginary industry with no output.	Finland, France, Italy, the Netherlands, Norway.
SNA 1993	Explicitly productive: Value-added of financial sector is based on net interest received by financial institutions. Financial Intermediation Indirectly Measured (FISIM) deducted individually from value-added of individual industries buying financial services.	USA (1993); India (1994), Others are Australia, Japan New Zealand.
SNA 1993	Explicitly productive: treating all FISIM as intermediate consumption of a nominal sector	UK and most European countries (1996).
SNA 2008	Includes more exotic and so-called innovative financial products, constructing finance as ever more productive. -FISIM re-definition. -Capital gains in pensions now computed as productive. -Recognition of SPEs as productive. -Expansion of output of insurance activities to include future unexpected events. -Includes the possibility of productive output by central banks.	Australia (2009), Canada (2012), Israel (2013), Mexico (2013), USA (2013), Korea (2014), Other OECD countries (2014), Turkey (2015), Chile (2016), Japan (2016)

Source: Author's compilation

As shown in the table, the MPN approach remained in use in the former Soviet Union and China until 1993, when these countries transitioned more into market economies with a new emphasis on financial development. Many analysts believe that the exclusion of finance from national output before then, was precisely the main reason the MPN was used in China, the former Soviet Union and East European countries for such a long period. However, the MPN was unable to satisfy the statistical needs of the market economy (Rangelova, 2007), as such, it was abandoned as countries transitioned to the market. So also, was the initial debate on productiveness abandoned, as seen in the SNA revisions. In all these different approaches to treating financial intermediation by different countries at different periods, nothing resembling unanimity was reached on the productiveness of financial services until 1993. This corroborates the argument that the adoption of the productiveness of finance in national output was not due to a consensus, but for the purpose of strengthening the role of finance in the economy.

Despite the pursuit of a more prominent place for finance through the SNA, the allegedly productive financial services value added misses the mark of even the least necessary requirement of the neoclassical theory of productivity, which is the need that both an input and output exist in the production process and, output must be worth more than input, before it can be deemed productive. Consequently, the growing proportion of financial services in national accounts reflects the widening gap between value-creation and value-added in output. This will be seen to be problematic for national income and other macroeconomic aggregates. We now turn to the debate on the exclusion of finance from GDP to expand on this point.

### **5.3 The Case for Separating Finance from GDP**

Adam Smith (1804) stating his position on finance in general and banking in particular, noted that the objective of banks should be simply to provide the public utility of financial

intermediation and not necessarily to make profit. This can be interpreted as implying that banks have the traditional responsibility of allocating resources (to the most productive sectors of the economy), not least that this role should be a public good. His reference to financial intermediation as opposed to profit-making, hints on the dichotomy between, on the one hand, the contribution of finance to growth through re-allocating resources and on the other, the tendency to derive profit from finance without creating value. He was of the position that finance has the tendency to locate itself in the latter. Like Smith, Karl Marx did not agree that all banking profit was a normal consequence of banking intermediation procedure. He maintained that most of it derives from interest-bearing capital or financial rent-seeking. In line with Marx, it suffices to say that the bulk of finance's contribution to output does not derive from economic activities that create new value. But it is mostly a re-circulation of existing value from one sector to the other, with the tendency to overestimate this value. For Marx, the process serves to preserve existing capital-labour relations and maintains the existing class structure. Though, he believed that this is socially necessary for capitalism, finance was never understood to be productive.

In line with this argument, Christophers (2011) notes that the banking sector (and the rest of the financial sector) adds little or no value to the national economy when interest-related revenue is excluded from output. He differentiates between three banking services. First, banks provide services such as raising capital, facilitating mergers and acquisitions, fund management and currency transfers, for which they are paid fees. These fee-based financial services are usually included in the product/output method of estimating GDP, since they are clearly defined services, with recipients and providers of such. He notes that it is the only banking activity to register a positive output entry in the national accounts. Second, banks engage in trading and speculation of assets with proprietary funds, mostly over short periods, with the

aim of making profit. The interest, dividends or capital gains from such trade are excluded from GDP estimation as no service has been rendered and no production has occurred.

Third, banks provide so-called financial intermediation services between depositors and borrowers. He points out that banks generate profit by setting a margin between the prices of assets bought and sold, different cash prices for the purchase and sale of shares, different interest rates for deposits and loans. This interest-based income is FISIM, defined above. It remains unconvincing what these services actually are, despite attempts to justify them. Christophers adds that in practice, no specific payments are made to the bank for these services, but banks make deductions for them. As such, they should be treated as transfer earnings, but this is not the case. FISIM is treated as input to other industries and deducted from total value-added in the national accounts to get GDP. If this were to be excluded from financial sector output will record a negative contribution, since its cost is greater than income earned from the services offered (United Nations, 1947; Paul Studenski, 1958). This is the core of the much-debated banking problem (Christophers, 2011; Carson and Honsa, 1990; Fixler and Zieschang, 1999; Vanoli, 2005).

Notably, transfer earnings in other sectors, which are only a redistribution of existing incomes without any value addition to economic activity, are usually excluded from the computation of GDP (National Statistics, 2006). Such payments include unemployment benefits and state pensions, and the classic example of household labour which although contributory to output, remains unaccounted for in GDP on the basis that it might be a transfer of earnings. Christophers (2011) argues that financial transactions as corporation tax and other transfers as personal tax, national insurance and other levies should be considered as such and excluded from GDP as well, as there is no productive output created. Such payments are simply a redistribution of income. He points out that “just because payments have been received and tax paid thereon, [does not imply that] wealth has been produced” (p. 120). A scrutiny of most of

these payments will reveal that they have been made to facilitate non-productive speculative activities in the finance sector. Excluding such payments will reduce significantly, financial sector's contribution to GDP. These calls have, however, been met with strong resistance.

Chakraborty and Das (2007) make the case that the initial convention in the SNA was to treat interests as transfers in national accounts or as receipt of property income, since such payment is not made for use of a productive asset. However, the spread in interest between borrowers and savers is not treated as transfers but as financial sector's net contribution to output. In treating the output of the financial sector in a 'special' way, there is clear rule-bending for finance. Obviously, because it does not meet the productivity benchmark of the SNA in which there must be an interaction between labour and capital and inputs transferred into outputs to generate factor income. In short, such special treatment has given finance a prominent role in national outputs.

But this prominence of financial services in GDP has, however, been shown to cause inconsistencies in the economy. Basu and Foley (2011) investigate the theoretical traditions of Okun's Law<sup>33</sup> and the Kaldor-Verdoorn Effect,<sup>34</sup> used to analyse the relationship between aggregate demand and employment. They question why movements in output before the recession and so-called recovery (after recession) have been incongruous with employment, especially as predicted by conventional business cycle models of output-employment dynamics. They anticipated a statistically significant disconnection between employment and real output growth in the USA economy from 1948 to 2010 both at the aggregate level and some major industry levels. They found this disconnection to be due to the expansion of

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<sup>33</sup> Okun's Law, which found a statistically significant negative relationship between changes in unemployment and real GDP growth rates in the USA, is the traditional mainstream theory for analysing the relationship between employment and output.

<sup>34</sup> Based on the statistical study of the recovery of the European economies after WWII, the Verdoorn effect found that sectoral employment was often negatively correlated with sectoral output growth for a number of capitalist economies. The Kaldor-Verdoorn effect links this analysis to the relationship between demand-driven economic growth and change in labour productivity.



Finance, Insurance and Real Estate (FIRE) services in GDP, where measure of output was imputed solely on the basis of income received in these sectors. Thus, “the growing weight of the financial sector [in particular] systematically leads to GDP overestimating real output at the aggregate level” (p. 28).

They also found that a Narrow Measured Value Added (NMVA) which excluded the sectors FIRE, government, other services and rest of the world, all industries where output is not measured directly but based on imputed income, was more statistically and positively correlated with changes in employment over business cycles than real GDP. As expected, the elasticity of employment with respect to output in industries that have independent measures of value-added output and income (i.e. non-service sectors) was found to be falling over recent business cycles. As such, their measure of output was judged to be a better predictor of the relationship between output and employment. In addition, they found that another alternative measure of GDP, which excludes income generated in the service sectors from the product side of output, was more correlated with employment.

Similarly, Assa (2015, p. 11) queries why “fee-based financial services [are] treated as value-added, while interest-based financial intermediation is [agreeably] netted out of GDP as intermediate consumption (of either a nominal sector or the total economy.” He argues that fee-based financial revenues, which are included in GDP and show up as value-added on the output side of the account, should at best be treated as intermediate input to other sectors or costs.<sup>35</sup> He insists that fee-based financial income is as problematic as interest-based income, because money has no use value, only exchange value. In addition, he points out that finance cannot be consumed directly either by firms or consumers, but can only be used for final or intermediate consumption. Therefore, “value-added in this case [is] nothing more than an

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<sup>35</sup> See Assa (2015; 2017) for a detailed argument, including cases studies.

imputation based on financial profits from fee-based services” (p. 11). Assa further emphasises that given the negative relationship with total output in many advanced economies, value-added from finance ought to be excluded from total value-added. “It is therefore more accurate to account for the financial sector as a cost of producing the rest of GDP, that is, a cost involved in generating all true value added” (p. 11). In line with Basu and Foley, he uses an alternative measure of economic output – Final Gross Domestic Product (FGDP) – which excludes fee-based financial services from total value added, and then deducts it as cost to the rest of the economy. The resulting adjusted measure of output is found to be even more correlated with employment and median income than the measures in Basu and Foley.

Some studies make the case for exclusion of financial intermediation from GDP on the basis of its measurement complications. Van de Ven (2015, p. 5) identifies such complications in the computation of the recently added pension entitlements in GDP. He notes that in many countries “actuarial estimates are not available and source information underlying the methodology for compiling such estimates is often lacking.” This is similar to Oulton (2013) who notes that the inclusion of pension entitlements in GDP is flawed because of the inconsistency in the discount rate for estimating entitlements. This is calculated based on either accrued benefits or projected benefit obligations. The use of the former tends to overstate the contribution of the financial sector, thereby understating the contribution of other sectors.

Mazzucato and Shipman (2014, p. 1061) assess the controversies on the effectiveness of the national income of accounts to under- or overstate productive activities. They propose a framework for determining output in national accounts. Their framework is underpinned by the argument that “national income accounts should present the social valuation of production, which implies the inclusion of external benefits, subtraction of external costs, ascription of value to unpriced outputs (of state and non-profit enterprises), and omission of purely redistributive activity”. Clearly, fee-based financial services’ contribution to GVA fall short of

this benchmark given its clearly redistributive element. Particularly, the point on social valuation of production, applied to finance, reinforces in every sense the need for its exclusion from GVA. The endogenous<sup>36</sup> creation of money when loans are given out also means that it is possible that the actual practice of banking is generally misunderstood, and the notion of interest-based FISIM misleading, albeit deducted from GVA. This reflects the long-standing fact that measurement constructs, GDP or finance contribution to GDP, etc. are themselves driven by erroneous theoretical presumptions of what banking does and what money is.

#### **5.4 Developments in the Two Debates on the Positive Impact of Finance on Growth**

In light of the threshold analysis of the nexus, some economists are starting to take a broader approach to the debate on the relationship between financial development and growth. What has emerged from these re-examinations is the admission by some that the relationship has hitherto been discussed from two closely related views. Beck (2013) identifies these broad views in the financial development literature. The first is the facilitating role of the finance sector. This consists of the mobilisation of funds for investment and the efficient allocation of financial capital to the most productive areas of the economy. A measure of financial development which reflects this view is the commonly used private credit to GDP ratio. He “defined [this] as the outstanding claims of financial institutions on the domestic non-financial private sector relative to economic activity” (p. 3). This is sometimes referred to as the “intermediation variable”. It is the view mostly subscribed to by academics. Moreover, the narrow measure, credit to the private sector as a share of GDP does not consider any redistributive element of finance to the productive sector for it to be judged efficient, especially

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<sup>36</sup> The view that bank lending is independent of savings. Thus, the creation of money in the economy is not exogenously determined by the central bank but endogenously by aggregate preferences of non-bank actors.

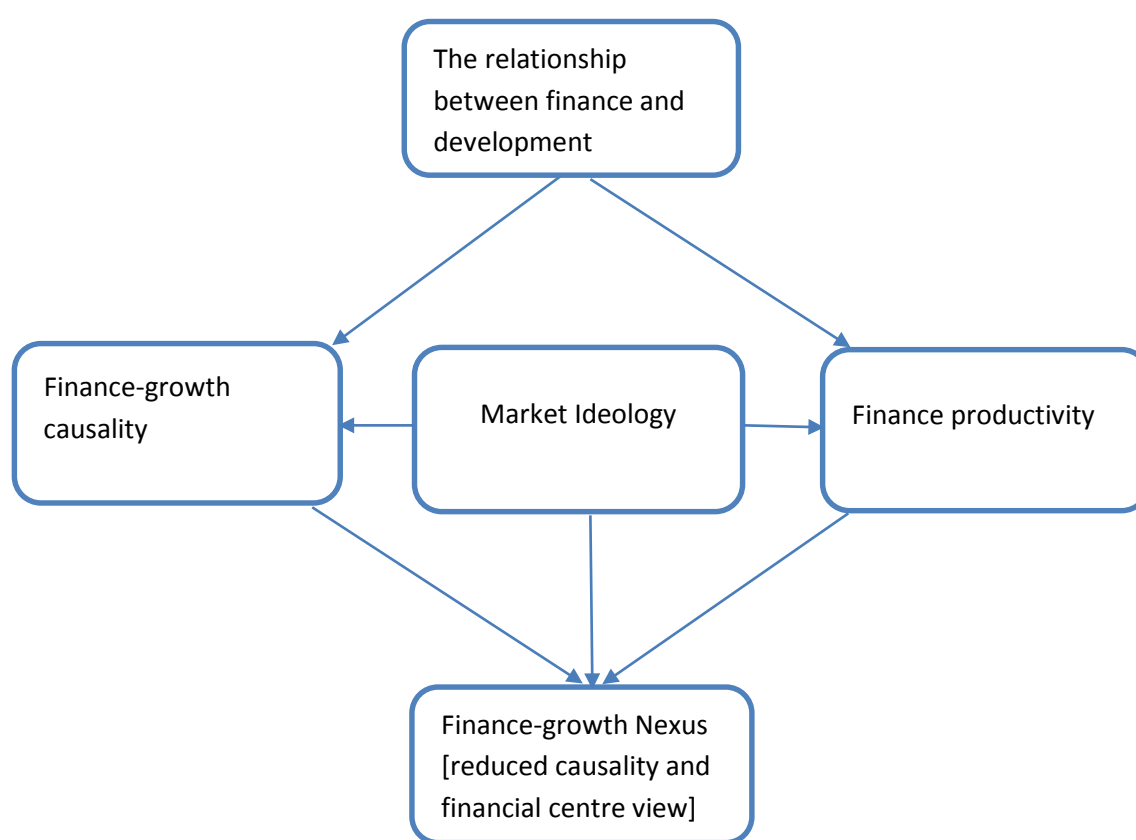
given existing inefficient allocation in the financial system. Levine (2005) admits that neither does it make a link with the theoretical channels through which finance affects growth.

The second view of financial development, identified by Beck, is in fact, used to nuance the productiveness of finance, because it investigates whether the financial services sector, in of itself, is productive or not. But this reference to productiveness is anything other than productiveness, stripped down to a convenient measure for achieving a positive impact of financial development. The view contends that the financial sector is an export sector, with strong financial centres that boost a relatively large skill base and favourable regulatory policies. Thus, Beck refers to it as the ‘financial centres view’. Accordingly, the measures of financial development of this view, are the total financial sector’s percentage of GDP or the share of labour force employed in the financial sector. This is usually followed by the proclamation that either the financial sector employs a significant number of the workforce in the economy with expanding financial services, or that financial sectors employees “are among the most productive in the world” (cited in Christophers, 2011, p. 3). With these viewpoints, the financial sector is often alleged to be value-adding. Notably, this view resonates with the studies done by Philippon (2008), Philippon and Reshef (2013), and Cecchetti and Kharroubi (2012). However, the focus on this simplistic ratio to imply productiveness in the literature ignores the complexity surrounding value, from which productiveness derives.

Figure 5.1 shows a diagrammatic representation of the movement from the initial approaches of analysing the relationship between financial development and growth. It shows the two strands of the debate and subsequent development in the literature, in which the relationship was reduced to the nexus. The distinguishing characteristics of the nexus have been discussed widely in chapters two and three, while finance productivity is discussed above. The literature is seen to reduce the whole debate by neglecting the productiveness argument on the right-hand-side in order to give prominence to the nexus on the left. It further stripped the

productivity of finance argument down to the growth of cities with large financial institutions and labour force in cities with heavy financial activities. The purpose of this simplistic reduction is aimed at promoting financial development and financial gains.

**Figure 5.1: Diagram Showing Initial Approaches of Understanding Financial Development through to the Nexus.**



Source: Author's Arrangement

Despite the claim in the literature surrounding the financial sector's productiveness and role in employment, Basu and Foley (2011) note that there has not been a corresponding increase in the FIRE sector's contribution to total employment, following the alarming growth rate of the

sector. Employment on the other hand has long stagnated since the mid-1980s. Nonetheless, the FIRE sector in the USA overtook the manufacturing sector in its contribution to output by 1980, just like the Professional and Business Services (PBS) sector also overtook manufacturing by the mid-2000s.

The productiveness claims made of the financial sector are weak, especially when critically analysed. Nonetheless, it is deficient to reduce financial sector's contribution to total output based on total revenues and profits and tax generated by the sector, and the percentage employed of total labour force. The reduction of the financial sector's contribution to these factors is simply intended to imply a facilitating role for finance in the economy, as in a positive nexus. This is despite evidence to the contrary, as most financial transactions and growth that ensue from these factors are independent of real economic output. This view ignores the more pertinent question of its contribution or not, or whether it should be an actual component of GDP. What is rather obtainable is the increasing divergence between the volume of finance and the growth of other sectors, and between finance and output in general.

Some studies claim to address the measurement gaps in the literature. But these are insufficient in that they still fail to account for productiveness. One of such studies is done by Beck et al (2012) who jointly use credit to the private sector and value added of the financial sector in GDP as measures of financial development. Both variables are positive and significant in individual regressions but, when used independently, value added is found to be insignificant. Intermediation is found to be significant for cross-sectional regression but value added is not. Neither of these is significant in panel regression. Intermediation and valued added were also found to be negatively and positively correlated with volatility, respectively. They argue that non-intermediation often increases risk, and conclude that there is no evidence to support the 'financial centres' view, that finance can be a growth effect in itself. Already, there is ample evidence from the GFC that the financial centre approach "brings with it high contingent

taxpayer liabilities that in a crisis turn into real taxpayer costs and which turn a banking crisis more easily into a deep recession and potentially into a sovereign debt crisis” (p. 6).

The adoption of productiveness of finance in most countries’ national accounts further opened the avenue for the standardisation of the computation of current accounts across countries. This made it easy for the flow of international capital across geographical boundaries, and allowed Western banks to dominate the global market space (Christophers, 2013). With the standardisation of national accounts across countries and the established belief in a positive nexus, finance assumed an unprecedented level of influence on a global scale. This strengthened the rigid penetration of finance into all areas of the economy. The following section discusses the expansion of finance into the macro and micro areas of the economy, also known as financialisation, and how this may enhance the understanding of the finance-productivity debate.

## **5.5 Productiveness and Financialisation.**

The term financialisation has many definitions, albeit with different emphases. The purpose of this section, however, is to locate financialisation within the context of the relationship between finance and growth discussed above, not least productiveness. This provides an alternative framework for understanding the productiveness argument, at the same time expand the understanding around financialisation. It views the relationship between finance and growth, in light of the features by which financialisation is defined. Therefore, this analysis serves to bridge the gap that exists between the literature on finance-growth nexus and financialisation, a piecing together of the literature which is necessary for a better understanding of the increasing complexity of finance.

Fine (2011) makes a robust and coherent case for locating financialisation in neoliberalism as a period of capitalism. The first phase is associated with shaping the conditions for market forces to thrive, not least deregulation and promotion of private capital accumulation and of finance in particular.<sup>37</sup> The second phase, starting around the early 1990s, is characterised by the collapse of the Soviet bloc and the emergence of the USA as leading hegemonic power; the decline in strength and organisation of trade unionism and other progressive movements; national liberation and consolidation of decolonisation; the significant growth in the global labour force as a result of the transition to capitalism within China, and increased female labour participation; extraordinary developments in new technologies with the corresponding capacity for productivity increase; and the triumph of neo-liberal policymaking containing the growth of both economic and “social” wages. This phase of neoliberalism created the new ‘space’ for finance to expand across countries and domestically altering household consumption patterns. The increased prominence of finance was achieved through “a complex and shifting amalgam of scholarship, ideology, institutions and policy in practice” (p. 9, 8). He points out that the outcomes have been “variegated” across space and time.

Interest-bearing capital, though present in both phases of neoliberalism, can be said to be more deeply rooted in its second phase through the interaction of the above characterising factors. So, financialisation becomes a fundamental feature of neoliberalism, through intensive and extensive application of interest-bearing capital in both economic and social reproduction (Fine, 2010). Certainly, the recent global environment defined by the second phase of neoliberalism has put finance on a different pedestal and unprecedented scale. In line with Fine’s location of financialisation as an epochal shift in finance, the first phase can be said to be in alignment with the pre-1993 SNA revisions. More significantly, in the second phase, it is

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<sup>37</sup> See Fine (2011), where he argues that neoliberalism has gone through delineated stages. Its first stage was imperialism, which amounted to the monopoly stage of capitalism.



necessary to recognise the major change to the treatment of finance in SNA 1993 – deemed explicitly productive by Christophers. This approach, together with its subsequent adoption by most countries, can be seen as another major definer of the second phase of neoliberalism. It allowed finance to expand disproportionately in output relative to other sectors.

The revision of the SNA 1993 gave a redefinition to finance productivity, made possible by the ideological shift to neoliberalism. The approach further alienated the link between finance and productivity by adopting standards by which finance may expand without necessarily contributing to real output. And it has expanded in alarming rate and disproportionate to other sectors. The implications for this revision have been discussed above, not least, the expansion of financial activities, institutions and actors – what is now referred to as financialisation. This linkage of the finance and development literature with the adoption of explicit productiveness of finance in SNA 1993, therefore reinforces the belief in a defining phase of global capitalism, and for understanding financialisation as the distinct manifestation of the phase. The implication of this new environment is the waning relationship between finance and growth, now best described as a threshold analysis in the nexus literature. But this waning relationship between finance and growth needs to be understood as the outcome of unproductive finance on growth, and the ideological, theoretical and political machinations associated with this enforced productiveness – this is financialisation.

Thus, financialisation in the context of value-added in GDP may be located first, as the abstraction of national output from real economic productivity and, second, as the growing influence of finance in GDP. This is what Assa (2017) calls the “financialisation of GDP”. This second characteristic of financialisation of the nexus is what underpins the prominence of finance at the expense of real economic activity in national accounts. Understanding financialisation in this manner is not far removed from the fundamental argument that it is underpinned by interest bearing capital, given that the abstraction of output from real

productivity is synonymous to the derivation of value from capital without any productive output.

It was necessary for finance to be perceived productive in GDP following a dominant positive nexus, in order for it to enjoy its current hegemony. Because GDP remains the most prominent quantitative measure of countries' economic performance, notwithstanding a misplacement of what it actually measures and the neglect of social wellbeing. Only recently were alternative development measures introduced. Yet, none of these commands the same level of influence as GDP. Notably, the proportion of finance in GDP continues to increase steadily as discussed above. Therefore, the prominence of GDP is in part, underpinned by the prominence of finance. Assa (2017) finds that the growing disconnect between GDP and other macroeconomic variables, is in fact, due to its financialisation. This position echoes other findings in the works of Porter (1995), Godley (2001), Ertuk et al. (2007) and Callon and Caliskan (2009) (as cited in Christophers, 2011) all of which link the increasing prominence of GDP in political, social and cultural discourses, to its financialisation and 'economisation'. Moreover, Christophers (2011, p. 117) makes clear that the prominence of finance in GDP translates to social power. He notes that "when politicians, journalists, regulators and, of course, bankers themselves, appeal to flattering GDP figures to demonstrate the positive contribution of the financial services sector, they are drawing on a discourse of immense social power." The same can be said of the financial centres approach to the nexus, since it exclusively alludes to dysfunctional GDP variables, presented as both the contribution of finance to GDP and the percentage of GDP in national output contributed by these centres.

## **5.6 Conclusion**

This analysis advances the call to revisit the financial sector's net contribution to output, in line with the search for better understanding of the increasing complexity of finance. It argues for a broader understanding of the relationship between finance and growth, which reverts to a combination of the debate on the productiveness of finance in output and financial intermediation as a driver of real growth. It advances this understanding in light of the more recent financialisation literature. This chapter makes clear that there exists an ideological and political connection between revisions in the SNA and the finance-growth nexus literature. The periods in which these revisions occurred is telling of this relationship. This complex relationship can only be fully understood within the financialisation of GDP.

To account for this problem in the nexus literature considering the non-productiveness of finance, the next chapter revisits the nexus literature by treating the financial services in value added as non-productive rather than productive, as has been previously approached in the nexus literature. This would mean deducting the total revenue of the financial sector from total value added in the economy, consistent with the way certain non-productive sectors have, and yet more, need to be treated in the SNA.

## **Chapter 6.0 - Empirical Analysis**

### **6.1 Introduction**

Given the gaps in the literature on financial development as critically analysed in previous chapters, especially in light of the 2008 financial crisis, the limitations of the threshold analysis that followed (Ductor and Grechnya, 2011; Yilmazkuday, 2011; Cecchetti and Kharroubi, 2012; Arcand et al. 2012; Law and Singh, 2014) and the uneven development of finance across countries, there is rationale for re-estimating the finance-growth nexus empirically. This undertaking has become even more necessary on the back of calls from both mainstream and heterodox scholars for more innovative, rigorous and drastic review of the relationship between finance and economic development and for containment of the role of finance in general (Arestis and Demetriades, 1999; Beck and Ogden, 2007; IMF, 2015) and better measuring of risk-taking (Turner, 2010; Haldane et al., 2010). This is especially so, given frequent macroeconomic instabilities associated with financial development.

As such, this chapter re-assesses empirically the relationship between finance and growth, following on from the study carried out by Arcand et al (2012; 2015), which is one of the most prominent and rigorous studies in the threshold analysis of the finance-growth nexus. We are very grateful to Enrico Berkes, Jean-Louis Arcand and Ugo Panizza for making their extensive dataset and STATA codes for the empirical investigation available to us. Notably, Arcand et al. ascertain the non-linear, and specifically quadratic, relationship between finance and growth, and find a threshold of between 80-100 percent of GDP at which the marginal effect of financial depth becomes negative on output growth. They use both simple cross-sectional and panel regressions, and country- and firm-level data to target consistent and robust results.

We investigate their results using the same methodology as in their paper, but for an important transformation in the GDP figures that underpin the dependent variable, economic growth (see

below for details). Our GDP data factor in the potential non-productiveness of finance, as implicit consequence of the threshold analysis itself. As in their contribution, we incorporate a quadratic term of the variable representing financial depth, credit to the private sector, but do not obtain statistically significant effects. This could be an indication of a different fundamental basis in the finance-growth relationship, as soon as the non-productiveness of finance is incorporated, rather than simply a different functional form. Nonetheless, the marginal effect analysis confirms a similar threshold (of between 80 and 100%), which may however be harder to interpret given the insignificance of our estimation results. Also, it is possible that our insignificant results may be due to the smaller sample size used in our estimations. This point needs to be factored in when interpreting our results.

The threshold analysis of the nexus and the debate on the productiveness or not of finance are taken as critical points of departure in this empirical analysis. Basu and Foley, (2011), Christophers, (2011), and Assa, (2015) interrogate the productiveness of finance, making a case for the exclusion of finance, in different computations, from gross value-added. Basu and Foley (2011) exclude non-value-adding finance from GDP in their Non-financial Value-added measure (NFVA), and Assa (2015) deducts finance from GDP as an intermediate input in his new GDP (FGDP). They then re-estimate the predictive power of their measures of gross value-added on macroeconomic variables, and found these to be more correlated with employment, income, etc., than conventional GDP. We extend this discussion to the finance-growth nexus by exploring the non-productiveness of finance embedded in these two studies. For us, financial intermediation value-added, that is, the contribution of finance to gross value added in the SNA, is excluded from GDP, and the nexus re-estimated with this new GDP value to ascertain the validity of the results found in the threshold analyses. Our main argument is that, if there is no established absolute positive relationship between finance and growth, then finance ought to

be separated from growth. To the best of our knowledge, we are the first to explore this angle of productiveness in analysing the relationship between financial development and growth.

However, separating the totality of what constitutes dysfunctional finance from GDP computation is not an easy task, given that the accounting and statistical processes involved may be unable to capture all areas of output with varying degrees of financial penetration. And when they do, the statistical manipulations discussed below (and in chapter 5) make this exercise daunting. As such, measuring financial penetration in output using financial services value added is only for estimation purposes. This difficulty in separating (unproductive) finance from GDP is corroborated by the long-lasting controversy around the dichotomy of actual financial intermediation and financial services. Problems for our cross-country analysis is further compounded by issues around heterogeneity of forms of financial services, statistical institutions, currencies and periods of computation. Data heterogeneity is also evident in the multiplicity of approaches and unavailability of data underpinned by many exogenous factors. Even data on financial services value-added are seen to be profoundly ambiguous around revisions in the SNA and subsequent adoption of these by countries, with little information on the exact years in which countries implemented such changes in their national accounts.

The rest of this chapter is organised as follows: Section 6.2 draws on the two groups of literature upon which this chapter draws, bringing these together as the basis for re-assessing the relationship between finance and growth. Section 6.3 provides a discussion of the challenges faced in collecting the data used for this empirical analysis, including data transformations undertaken. Section 6.4 discusses the empirical modelling, and section 6.5 analyses the results of our re-estimations. Conclusions are drawn in section 6.6.

## 6.2 Theoretical Underpinnings

The threshold at which Arcand et al (2012; 2015) find that finance starts to have a negative relationship with growth is noted to resonate with other similar studies, including Ductor and Grechyna (2011), Yu et al. (2012), Yilmazkuday (2011), Barajas et al. (2012), Cecchetti and Kharroubi (2012; 2015), and Law and Singh (2014). Ductor and Grechyna (2011) use panel estimation of an updated dataset of 33 OECD countries to investigate the relationship between finance and growth of real output for the period 1970-2005. They also use averaged data of 63 countries from 1970-2010 for cross-sectional estimations. In measuring the excessive growth of finance over output, they use difference in growth of industry and the financial sector, difference between private credit to GDP ratio and industry output to GDP, difference between growth in financial and industrial unit labour costs, and difference between productivity growth in financial and industrial unit labour. They find that, when financial sector growth exceeds productivity growth by 4.5 percent, the economy reaches the threshold at which financial development starts to have a negative relationship on growth.

Yilmazkuday's (2011) threshold analysis use a rolling-window two-stage least square regression for five-year averages of 84 countries in the period 1965-2004. He finds a negative relationship between high inflation and financial depth in the long run, a negative relationship between government size and growth, an inverted U-shaped relationship between trade openness and growth. On the back of these studies, Cecchetti and Kharroubi (2012) use a dynamic panel model and find a threshold of 90 per cent, for which finance starts to have a negative effect on growth. They also find a threshold of 3.9 percent of employment in finance to total employment, for a negative effect of finance on economic growth. Law and Singh (2014) reject the imposition of monotonicity on growth, with the standard use of a quadratic term of finance, in their investigation of the non-linear relationship between finance and growth. They use dynamic panel data that extends static setup to endogenous regressors for 87

countries, and arrive at a significant positive relationship for the nexus, with a threshold of 88 percent beyond which financial development starts to exert a negative impact on economic growth.

Although not a threshold investigation, but in response to this emergent literature, Beck et al. (2014) use measures of both intermediation and size of the financial sector to analyse the impact of finance on growth and volatility. In the traditional manner, private credit to GDP is used to proxy intermediation – despite its limitations, already discussed in chapter 2 – and the size of the financial sector contribution to GDP as their measure of its value added. They acknowledge Basu and Foley’s (2011) position on value-addition of the financial sector and the problematic margin between interest on bank loans and bank rates, but maintain that measuring value-added in the financial sector is challenging, as such, do not proceed in the same manner or measure of finance as Basu and Foley. For the size of the financial sector value-added, they use employment share and compensation share of the financial sector in total GDP. Nonetheless, Beck et al is seen to question the contribution of finance to growth, thus nuancing the idea of non-productiveness of finance, albeit in the mainstream tradition. They do not explore productiveness of finance along the original classical debate of value addition in the production process but as a reduced mainstream form of the percentage of financial sector contribution to GDP and the percentage of total labour force employed in the financial sector.

Even Arcand et al (2012; 2015) are seen to discuss the so-called *true* nature of the relationship between finance and growth as inherently non-monotonic, having accounted for output volatility, banking crises, low institutional quality or differences in regulation and even endogeneity in the empirical relationship. We discussed in chapter three the ambiguity in their so-called true nature of the relationship between finance and growth, made more thought-provoking by the exclusion of the possibility of being derived from crises, regulatory inefficiencies or other exogenous factors. We believe however, that enquiries into the so-called



*true nature* of the relationship between finance and growth like this one, further question the role of finance and demonstrate the existing gaps in the literature on the finance-growth nexus. Such limitations in the literature are taken as our point of departure, with a view to expand the empirical investigations of the nexus.

As such, we follow the technique of deducting financial intermediation services (FS henceforth) value-added from conventional GDP, to ascertain the nature of the relationship between finance and growth. This is the positive measurable contribution of financial services to GVA that is recognised by the SNA. Assa (2017, p.52) calls this output of finance “the ultimate and ubiquitous intermediate input to all industries producing a use-value output”. This variable comprises income of financial institutions, especially banks, which is realised from so-called intermediation services between sellers and buyers of financial assets. These involves setting different interest rates between depositors and borrowers of cash and margins from which banks purchase and sell assets. (Christophers, 2011, p. 122). The exclusion of this variable is underpinned by the belief that financial services are not productive, having no use-value, and should not be part of GDP. In the SNA, this variable has been bundled up with insurance, real estate and business activities for some countries (United Nations Statistics Division, 2017).

The focus on FS value added allows us to locate our analysis within the finance-growth nexus debate, this having been our critical point of departure. Financial services’ value added has been contested to be unproductive (Basu and Foley, 2011; Christophers 2011), and further argued to be a cost with no use value, imposed by the financial sector on the rest of the economy (Assa 2015). Given the suggestion in these studies of a stronger specification of output growth as a dependent variable with the exclusion of finance, it is worth re-estimating the relationship between finance and growth on this premise, to understand the relationship.

We depart from the above studies in a number of ways. First, we apply the idea of FS value added to the relationship between finance and growth, in light of the threshold analysis in the literature. Second, we extend the analysis on excluding FS from gross value-added beyond one country. Notably, our analysis is applied to a set of 150 countries, in cross-sectional and panel data sets, enabling us to observe the relationship between finance and growth across a dynamic range of countries.

Our analysis includes the traditional set of explanatory variables in the finance-growth nexus literature. These variables are inflation, trade openness, government spending and initial stock of human capital. There is not much controversy around the impact of the latter on growth. Likewise, most studies find a negative impact of inflation on growth (Barro, 1996; Bruno and Easterly, 1998; Rousseau and Wachtel, 2002, Yilmazkuday, 2011). Bruno and Easterly (1998) find a threshold of 40 percent per annum for which inflation causes a negative impact on GDP. Rousseau and Wachtel (2002) show that inflation exerts a negative effect on the finance-growth nexus when it is between 6.5 and 13.4 percent a year, depending on the measure used for financial development. Yilmazkuday (2011) finds that an 8 percent threshold of inflation crowds out the positive effect of financial development on long-term growth, through information asymmetry between intermediaries.

Government expenditure is agreed to foster growth and development in the finance-growth nexus. However, the evidence is mixed and dependent on other factors. Early empirical studies alleged that the impact of government size on growth was mostly negative. More recent studies such as Ram (1986) find a positive impact of government size on growth. Levine and Renelt (1992) show that the statistical evidence of government size and growth is almost insignificant. In relation to finance and development, Demetriades and Rousseau (2010) provide evidence that government expenditure has low impact on low income countries, but positive impact on middle-income countries and even stronger positive impact on high-income countries. Karras

(1996) and Yilmazkuday (2011) show optimal government size of 23, and between 11 and 19 percentage points of GDP, respectively, for which government size starts to have a negative impact on growth.

The literature is much more divided in terms of the impact of trade openness on growth. This is because while trade openness provides access to large external markets, it can also cause instabilities in domestic markets through shocks. Some studies show a positive impact of trade openness on economic growth (Dollar, 1992; Sachs and Warner, 1995). The effect on the finance-growth nexus could be different for low- and high-income countries, as Rodriguez and Rodrik (2000) show a positive and negative impact for the former and latter, respectively.

### **6.3 Data Transformation**

We use the original dataset in Arcand et al. (2011) in our analysis, which covers 189 countries over the period 1961-2010. This comprise GDP per capita in constant 2000 US prices from World Bank Development Indicators (WDI); private credit by deposit money banks and other financial institutions as a percentage GDP; private credit by deposit money banks as percentage of GDP; general government final consumption expenditure (% of GDP); trade (% of GDP); inflation GDP deflator and when GDP deflator not available, CPI; stock market turnover ratio, stock turnover from old Beck et al. (1997) dataset; bank credit to the private sector from old Beck et al (1997) dataset; total credit to the private sector from old Beck et al. (1997) dataset; years of schooling as proxy for education; and other datasets as proxies and indices standardising their data. The sources and details of their data are described in their appendix (Arcand et al. 2012, p. 142).

However, their panel data are unbalanced, with missing values for many countries and years, depending on the variable. This problem applies to countries at all levels of development, high, medium and low income. For example, there is no data available on credit to the private sector over GDP for China before 1996, missing data for Argentina in the period before 1988, and only available much later around the 1990s for countries in Eastern Europe. Data unavailability is even worse for many developing countries, especially in Africa. We now turn to issues encountered in the use of FS data in our analyses.

### **6.3.1 Data Challenges**

Our data on value-added by financial intermediation initially comprised 207 countries, sourced from United Nations Main Aggregates and Detailed Tables (MADT) database, which uses the International Standards Industrial Classification (ISIC) methodology for all economic activities.

From the MADT database, we use ISIC Revision 3, Tables 2.2 and 2.1 for constant and nominal values. These tables were found to have varying degrees of gaps in their time series data. Tables 2.1 and 2.2 were selected as they separate FS value added from insurance, real estate, renting and business activities. This enables us to concentrate our analysis on the relationship between finance and growth. Despite our intended focus, FS data are still entangled with Finance, insurance and Real Estate (FIRE), renting and business activities in a few countries. In this case, FS could not be separated from FIRE, renting and business activities. According to the UN database metadata information, financial intermediation services in ISIC Rev. 3 (as with most of their database) is said to be collected from individual country national statistics offices and has been standardised with data at the World Bank, IMF, OECD, etc.

Notably, most research in this line of isolating FS data has focused on a wider combination of financial variables. For example, Basu and Foley (2011) exclude FIRE and other service industries where value added is not based on material product but income. Assa (2014) excludes both FISIM and fee-based FS from value added for different measures. While our selected measure, financial intermediation services, may be small in some countries with low financial development, we believe that its exclusion from GDP for a cross-country analysis would be a worthwhile first step, in re-estimating the relationship between finance and growth. This is necessary considering the argument (from chapter 5) that FS is non-productive and should be excluded from GDP. We focus on FS value added, and not the broader non-productive variables, namely, insurance, real estate and business services because the theoretical basis of the finance-growth nexus does not necessarily consider these other variables.

We utilise both constant and nominal values of financial intermediation data in order to maximise our sample size, both in terms of countries and time. For many countries, more FS data is available in nominal than constant values. The biggest problem regards the unavailability of data on FS for most countries, only covering short periods. While this problem may be more apparent amongst developing countries, the UN MADT database also suffers from data availability for many advanced countries. For example, in Rev 3, Table 2.2 with the largest set of countries (207), FS data for Belgium only covers the period 1995-2008, Spain 1995-2008, Sweden 1993-2008, Portugal 1988-2006, Malaysia 2000-2010, Germany 1991-2008, the USA 1987-2010, UK 1970-2005. Only two countries, China and Singapore, have financial services data covering the full period being investigated, 1961-2010. These are closely followed by Honduras 1961- 2010, but with a break in series in 2000 due to change in methodology of computation, Denmark 1966-2008, Netherlands 1969-2008, Canada 1970-2009, Italy 1970-2008, Japan 1970-2005 and Australia 1974-2010.

Besides time span issues, FS data series may cover different SNA versions (particularly movements from SNA 1968, to SNA 1993 and, most recently, SNA 2008), as well as different calculations or methodological breaks within the same SNA version. The above changes are identified with a different series code, comprising 10, 20, 30, 100, 200, 300, 1000 and 1100. Such changes pose questions over whether the data for a country can be coherently analysed as a single time series. This problem is not unique to FS data, for calculations for GDP per se have been going through the same revisions and methodological changes but, unlike the latter, FS are less readily available, more covertly calculated and more *unclean*. Given the lack of information and primary source for such a big range of countries, a combination of different series codes in a country's data will be merely treated as a structural break. According to source information for UN Official Country Data, United Nations Statistics Division (2017)<sup>38</sup>, “numbers with two digits (10, 20) refer to data compiled using the 1968 SNA methodology for FS, while series numbers with three digits (100, 200, 300, etc.) refer to data compiled using the 1993 SNA methodology. Series with four digits (1000, 1100, etc.) refer to data compiled using the 2008 SNA methodology. In addition to different methodologies, different series numbers are used when data are reported in different currencies, fiscal years, or by different sources. Furthermore, data are stored under a new series number whenever there are significant changes in compilation practices which make the time series no longer comparable.”

Where more than one data option exists for the same number of digits in the series code (i.e. within the same SNA), e.g. same SNA 1968 as in 10/20/30 or SNA 1993 as in 100/110/200/300, we proceeded by selecting the FS series with the longest coverage, with a preference towards the series with a higher figure (for instance selecting series code 300, instead of 100). This was not only for consistency reasons, but also as the latest FS series may represent a change or

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<sup>38</sup> [National Accounts Official Country Data](#) | [United Nations Statistics Division](#) (2017).

correction in methodology that most probably matched revisions in GDP data. At times, preference was given to those constant price series with base year 2000 (discussed in detail in the following subsection).

In terms of choice of SNA, selection was undertaken while balancing consistency of the FS series, on the one hand, and ensuring that the more reliable and representative figures are picked up. SNA 1993 was used as the preferred option, given that most countries had FS value added in SNA 1993 for their longest period of data available. Most countries have recomputed FS value added data using SNA 1993 in backwards revisions. This is most probably how GDP data are also revised and made comparable over time.

We exclude FS data computed with the SNA 2008 methodology. This is so, because almost no country had adopted SNA 2008 by 2010, which is the cut-off period for the data collected by Arcand et al. Therefore, the GDP data, from which we will be subtracting FS, could not have incorporated the revisions of SNA 2008. SNA 2008 adoption are still under way and some countries commenced implementation around 2014. As an illustrative example, the table below shows the available FS data for Argentina.

**Table 6.1: The Case of Financial Services Data for Argentina**

FS Series	SNA	Base year	Coverage
Series 20	SNA68	1993	1994-1999
Series 100	SNA93	1993	1993-2012
Series 1000	SNA08	2004	2004-2014
Series 1100	SNA08	2004	2004-2015

We have no information regarding the implementation date, and backwards revision, for SNA 1993 (series 100). It may have been implemented at some point between 1993-1999, with 1999 as the most probable date and backwards revision of FS (and GDP) from 1993 onwards. Thus, we exclude the data on SNA 1968 (series 20) which in any case exhibit negligible differences from series 100. SNA 2008 was introduced by Argentine national statistics office in 2014, with backwards revision for the period 2004-2014. However, given that the GDP data from Arcand et al could not have incorporated the 2008 revised system, we abstain from including series 1000/1100 and select series 100 for the whole period, 1993-2010.

Overall, it is not generally obvious when countries adopted different SNAs in their computation of FS data, what manner of adjustments have been made with different modifications, including which changes are minor and which are major in their data. Nonetheless, given GDP data and other variables to be analysed in our regression, it is best to use SNA 1993.

### **6.3.2 Base Year Conversion**

Data for FS from MADT) database series 2.2 and 2.1 are only available in Local Currency Units (LCU) of individual countries and needed to be converted to USD base year 2000, since the GDP data from Arcand et al. are expressed in 2000 constant USD prices. We do so following the methodology proposed by the World Bank for attaining constant US dollars series.<sup>39</sup> It entails three steps. First, we get exchange rate in USD per national currency value for year 2000 for each country<sup>40</sup>. Then we transform the nominal FS values in local currency units (LCU) into USD for year 2000. Second, we transform real (constant price of 2000) financial services values into an index, by dividing the constant price FS series for each country

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<sup>39</sup> See <https://datahelpdesk.worldbank.org/knowledgebase/articles/114943-what-is-your-constant-u-s-dollar-methodology>

<sup>40</sup> Available at [Dataset: International Financial Statistics \(April 2017\)](#)



by the value of that same series in year 2000. Third, we multiply the real FS index by the value of nominal FS in USD of year 2000 (i.e. multiply the new series created in step 2 by the value of step 1). This methodology converts our real FS values in LCU for all countries to USD, while preserving the growth rates exhibited in the constant local price series.

We rebase all data on FS value added to year 2000 and then transform them to USD, as described above. There are about 30 countries whose FS data are available in base year 2000 on our original dataset, which is about 20 percent of our sample. We take these as given and rebase the other 80 percent, utilising both the constant prices and the nominal FS data, in order not to drop too many observations for our regressions. In general, we used base year 2000+/-1 where they are available and base year 2000 are not. Otherwise, we re-based our data for the other countries.

There are a number of challenges in obtaining 2000 constant prices FS series for our set of countries. First, it appears that constant prices FS is not simply a deflated nominal series, using a price index, etc. By looking at the SNA methodology, constant prices of FS also entail a base year interest margin and perhaps other calculations and imputations. Second, most probably the deflator involved need not be the GDP deflator or the CPI index, but rather an imputed price deflator for the financial sector. Therefore, the base conversion for FS data undertaken here need not always be as precise as one would have hoped, but this is the only way to proceed given unavailability of information and data. In principle, the following methods of rebasing a real series should be equivalent yielding identical results – but this is not the case for FS data for reasons that range from SNA changes and the factors from the above discussion. We use the following two approaches for rebasing:

Let  $X_t$  represent the nominal financial intermediation series and  $X_{0t}$  the constant-price (real) financial services data series with base year 0. And let 0 denote the old base year and 0' the

new one (in our case year 2000). Assume  $P_{0t}$  is the GDP deflator with base 0. We first rebase the deflator as follows:

$$P_{0't} = \frac{P_{0t}}{P_{00'}} \times 100$$

Then we can rebase  $X_{0t}$  (old base year) to  $X_{0't}$  (base year 2000 base 0'), with the GDP deflator  $P_{0t}$  by the following method, which is by dividing the nominal series,  $X_t$  by this new price-index:

$$X_{0't} = \frac{X_t}{[P_{0t}/P_{00'}]100} = \frac{X_t}{P_{0t}} \times P_{00'}/100 = X_{0t} \times P_{00'}/100$$

$$X_{0't} = X_{0t} \times P_{00'}/100 \quad (1)$$

Alternatively, and suppose we did not have GDP deflator (or any price index) data, we could use the nominal and the real series to get the implicit GDP deflator. Then, multiply the FS values by the ratio of nominal/real (old prices FS data in year 2000):

$$X_{0't} = X_{0t} \frac{X_{0'}}{X_{00'}} \quad (2)$$

These approaches to rebasing are identical as long as the usual relation between a nominal, a real and a price series holds. This is not the case with FS data. Whenever needed (for method one), we used GDP deflator data from the World Bank.

### **6.3.3 Adjusting Data for Population**

Given that our GDP is in per capita values, each country's national output having been adjusted for total population, we convert our FS data to per capita values as well. We use population data from the World Development Indicators (WDI) of the World Bank. To do this adjustment, we divide our FS data for each year in a given country by the annual population of that country for all the periods available in our data. This conversion ensures our FS data is in per capita values and can be directly subtracted from GDP per capita.

Having gone through data clean up, SNA series consistency, base year and currency conversions and adjusting for population and reconciliation with the Arcand et al. data, we end up with a total of 150 countries for our estimations. These countries are shown below in the appendix 1.

## **6.4 Empirical Methodology**

We construct our dependent variable to be the growth rate of GDP per capita minus FS per capita, in order to exclude the directly known (unproductive) finance from GDP. This resonates with Basu and Foley's (2011) Measurable Value Added (MVA) which comprises only sectors which are considered "value-adding". These are sectors in the SNA "where a tangible output (product) is sold in the market for a price and hence the value added figure is measurable without imputations" (p. 10). They refer to MVA as the value of gross output, stressing that were it a constant proportion of GDP, its exclusion would not make much difference. But, given that the rate of the value of gross output deflated by price indexes such as GDP deflator has been growing more rapidly than real GDP, its exclusion should be significant. Surely, the financial sector falls under the industries where imputed revenue has no tangible output and

ought to be excluded. So they exclude finance in another measure which they term Non-financial Value Added (NFVA), in the following manner:  $VA_T = Y - \sum_i IC_i$ . Where  $VA_T$  is value-added in total economy,  $Y$  is output,  $i$  represents each industry in the economy,  $IC$  is intermediate consumption. We extend these models to reconstruct our new GDP variable which excludes FS from GDP in the manner:  $NGDP = GDP - VA_f$ . Where  $NGDP$  is our new GDP variable,  $GDP$  is as given, and  $VA_f$  represents VA in financial services.

NFVA is related to our reconstructed GDP variable, and underpins our re-estimation. Here we depart from Assa (2014) in some ways, who goes further to deduct FS from GDP to derive Final GDP (FGDP), having already excluded it from GVA.<sup>41</sup> We agree with his argument that it is not only that money has no use-value and is simply non-productive, and as such should be excluded from the economy, it also represents an opportunity cost to the rest of the value-adding industries in the economy and ought to be deducted from GDP as well (2017, p. 52). However, we insist on our approach because of the restriction on our study based on readily available GDP data from Arcand et al (2012). For our study, VA in financial services cannot be easily excluded from GVA, because we use GDP values as given from the study of Arcand et al., and the task of computing final use-value added (required for FGDP) for our long set of countries makes this even more daunting.

Basu and Foley (2011) allow dynamics into the model through two channels: lagged independent variable and lagged dependent variable (to address serial correlation). However, introducing lagged values of the dependent variable has the disadvantage of further reducing the sample size of already small period of data. It also violates the exogeneity assumption of variables in the regressions, making estimates of the parameters inconsistent. They include only

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<sup>41</sup> In the SNA, output from all industries considered to be value-adding are totalled to arrive at Gross Value Added in basic prices. From GVA in basic prices, subsidies on products and Financial Intermediation Services Indirectly Measured (FISIM) are subtracted, and the following are added: taxes less subsidies, taxes on products and statistical discrepancy, to arrive at GDP.

two lags of the independent variables to capture dynamic (long-run) effects. They also note that lagged dependent variables for serial correlation is not necessary, given that “heteroskedasticity and autocorrelation consistent (HAC) standard errors can be used to deal with problems of serial correlation of errors without, at the same time, introducing the problems of inconsistent estimation that comes with lagged dependent variables” (p. 15). Arcand et al. (2012) also allow for an infinite lag, but this is only significant up to the fourth level. We use the same approach in our regressions below.

It is important to highlight a further caveat, particularly in relation to our estimation results that will follow. The number of our observations is significantly smaller than those used by Arcand et al. This is mainly because of the unavailability of FS data for the period 1961-1980s for many of the countries in our data. Hence, the reason for our estimation for the 18-year period of 1990-2010 in our cross-sectional regressions. Also, the number of observations in our five-year panels is small in size. This may be a contributing factor in statistically insignificant coefficients of our estimations<sup>42</sup>. However, the size of our dataset is similar to that of Ductor and Grechyna (2011). Yilmazkuday (2011) also reduce the sample size of their data from 1960-2004 to cover 1965-2004 due to data unavailability, while Law and Singh (2014) even argue that their data, which covered only the period 1980-2010, were sufficient for drawing robust conclusions. Research in the tradition of excluding financial services value-added will, however, for some time into the future, be faced with the limitation of reduced sample size relative to other approaches, due to the unavailability of data on financial services for many countries.

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<sup>42</sup> Although the opposite is also true. Large enough samples do ensure statistical significance. See Gujarati and Porter (2009, p. 286-289) for a discussion on the desirable properties of sample sizes.

### 6.4.1 Descriptive Statistics

Below is summary statistics for our data. Lgdp is the log of GDP, lpriver1 is the log of credit to the private sector, our second financial development variable, lpriver2 is the log of credit to the private sector by banks and other financial institutions, our main financial development variable, lschool is the log of education attainment, our human capital development variable, lgovc is the log of government spending, linfl is the log of inflation, and lopen is the log of trade openness. Inflation, despite excluding values above 500 and below 0 percentage points, still exhibits a wide range of 5.3 and 6.9 percentage points. Yilmazkuday (2011, p. 284) notes that these wide ranges between variables warrants a threshold estimation, and that wide-ranging variables are expected to produce relatively higher thresholds effects.

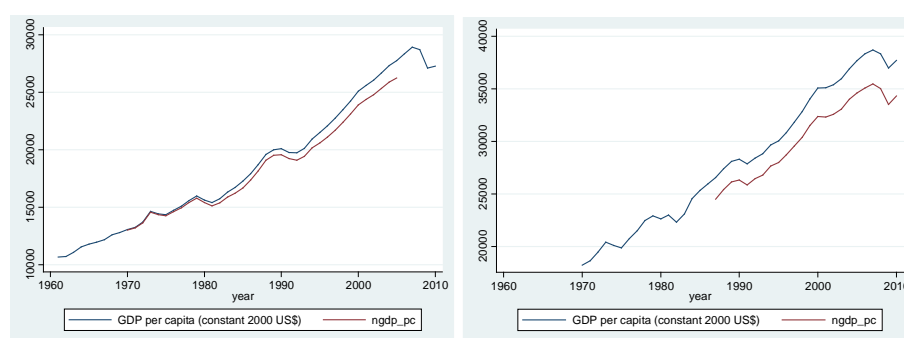
**Table 6.2      Summary Statistics for Panel Regressions Data Averaged over 5-year Periods from 1960—2010**

Variable	Observation	Mean	Std. Dev.	Min	Max
Growth	3025	0.022	0.3629	-0.2741	0.2166
LNGDP_PC	2850	7.9187	1.5595	4.2689	11.0837
LPC1	5361	-1.3507	0.9793	-6.7754	0.9923
LPC2	5774	-1.3967	0.9932	-6.7754	0.9923
LEDUC	7050	2.1541	0.7452	0	3.2801
LGC	7981	2.6825	0.4041	0.3186	4.4201
LINFL	9325	2.4326	1.3105	-5.2983	6.9078
LOPEN	8218	4.0876	0.6366	-1.175	6.0824

## 6.4.2 Graphical Representation

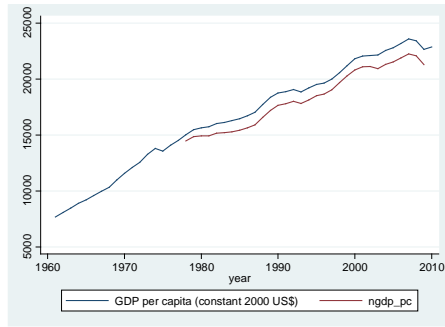
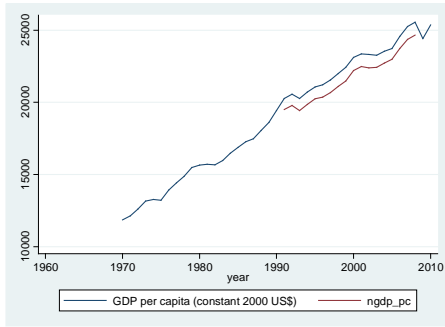
Diagram 6.1 depicts the original and transformed GDP data for a selection of countries in our sample. We observe that the gap between the two variables is wider for countries with greater proportion of financial services intermediation. This can be observed, especially in the case of the USA, and likewise for Canada and Australia. This is closely followed by the United Kingdom, Germany, France and Japan, which show a widening gap with time. The case of China is opposite from the USA and the other advanced economies, as there is only a very narrow gap between the two variables. A similar gap is seen in the case of Nigeria. This is telling of the nature of these economies. For most countries, however, there is slow but increasingly widening gap between GDP and financial services intermediation, especially from the 1990s. This is evidence of the growing proportion of financial services in GDP, and the increasing influence of finance in general. It is also necessary to note that this is happening on the back of the revisions in the SNA.

**Figure 6.1** Graphs of Financial Services for OECD and other Selected Countries.



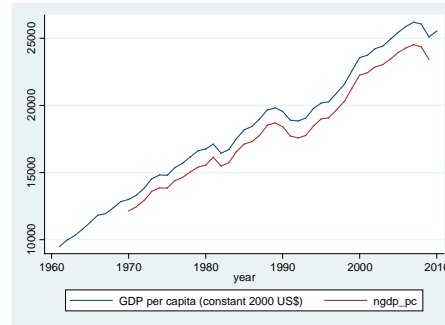
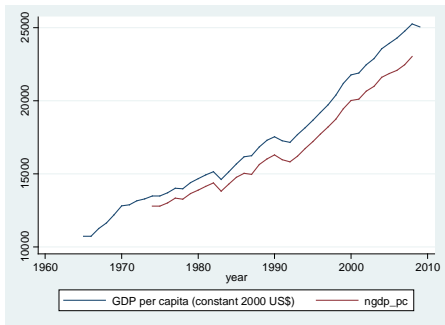
United Kingdom

United States of America



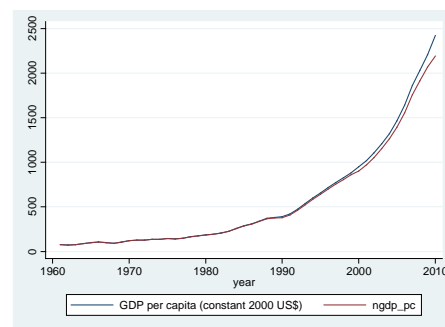
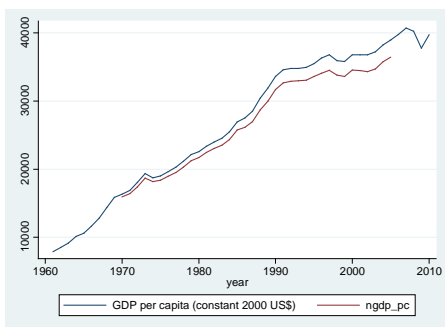
Germany

France



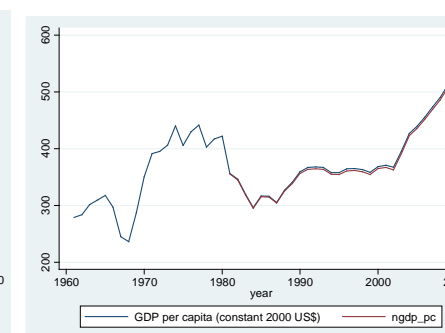
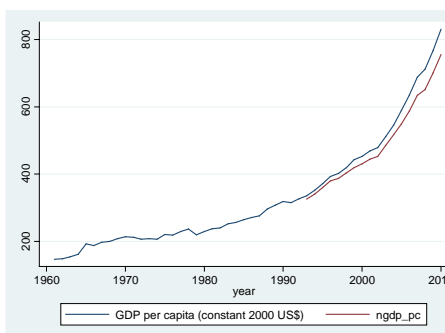
Australia

Canada



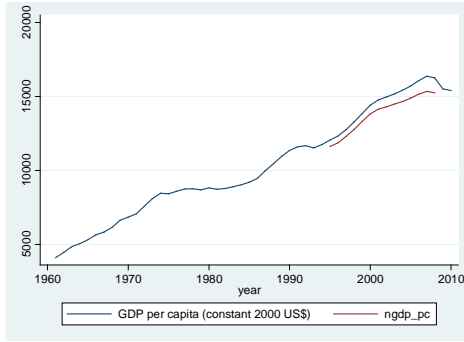
Japan

China

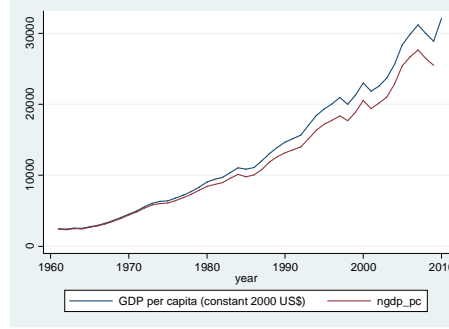




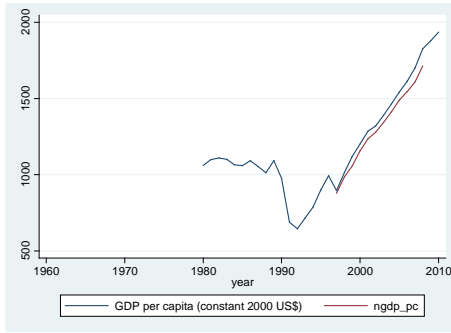
India



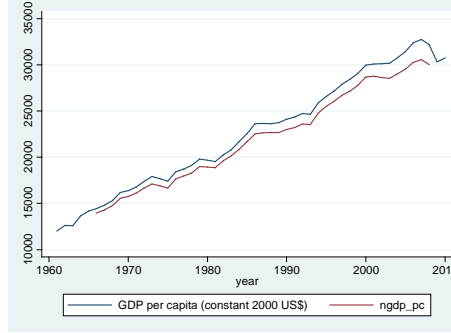
Nigeria



Spain



Singapore



Albania

Denmark

## 6.5 Empirical Analysis

After a brief analysis of our available data, we proceed to discuss the empirical methodology.

In the manner of King and Levine (1993), our baseline panel model is as follows:

$$y_{it} - FS_{it} = a_0 + PC\alpha_{it} + PC_{it}^2\beta + Z_{it}\gamma + u_{it} \quad (1)$$

$$NGDP = a_0 + PC\alpha_{it} + PC_{it}^2\beta + Z_{it}\gamma + u_{it}. \quad (2).$$

Where  $y_1$  is growth, FS is financial services,  $y_{it}$  is GDP as given and  $(y_{it} - FS_{it})$  results in our new GDP ( $NGDP$ ) variable.  $PC$  is the financial development variable,  $a_0$  is the regression

constant,  $Z_i$  is a set of control variables,  $u_i$  is the error term,  $\beta, \gamma$ , and  $\alpha$  are coefficients and  $i$  represent countries and  $t$ , time periods. We retain the use of the total credit to the private sector by banks and other financial institutions to GDP as proxy for financial development. Despite the limitations of using this variable as discussed above, not least its proliferation towards mostly non-productive use, it allows us to investigate the correlation of finance with growth as obtained in the existing literature, as it is the most used variable to measure financial development (Beck and Levine, 2004, Arcand et al. 2012). A quadratic term for non-monotonicity is incorporated in line with the threshold literature. Although the quadratic term has been argued to be limiting, in that it imposes an a priori restriction on the effect of finance on growth to monotonically and symmetrically increase and decrease with the level of financial development (Law and Singh, 2014), again, we allow this variable to test the validity of the literature that uses the quadratic term of financial development in empirical analysis.

We include the log value of initial reconstructed GDP per capita to control for reversal to the mean, and estimate the relationship between finance and growth using the traditional independent growth variables from the Arcand et al. dataset. These are the initial stock of human capital, trade openness, inflation and the ratio of government expenditure to GDP (see Demetriades and Rousseau, 2011; Yilmazkuday, 2012; Law and Singh, 2014; Arcand et al. 2015) over our time period. These factors are control variables that may be causal for growth as discussed above.

First, we run a pooled regression without differentiation across countries, using the log of GDP, our dependent variable, on our set of independent variables. We obtain a strong and statistically significant correlation, with  $R^2$  of 0.6.

### 6.5.1 Cross-Sectional Estimation

We estimate cross-sectional regressions for the period 1990-2010, with a total of 35 observations. This number of observations is similar to that of Ductor and Grechyna (2011) who use 33 observations. In column 1 of table 6.3, we regress our new GDP per capita on our financial development variable, credit to the private sector. We find that the relationship between finance and growth is statistically insignificant when value added in financial services is excluded from growth. This is different from the results found in Beck and Levine (2004) and Arcand et al. (2012) who found statistically significant positive relationship between finance and growth using a much bigger sample.

In column 2 of table 6.3, we add the quadratic term of credit to the private sector to allow for a non-monotonic relationship. Again, the result is statistically insignificant despite a slight increase in the correlation between finance and growth from 0.26 to 0.3. The coefficient on the linear term remains positive, while it is negative on the quadratic term, which confirms a concave relationship between finance and growth. Our results are similar to the finding in Arcand et al. for the same period (1990-2010). They find that the coefficient associated with credit to the private sector decreases by 50 percent and their result is no longer statistically significant, although significant in the longer timeframes of 19970-2010 and 1980-2010.

**Table 6.3 Table of Cross-sectional OLS Regressions for the period 1990-2010**

	(1) <i>ngr</i>	(2) <i>ngr</i>
<i>LNGD_pc</i> <sub>(t-1)</sub>	-0.548 (0.324)	-0.541 (0.334)
<i>LPC</i>	0.113 (0.362)	
<i>PC</i>		1.936 (1.712)
<i>PC</i> <sup>2</sup>		-1.147 (0.733)
<i>LEDUC</i>	2.25 (1.461)	2.324 (1.529)
<i>LINFL</i>	-0.0451 (0.269)	0.038 (0.295)
<i>LOPEN</i>	0.305 (0.263)	0.331 (0.235)
<i>LGC</i>	-0.906* (0.471)	-0.937* (0.486)
Const.	3.534 (2.526)	2.522 (2.617)
Obs.	35	35
R-squared	0.266	0.3

Standard errors are in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

*ngr* is the new per capita growth rate, derived by subtracting FS value-added from GDP; *LNGDP\_pc* is the log of new per capital lagged one period, *LPC*, *PC* and *PC*<sup>2</sup> denote log of private credit, private credit and private credit squared. *LEDUC*, *LGOVC*, *LOPEN*, *LINFL* are the logarithms of education, government consumption, openness and inflation, as specified in Arcand et al.

## 6.5.2 Panel Estimations

The use of panel data allows us to examine the behaviour of the nexus across time and, as it were, allows us control for individual country heterogeneity. Panel data analysis have been noted by Law and Singh (2014) to reduce multicollinearity and heterogeneity. Following Arcand et al., we use the Generalised Method of Moments (GMM) approach, introduced by Arellano-Bond (1991), with its two-step standard error correction approach added by Arellano and Bover (1995). It is also known as ‘difference GMM’. Here, lagged values of the dependent

variable are used as instruments. As in the literature, we use the Windmeijer (2005) finite sample correction to obtain robust standard errors. We use non-overlapping five-year growth spells for our panels covering the period 1961-2010.

In the first four columns of Table 6.4, we estimate our model above with a monotonic relationship between finance and growth, using the log of the lagged value of credit to the private sector over GDP, in line with Beck and Levine (2004) and Arcand et al. (2012). All regressions include time-fixed effects and the lagged values of our control variables. Column (1) of Table 6.4 estimates our model for the period 1961-1995. This has a total of 95 observations, which is quite a small sample for the GMM approach. We find a coefficient of 2.0, very close to the 1.9 found in Arcand et al (2012) and 1.7 in Beck and Levine (2004). As expected, our coefficient for financial development variable decreases with more recent years, where credit to the private sector increases, as we see in column (2) (1961-2000), column (3) (1961-2005) and column (4) (1961-2010). The number of observations in our estimations in columns (2) - (4) are 183, 281 and 377, respectively.

However, besides quantitative size, the results of all our estimations in columns (1) - (4) of Table 6.4 are not statistically significant with p-values ranging from 0.1 up to 1.0 for the variables included. This is so with the exception of lagged GDP per capita and for the education variable. This is slightly with the exception of our education variable in columns (3) and (4) (with p-values of 0.04 and 0.03, respectively). Most importantly, the log of private credit to GDP is found to be insignificant in all specifications, indicating a non-statistically significant relationship between financial development and per capital growth. In addition, none of our Arellano Bond tests AR1 and AR2 is significant. The Sargan test of over-identifying restriction is not robust, but also not weakened by many instruments. The Hansen test of over-identifying restrictions is robust but weakened by many instruments. As such, our estimations may not

reject the null of no first order correlation between financial development and growth. The Windmeijer standard errors (t-values) of the estimations are robust.

From column (5) to (8) of Table 6.4, we repeat the estimations in column 1 to 4, respectively, but with the level, as opposed to the logarithm, of credit to the private sector over GDP as our financial development variable. The coefficient of the financial development is 1.9 for the period 1961-1995, and this decreases as more recent years are used. This decreasing relationship, sometimes referred to as vanishing effect of financial development on growth, resonates with the findings of De Gregorio and Guidotti (1995), Rousseau and Wachtel (2011) and Arcand et al. (2012). Most importantly, the impact of PC on growth is found to be insignificant throughout columns (5)-(8). Furthermore, our estimations for our models are not statistically significant for all variables, again, except education in the columns (7) and (8). The AR1 and AR2 are not significant. As in the first four columns the Sargan test of over-identifying restriction is not robust, but also not weakened by many instruments, and the Hansen test of over-identifying restrictions is robust but weakened by many instruments. The Windmeijer standard errors (t-values) of the estimations are robust.

**Table 6.4 Table of Panel Estimations**

	(1) Ngr	(2) ngr	(3) ngr	(4) ngr	(5) ngr	(6) ngr	(7) ngr	(8) ngr
<i>LNGDP_PC</i>	-3.183*** (1.138)	-1.368** (0.616)	-1.252** (0.628)	-1.029*** (0.351)	-2.439** (1.088)	-1.393** (0.702)	-1.125** (0.529)	-1.033** (0.414)
<i>LPC</i>	2.006 (1.520)	1.206 (1.015)	0.306 (0.735)	-0.367 (0.505)				
<i>PC</i>					1.964 (2.694)	1.884 (1.773)	-0.228 (0.860)	-0.586 (0.766)
<i>LEDUC</i>	5.422 (3.616)	2.680* (1.628)	3.573*** (1.231)	3.833*** (0.813)	4.534 (3.208)	3.568** (1.740)	3.743*** (1.220)	3.988*** (0.945)
<i>LGOVC</i>	-1.936 (2.368)	-0.0853 (2.902)	-1.535 (0.989)	-1.778** (0.691)	-1.723 (1.543)	-1.390 (1.512)	-1.924* (1.017)	-1.839** (0.764)
<i>LOPEN</i>	-0.661 (2.571)	1.132 (1.656)	0.132 (0.914)	0.387 (0.729)	-0.930 (1.542)	1.193 (2.721)	-0.0517 (0.809)	0.130 (0.511)
<i>LINFL</i>	0.191 (0.655)	-0.0887 (0.773)	-0.219 (0.276)	-0.291 (0.249)	-0.0418 (0.671)	-0.00929 (0.427)	-0.338 (0.251)	-0.308 (0.223)
Const	37.44 (47.19)	8.103 (18.28)	7.671 (5.578)	3.442 (4.475)	21.87** (10.19)	13.33 (13.88)	8.086** (3.897)	5.067* (2.614)
Obs.	95	183	281	377	95	183	281	377
No. countries	36	88	106	111	36	88	106	111
Periods	1961- 1995	1961- 2000	1961- 2005	1961- 2010	1961- 1995	1961- 2000	1961- 2005	1961- 2010

Standard errors are in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

*ngr* is the new per capita growth rate, derived by subtracting FS value-added from GDP; *LNGDP\_pc* is the log of new per capital GDP, *LPC* denotes the log of private credit, and *LPC*<sup>2</sup> and *PC* its level. *LEDUC*, *LGOVC*, *LOPEN*, *LINFL* are the logarithms of education, government consumption, openness and inflation, as specified in Arcand et al.

In Table 6.5, we re-estimate the same regressions for different time periods in columns (1)-(4) of Table 6.4, with the inclusion of the square of credit to the private sector over GDP to allow for a non-monotonic relationship between finance and growth, as is now standard in the threshold literature. The square of our financial development variable is significant (with p-value of 0.06) only for column (1), and shows a negative relationship with a coefficient of -7 for the period 1961-1995. The negative coefficient confirms the non-linear findings of the threshold literature. However, both private credit and its square are insignificant in all subsequent specifications. Rather than a functional form misspecification, that is a non-monotonic relationship among the two, as postulated by the threshold literature, our finding is

indicative of a non-robust and non-statistically significant relationship between per capita growth and financial development. The caveat of a small sample size still applies.

**Table 6.5 Table of Panel Estimations with a Quadratic Term**

	(1)	(2)	(3)	(4)
	<i>ngr</i>	<i>ngr</i>	<i>ngr</i>	<i>ngr</i>
<i>LNGDP_pc</i>	-2.764** (1.134)	-0.894 (0.651)	-1.034 (2.285)	-1.064*** (0.397)
<i>PC</i>	13.52 (8.842)	4.720 (4.621)	3.666 (7.520)	1.479 (2.314)
<i>PC</i> <sup>2</sup>	-7.559* (4.020)	-2.098 (2.230)	-2.526 (2.874)	-1.112 (1.040)
<i>LEDUC</i>	5.446* (3.273)	2.091 (1.279)	3.272 (3.640)	3.574*** (0.703)
<i>LGOVC</i>	-1.845 (2.098)	-0.357 (1.412)	-2.406 (4.204)	-1.418** (0.701)
<i>LOPEN</i>	-0.581 (2.753)	1.636 (1.331)	-0.380 (0.651)	0.210 (0.435)
<i>LINFL</i>	0.0270 (1.136)	0.148 (0.443)	-0.343 (0.289)	-0.235 (0.192)
Const	20.15* (10.99)	1.588 (7.295)	10.45 (7.530)	4.241 (2.580)
Obs.	95	183	281	377
No. countries	36	88	106	111
Periods:	1961-1995	1961-2000	1961-2005	1961-2010

Standard errors are in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

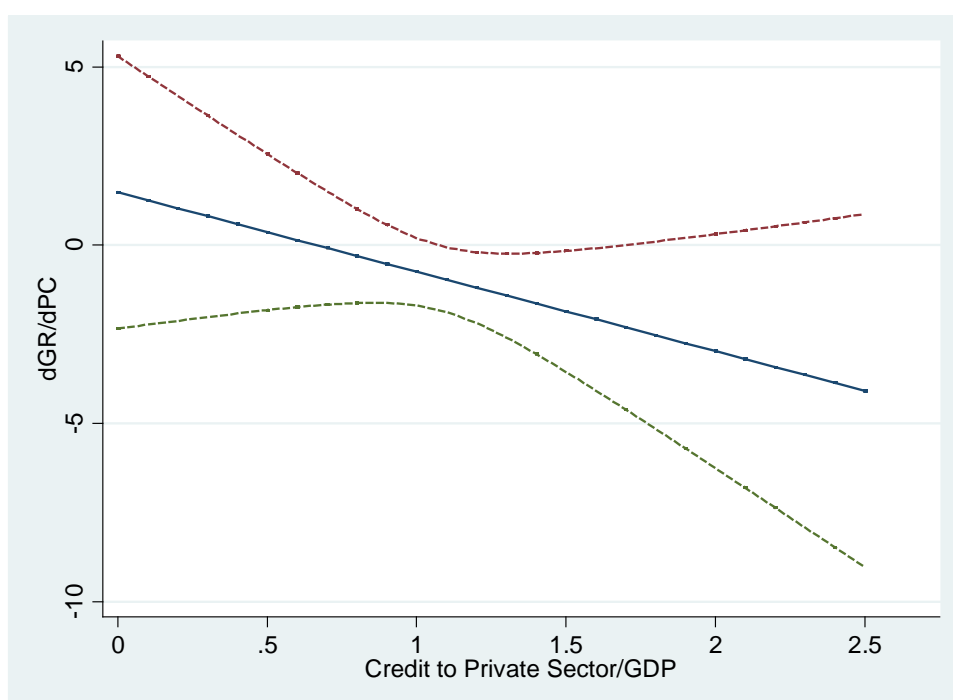
*ngr* is the new per capita growth rate, subtracting FS value-added; *LNGDP\_pc* is the log of new per capital GDP, *PC* denotes private credit and *PC*<sup>2</sup> its square, and *LEDUC*, *LGOVC*, *LOPEN*, *LINFL* are the logarithms of education, government consumption, openness and inflation, as specified in Arcand et al.

**Figure 6.2 Graph of the Marginal Effect of Financial Development on Growth using Panel Regressions Obtained from Table 6.4 (1961-2010)**

Following the analysis of Arcand et al., diagram 6.3 below depicts the marginal effect of financial development on growth. Our graph shows that the marginal effect of financial



development on growth becomes negative when credit to the private sector reaches approximately 100 percent. This is similar to the threshold found in other studies (Ductor and Grechnya, 2011; Arcand et al. 2012; Law and Singh, 2014). However, our threshold can only be treated with caution, as in contrast to the threshold literature, since the results of our estimations are statistically insignificant.



## 6.6 Summary of Findings

Our cross-sectional and panel regressions show that the relationship between financial development and growth is no longer statistically significant when we exclude value added in financial services intermediation from growth. The result is consistent with Rousseau and Wachtel (2011) and Yilmazkuday (2011) who found statistically insignificant results between finance and growth, using total domestic credit to GDP as measure of financial development.

It also confirms the findings of other studies in which there is no direct positive relationship between finance and growth (Lucas, 1988; Robinson, 1952; Arestis and Sawyer, 2005). One variable that exhibits significant positive relationship with growth in our regression is initial stock of human capital, measured by the level of educational attainment of a country. However, this relationship needs to be further investigated within the context of our new GDP variable in order for a conclusion to be drawn.

There is a possibility that the insignificant relationship between finance and growth in our studies is due to the small sample size used in our regressions. The reason for our small sample size have been discussed above in the limitations faced with FS data. Nonetheless, the use of a small sample in a regression may also be of benefit since there is a tendency for a large sample size to force a relationship to be statistically significant.

Notably, one of the explanations put forward by Arcand et al. (2012, p. 13) for a vanishing effect is that regressions which include few country periods with high levels of financial development should have a downward bias due to misspecification (See chapter 3). While this characteristic fits our estimations, in that we use far less country periods, yet our downward bias is not much less than theirs. As such, the vanishing effect of the relationship between finance and growth is not due to a downward bias per se, but is more likely to be explained by their alternative reason, which is that finance could have a fundamental dysfunction on growth as it expands, a relationship that may not necessarily be highlighted by econometric estimations traditionally deployed.

Unlike Arcand et al. who find that the non-monotone threshold relationship between finance and growth is robust when controlled for crises and regulatory, we find that the relationship may not be fundamental and that finance cannot impact growth by itself. So any relationship may be due to random chance. As such, economic development most likely results from other

factors, rather than financial development, or in more complex ways and interactions than the threshold analysis permits.

## **6.7 Conclusion**

We have examined the nature of the relationship between finance and growth having excluded financial services from the measure of growth, and re-estimated the nexus, following the standardised practices in the literature. Our findings show that the relationship between finance and growth is not statistically significant for all of our estimations. The introduction of a square term for a non-monotonic relationship shows a negative relationship between finance and growth where there may be ‘too much finance’, but the estimates are likewise not statistically significant. Our results are robust to using different methods, i.e. both cross-sectional and panel regressions. They are also robust to using different time periods, i.e. 1961 to 2010 for panel estimations and 1980 to 2010 for cross-sectional estimations. The results remain statistically insignificant in all regressions.

The insignificant results obtained in these estimations imply that the relationship between finance and growth no longer holds, as robustly as previously portrayed, when FS is excluded from GDP. As such there is a fundamental breakdown in the nexus when a more predictive variable of growth is used. It could be that financial depth is only correlated with the FS part of GDP, or better still, the non-productive part. Further research is required in this area.

A huge work has gone into constructing data series in order to undertake similar and comparable exercise to the finance-growth nexus estimations in the literature. These include data cleaning and standardisation from different computation methods, base years and SNA, rebasing to constant year 2000 values, converting to US Dollars, adjusting country data for

population and so on. This painstaking effort has been expended in order to re-estimate the relationship between finance and growth in the same methods adopted in the threshold literature. These methods have been used not because they are thought to be appropriate as such, but in order to question the mainstream results on their own, marginally modified, terms. Therefore, results obtained in these re-estimations confirm the argument that the relationship between finance cannot be entirely dependent on narrow empirical methods.

## **Chapter 7.0 – Conclusion**

“Once the bright and flashy promises of free markets are exposed as lies, it becomes possible to construct a capitalism fit for human life.” – Weeks (2014, p. xviii)

### **7.1 Summary**

This thesis examines the threshold analysis of the finance-growth nexus literature. It does so by critically probing the arguments for a largely positive nexus and the methods used to draw such conclusions. A pluralist approach has been taken, which combines critique of the theories and narratives around financial development with empirical re-estimations of the nexus. A re-estimation of the nexus is pursued, using the methods in the literature to show that, even in the terms of mainstream economic theories, empirical methods are insufficient to analyse the nexus (and economic phenomena in general) and that the relationship between finance and growth cannot be reduced exclusively to the corresponding statistical results.

A major contribution of this thesis is that it links the mainstream finance-growth nexus to the classical political economy discussion of the productiveness or not of finance. In fact, it argues that the relationship between finance and growth ought to be discussed within a wider framework that combines both the deductive approach taken and mastered by the nexus literature with other inductive approaches within a political economy framework. This is inevitable given the failure of the literature, and its methods, to address the problems of finance which it has identified, and the inability to comprehend the social and historical aspects of the processes through which financial expansion occurs. Only through the proposed broader approach can a more robust understanding of finance be achieved and the processes for its proliferation and effects (and causes) be understood. This is the approach taken in this thesis. As such, it has allowed for a factoring in of the non-productiveness of finance - located within

the Marxist or classical political economy schools of thought – into the analysis of the threshold literature of the nexus.

First, a review of the literature shows that the relationship between finance and growth was not always analysed in the nexus form (Schumpeter, 1911; Robinson, 1952; Minsky 1974). But this was eventually reduced, if not erased, through mainstream economic theory and empirical methods, from Goldsmith (1969) for a simplistic relationship, increasingly underpinned by the objective of a positive impact of finance on growth. Finance was also found in the literature to be causal for growth, in line with the narrow methods adopted. But what this putative positive nexus ignores is a robust causal analysis, in which other factors are causal for both finance and growth and directly or indirectly affect the relationship between them. As argued throughout this thesis, the pursuit of a positive nexus has also not been coincidental, but with the purpose of promoting private capital accumulation through markets that are alleged to be efficient in the mobilisation and allocation of resources.

Such a simplistic understanding of finance in the nexus proved to be insufficient in explaining the crisis that ensued from historically-unprecedented proliferation of financial assets, and leading to the Global Financial Crisis and its aftermaths. Notably, the theories and methods put forward for analysing the relationship between finance and growth were, in fact, part of the (ideational) causal structure of the crisis. But not much has been done to modify these theories and methods. The revision in the nexus literature, in light of the GFC financial crisis, only modifies the conclusions of the nexus, in which a positive impact of finance is alleged for low- and middle-income countries and negative impact for high-income economies (Ductor and Grechnya, 2011; Yilmazkuday, 2011; Cecchetti and Kharroubi, 2012; Arcand et al. 2012; Law and Singh, 2014).

Also the literature retains its narrow methods without much motivation to understand the nexus on a wider social and historical level, not least the broader factors that underpin financial proliferation and impact. The excesses of finance and consequent crises cannot simply be explained away as an inevitable part of the economic system. Indeed, some proponents of the nexus still allege that the same so-called financial innovations that led to the GFC can be developmental (Leaven et al., 2013). Studies in the nexus are seen to analyse the relationship between finance and growth only with the same empirical methods which were incapable of predicting the crisis, nor even explaining it once it emerged. One objective of this thesis has been to show that these methods are insufficient for drawing conclusions on the relationship between finance and growth.

The conclusions which the threshold analysis draws for developing countries has been matched with African countries' experience of financial development as a proposed driver of growth. This has been a critical secondary point of departure to tease out the relationship between financial development and growth. The drive for financial development in Africa is seen to be deficient within a coherent theoretical narrative. Also, finance continues to expand to the detriment of development in Africa. This undermining of development is set aside by the mainstream financial development literature, which continues to insist on the expansion of banks, capital markets and other financial institutions in Africa (Roe, 2006; Allen et al., 2012; African Development Bank, 2014; Central Bank of Nigeria, 2016). The case of Nigeria, with its unique experience of financial development, is used to buttress this point. It has been argued that it is necessary to locate the discussion within the financialisation literature in order to explore robustly the processes, extent and impact of financial development in Africa. As such, the expansion of finance and the associated regime of accumulation to the detriment of development in Africa has been termed the *financialisation of development*.

The linkage made between the empirical methods in the nexus literature and the debate on the productiveness of finance is not in itself unprecedented, since initial debates on the relationship between finance and growth drew from both areas of inquiry. It has been necessary to uniquely analyse these together in this thesis, given the inadequacy of existing methods. An enquiry into the political economy of the computation of financial services in the SNA, which draws largely from the work originating with Christophers (2011), is seen to convey similar developments as the nexus, with the objective of rendering finance productive. This has been situated within the features of financialisation in the periodisation of capitalism as delineated by Fine (2011). The case for the exclusion of finance from GDP has been pursued in line with the long-standing debate on productiveness as the main critical point of departure from which empirical re-estimation of the nexus has been done.

Cross-sectional and panel data estimations have been carried out in line with the methods in the threshold analysis of Arcand et al. (2012), with a full awareness of the limitations around such methods. As a result, this study does not investigate causality in the nexus, neither does it intend to imply causality from the empirical results obtained, as can otherwise be found all over the nexus literature. The econometric re-estimation has been necessary solely for investigating correlation or changes in the relationship between finance and growth, on the own terms (to emphasise) of the literature, using a new GDP variable that excludes putative value added in financial services.

First, it is necessary to note that the relationship between finance and growth is not simplistic as the literature portrays it to be, in which high financial development is detrimental to high-income economies and beneficial to low-income economies. Instead, this relationship is embedded within a complex amalgam of factors that cut across space, time and form, some of which cannot be captured in an empirical model, even if empirical theories assert that they have been controlled for. These complexities need to be teased out, analysed and addressed in their



contexts, and not assumed to have been taken care of in some hypothetical error term or other dubious means.

In revisiting the relationship between finance and growth, therefore, this thesis argues that the components of both growth and finance matter, and inherently affect their relationship. As such, it has been necessary to tease out what constitutes growth and ascertain whether the components of growth (as in GDP), need to be part of it in the first place. A first step has been made in this thesis for growth, by examining the place of financial intermediation services in total value added. Having argued that this variable adds no value to productivity, and that there is no absolute positive impact of finance on growth, it is thus excluded from GDP and the nexus re-estimated. This is also in line with the mainstream literature that seeks better understanding of the finance-growth nexus (Arcand et al., 2012; Beck et al., 2014).

The measure of financial development used in this study, which excluded value added in financial services from GDP, is believed to be a better estimator or predictor of the relationship between finance and growth. This has been demonstrated by Basu and Foley (2011) and Assa (2015) who find that a measure that excludes value added in financial services, among other variables deemed unproductive, is more strongly correlated with output and other macroeconomic variables.

## **7.2 Findings**

A re-estimation of the relationship between finance and growth shows that the relationship is no longer statistically significant when value added in financial services is excluded from GDP. That is to say, movements in growth no longer correlate with movements in financial development when financial services is not part of the growth measure. This result is consistent

for both cross-sectional and panel estimations. The statistical insignificance shows that the thresholds found in the revised nexus literature may therefore be irrelevant, or not hold, for the relationship between finance and growth when a more predictive measure of growth is used in the estimation, as in this research. Also, it suffices to say more generally that there may be no (significant) positive relationship between financial development and economic growth as previous dissenters of a positive nexus have found (Arestis and Demetriades, 1999; Rousseau and Wachtel, 2002; Arestis and Sawyer, 2005; Philippon, 2008; Cecchetti and Kharroubi, 2015).

However, it is necessary to point out that our finding of insignificant relationship between finance and growth could be driven by the smaller sample size used in our re-assessment. This may be a problem only to the extent that estimators from small sample sizes may not satisfy some desirable statistical properties. Nevertheless, this finding has implications for studies that seek to determine the optimal size of the financial sector, as may also be credited to the threshold literature (see also, Beck, 2014). Whilst the optimal size of the financial sector may seem important for a positive nexus, the finding of an insignificant relationship between finance and growth is independent of the size of the financial sector. Therefore, the problem may not be the size of the financial sector or what has been referred to as ‘too much finance’. In practice, the limitations of finance go beyond size, given that countries with low and intermediate levels of development are equally faced with the other “anomalies” of finance observed for high income countries.

The insignificant results from re-estimations may also well imply the claim repeatedly made in this thesis, that empirical investigations are insufficient to analyse the relationship between finance and growth, and even worse for demonstrating whether one is causal for the other. Causation is to be understood only within recognition of a wider and more complex interaction between finance and growth, and other factors, which can be teased out across time and space.

As such, there is need to look beyond these simplistic appraisals of finance to the complexity of what constitutes its forms and how the financial system is structured for allocation. These include understanding the processes and agents of financial proliferation. The narrow analysis on forms in the literature, divided into bank- versus market-based financial systems, is insufficient for understanding the problems associated with the nexus, since the “innovative” proliferation of finance independent of productive activities happens across banks and markets, despite being deemed to be more prominent in one of these systems (which are mixed and not so readily, increasingly, distinguishable in practice).

This study finds that what seems more like a simple disaggregating of financial markets and channels in the nexus literature was more of a wrangle of ideology – the neoclassical efficient market hypothesis against alternative views that seek to govern the activities of markets and socialise its gains. The subtle contention is somewhat more glaring since development banking – a financial system steered by government to check the *free and competitive* proliferation of finance for private gains – has more recently been omitted from the nexus literature.

More than whether finance is causal for growth, a question which Levine (2005) agrees remains unanswered in the literature, I asked other fundamental questions at the beginning of this thesis. One is whether revisionism has addressed the problem of finance which it has itself identified. Two is whether finance has been developmental in Africa. Three is whether the impact of finance on growth is solely dependent on a country’s level of development. Four is whether the proposed estimations can help us better understand the nature of the nexus. While revisionism goes as far as pointing out that there is a fundamental dysfunction in the relationship between finance and growth, it fails to correct this or does not aim to do so.

The answer to the second question is also not in the affirmative, given that underdevelopment persists in Africa, despite financial penetration. This has been located mainly in the role of

private capital amidst financial development. The rise in microfinance, mobile payment systems and other so-called innovative forms of access to finance have not led to a corresponding rise in employment, wages and general wellbeing of Africans. Instead, a few private capitalists use these channels to extract wealth from the rest of the economy. Capital market development has provided the breeding ground for trading short-term financial assets as opposed to raising capital for businesses, not least the neglect of SME finance in these markets (Beck et al., 2006). Suffice to say, therefore, that Africa's development will not necessarily be achieved through its financial development. This conclusion is in line with the finding in this thesis, of an insignificant relationship between finance and economic growth.

Third, results in this thesis further suggest that the relationship between finance and growth is independent of a country's level of development. In short, the positive effect of this relationship depends on other factors not necessarily considered in statistical estimations. But more important is that growth and finance are themselves dependent on a slew of other factors, as discussed in chapter two. As to whether this thesis has provided better understanding to the nexus, the findings show that the traditional measures are unable to show the nature of the relationship between finance and growth – whether it be in the area of financial inclusion and access as wrongly measured, discussed in chapter four, or the use of credit to the private sector (for consumption) misconstrued to be targeted at investment. As such, these measures of financial development ought to be modified in any empirical analysis (as in this thesis) to reflect the social, experiential and historical aspects of both finance and growth.

### **7.3 Limitations and Future Research**

Chief among the limitations faced in this study is that of data availability. Collecting cross-country data for financial services value added has proven to be a challenge, limiting the sample

size in our transformed dataset. While this is due mainly to compatibility issues from heterogeneity of sources, these data can be better presented by the institutions from where they are sourced. The challenges around availability of long series of data may discourage studies that seek to research value-addition of sectors and industries across countries. As noted earlier, this will pose a challenge to future research in this area until much longer data series of financial services are publicly available.

The difficulty with data availability proved even more challenging in the case of Nigeria, a problem alluded to by Beck and Jerome (2005) in their study of bank performance in Nigeria. As such it has been difficult to analyse microfinance banks performance in Nigeria. In short, there is hardly any information on microfinance banking and their activities, not even on the website of the Central Bank of Nigeria, despite a substantial and growing number of them in the country. Information on other micro-credit institutions is far harder to come by. Most of these informal credit institutions existed in the country long before microfinance banks. As such, it has been impossible to gather much information on these microcredit enterprises in seeking to enrich the study of financial development in Nigeria. This thesis has relied on the experience of the researcher's stint at one of the microfinance banks in Nigeria. Further studies will require gathering primary data for a more comprehensive analysis.

In terms of areas of future research, a good starting place going forward is to tease out some of the factors that the literature ignores, as earlier discussed. It is necessary to understand the relationship between growth and other variables, through which finance has been disaggregated, without including finance in the investigation. As argued, these variables may themselves be causal for growth. Similar questions are asked by Ndulu and O'Connell (2006, p. 29) in relation to the determinants of growth. They try to tease out the factors important for growth and the channels through which these variables are efficient. They also question why growth determinants evolve the way they do, particularly when subject to policy choice. Such

questions are in line with those investigated in this thesis, and have and can be taken even further.

But much of the above questions remain to be explored. For finance, the type, form, composition and the direction of flows, each comes in line with the question of what constitutes financial development, even more so, when these factors are considered within a particular context of development. In terms of what kind of finance, there is need to further split financial development variables into different components and identify productive and non-productive components of finance.

It is also worth exploring empirically sector by sector contribution to gross value added and exclude value added of finance altogether from output before estimations are done. While some elements of total output may actually be value-adding, it is worth separating the whole element given that the contribution of finance is in question. It is also necessary to extend this kind of research to using gross value added in financial services as independent variable, as in Beck et al. (2012), while excluding same from output in the re-estimations.

Furthermore, it may be worthwhile to re-estimate the nexus having excluded all elements of finance in GDP for a more concrete relationship between finance and growth. We have been unable to do this, given the location of our thesis in the nexus' threshold literature of Arcand et al. Bolder studies are required that both challenge existing nexus approaches while incorporating further complexities of the productiveness of finance argument. One suggestion may be to re-estimate the nexus on the basis of Assa's (2015) combined exclusion and deduction of financial services from GDP, which will further decrease the size of national output. In addition, it is necessary to rid GDP completely of all non-value-adding industries, as in Basu and Foley (2011), if a more targeted relationship between finance and growth is to be established. The benefits of this will be enormous, for if it can be more correlated with

macroeconomic variables, and such variables better predicted, the economics discipline would have found some solution to the frequent mystery of instabilities and financial crises, which have become the bane of the profession.

It should be noted however, that it is highly necessary that empirical methods are complemented with other approaches, including case studies before conclusions are drawn over the relations between economic phenomena. Empirical findings need to be validated by evidence, and when evidence proves otherwise, these results must be rejected, no matter how significantly estimated the parameters are alleged to be. As Qin et al. (2016, p. 31) suggest, “the end point of applied econometrics is “is to find parameters which are both interpretable and inferable beyond samples.”

In terms of the way forward for future research with regard to the measures used for financial development, development finance comes to the fore here. It has been a neglected measure of financial development, despite being the most applicable to developing countries. The abandonment of this variable has been discussed in chapter four. There are hardly any studies that examine empirically the relationship between development finance and growth, and the role of development banking is increasingly less acknowledged amidst established suspicion of government and its institutions. In furthering the discussion on financial development in sub-Saharan Africa, it is necessary to investigate the role of development banks in delivering the much-needed progress in these countries. While challenging the claim of an alleged quasi-consensus that state-owned banks have a negative impact on financial and economic development, Panizza (2013) acknowledges that there is still a lot to know about development banking in relation to the finance-growth nexus. Others have acknowledged that this could even be much less than purported (World Bank, 2001; La Porta et al, 2002).

Here is therefore a call to bring back development banking into the conversation of the nexus. This may not be too much to ask for, as the Bringing Back In phenomenon, captured by Fine (2010b) – discussed in chapter 2 – is a drill of mainstream economic theories, albeit with narrowness and as when convenient. Hopefully, this time, a broader approach to bringing back in and analysing development banking may be sought, given the insufficiency of the mainstream's own methods as shown in this thesis.

## 7.4 Concluding Remarks

It is no longer difficult to see the inadequacy of mainstream economic theories and methods in finding solutions to today's economic problems. This failure has been no less evident in the wake of the 2008 GFC. Yet these methods dominate the discipline. No one captures this better than Weeks (2014), in his book "Economics of the 1%", which analyses how mainstream economics uses its narrow tools to "obscure reality and distort policy" with a clearly defined aim of benefitting a select powerful few. Surely, those economists who practise such methods may aim themselves to be part of the 1%.

Therefore, in drawing upon the limitations of mainstream economics methods and theories, this thesis is aligned with a broader aim, which is the pursuit of a different kind of economics. As Basu and Foley (2011, p.1) note, investigations around sector contributions to the economy do not only attempt to differentiate between productive and non-productive sectors, but they

ffer[s] insights

decades in a context marked by the following three factors: (i) the service (especially the financial) sector has grown in importance, (ii) the economy has become more globalised, and (iii) the policy orientation has increasingly become neoliberal." So, a much broader systemic arrangement – neoliberalism – is at the heart of the disproportionate expansion between finance



and growth. This has been noted throughout this thesis in the many references to financialisation and its corresponding regime of capital accumulation.

But this underlying systemic support is the reason finance is so powerful and uncontrollable. It is also the reason why regulations, especially designed and implemented at country levels, are insufficient in addressing the dysfunction of finance. Norfield (2016, p. 10) explains the role of finance for major capitalist countries, their corporations and the elite class. He argues that this complex global arrangement “disguises the fact that the financial system works each and every day to the benefit of the major powers.” Oftentimes, a country’s level of financial development is thought to be solely a function of its level of development, and the factors that produce the state of financial development in countries are ignored. Even when some admit that the state of financial development is not random, this is often not acknowledged in investigations such as the nexus (as with other social-economic issues). This understanding of a broader web of factors on which finance sits, underpins the scepticism directed at the methods and theories that ignore these broader factors in their analyses of the impact of finance on the economy.

Lastly, a lot of reference has also been made to the allocative efficiency and distribution mechanisms of finance. This can only be understood within analyses of social and class structures that exist in a place and how these undermine financial development. Understanding these factors allows policy to be better designed and no doubt enable finance to be more productive and efficiently allocated. It is therefore necessary to analyse the benefits of finance in view of its allocative efficiency. Given that the relationship between finance and growth may not hold when more reliable measures are used, as suggested in this thesis, it opens up the opportunity to genuinely reassess how finance can be made more beneficial for development.

As in the quotation at the beginning of this chapter, “it becomes possible to construct a capitalism fit for human life”.

## REFERENCES

- Abbas, S.M.A., Christensen, J.E., (2007) 'The Role of Domestic Debt Markets in Economic Growth: An Empirical Investigation for Low-income Countries and Emerging Markets'. *IMF Working Paper* No. 7.
- Abu-Bader, S. and Abu-Qarn, A.S. (2008) 'Financial Development and Economic Growth: The Egyptian Experience'. *Journal of Policy Modelling* pp. 887–898.
- African Development Bank (2013) Recognising Africa's Informal Sector. Available from: <https://www.afdb.org/en/blogs/afdb-championing-inclusive-growth-across-africa/post/recognizing-africas-informal-sector-11645/> (Accessed 20 September 2017).
- African Development Bank (2014) Finance to accelerate Africa's transformation: Draft financial sector development policy and strategy 2014-2019 – revised [pdf] Addis Ababa: OFSD and COSP Departments. Available from: [https://www.afdb.or/fileadmin/uploads/afdb/Documents/Policy-Documents/Financial\\_Sector\\_Development\\_Policy\\_and\\_Strategy\\_2014\\_-\\_2019\\_-\\_Draft\\_Version.pdf](https://www.afdb.or/fileadmin/uploads/afdb/Documents/Policy-Documents/Financial_Sector_Development_Policy_and_Strategy_2014_-_2019_-_Draft_Version.pdf) (Accessed 03 April 2017).
- Agu, C.C. and Chukwu, J.O. (2009) 'Multivariate Causality between Financial Depth and Economic Growth in Nigeria'. *African Review of Money Finance and Banking*, pp. 7–21.
- Ahlin, C. and Pang, J. (2008) 'Are financial development and corruption control substitutes in promoting growth?' *Journal of Development Economics*, 86 (2), pp. 414-433. Doi: 10.1016/j.deveco.2007.07.002.
- Ahmed, A.D. (2010) 'Financial Liberalisation, Financial Development and Growth Linkages in Sub-Saharan African Countries, An empirical Investigation'. *Studies in Economics and Finance* 27, pp. 314–339.
- Aitken, R. (2010) 'Ambiguous Incorporations: Microfinance and Global Governmentality'. *Global Networks* 10 (2), pp. 223–243.
- Aizenman, J., Menzie, D., Ito, C. and Hiro, C. (2015) 'Monetary Policy Spillovers and the Trilemma in the New Normal: Periphery Sensitivity to Core Country Conditions', *NBER Working Paper*, 21128
- Akinlo, A.E. and Egbetunde, T. (2010) 'Financial Development and Economic Growth: The Experience of 10 Sub-Saharan African Countries Revisited'. *The Review of Finance and Banking* 2, pp. 17–28.
- Allen, F., Carletti, E., Cull, R., Qian, J., Senbet, L. and Valenzuela, P. (2012) 'Resolving the African Financial Development Gap: Cross-Country Comparisons and a Within-Country Study of Kenya'. NBER Volume on African Economic Successes.
- Allen, F. and Santomero, A. (2001) 'What do financial intermediaries do?' *Journal of Banking and Finance* 25, pp. 271–294.
- Apergis, N., Filippidis, I. and Economidou, C. (2007) 'Financial Deepening and Economic

Growth Linkages: A Panel Data Analysis', *Review of World Economics* / Weltwirtschaftliches Archiv, 143 (1), pp. 179-198

Araujo, E., Bruno, M. and Pimentel, D. (2012) 'Financialisation against Industrialisation: A Regulationist Approach to the Brazilian Paradox' *Revue de la Regulation*.

Arcand, L., Berkes, E. and Ugo, P. (2012) 'Too Much Finance?' *IMF Working Paper*, P/12/161

Arcand, L., Berkes, E. and Ugo, P. (2015) 'Too Much Finance?' *Journal of Economic Growth*, 20, pp. 105-148.

Arcand, J.-L., Enrico, B. and Ugo, P. (2013) 'Finance and Economic Development in a Model with Credit Rationing. Graduate Institute of International and Development Studies Working Paper No. 02.

Arestis, P. (2005) 'Washington Consensus and Financial Liberalisation', *Journal of Post Keynesian Economics*, 27 (2), pp. 251-271.

Arestis, P., and Glickman, M. (2002) 'Financial crisis in Southeast Asia: dispelling illusion the Minskyan way'. *Cambridge Journal of Economics*, 26, pp. 237-260.

Arestis, P. and Demetriades, P. (1997) 'Financial Development and Economic Growth: Assessing the Evidence', *Economic Journal*, 107 (442), pp.783-799.

Arestis, P. and Demetriades, O.P. (1999) 'Finance and Growth: Institutional Considerations, Financial Policies and Causality', *Zagreb International Review of Economics and Business*, 2 (1), pp. 37-62

Arestis, P., Demetriades, P.O. and Luintel, K.B. (2001) 'Financial Development and Economic Growth: The role of stock markets'. *Journal of Money, Credit and Banking*, 33 (1), pp. 16-41.

Arestis, P. and Sawyer, M. (2005). 'Financial Liberalisation and the Finance-Growth Nexus: What Have We Learned?' in: Arestis, P. et al. (eds.) *Financial Liberalisation*. Palgrave Macmillan, a division of Macmillan Publishers Limited, pp. 1-42.

Arndt, H. (1996) 'Measuring trade in financial services. In *Essays in International Economics*', 1944-1994, pp. 215-231. Aldershot: Ashgate.

Arellano, M. and Bond, S. (1991) 'Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations', *The Review of Economic Studies*, 58 (2), pp. 277-297.

Arellano, M. and Bover, O. (1995) 'Another look at the instrumental variable estimation of error-components models', *Journal of Econometrics*, 68 (1), pp. 29-51

Arrow, K. and Debreu, G. (1954) 'Existence of an Equilibrium for a Competitive Economy'. *Econometrica* 22, pp. 265-290.

Ashman, S. and Fine, B. (2013) 'Neo-liberalism, Varieties of Capitalism, and the Shifting Contours of South Africa's Financial System'. *Transformation* 81, pp. 144-178.

Assa, J. (2017) *The Financialisation of GDP - Implications for economic theory and policy*. Routledge Advances in Heterodox Economics. Routledge, London and New York.

Assa, J. (2015) 'Financial Output as Economic Input: Resolving the Inconsistent Treatment of Financial Services in the National Accounts. Working Paper, Department of Economics, The New School for Social Research, 01/2015.

Atindehou, R.B., Gueyie, J.P. and Amenounve, E.K. (2005) 'Financial intermediation and economic growth: evidence from Western Africa'. *Applied Financial Economics* 15 (11), pp. 777–790.

Bachelier, L. (1900) 'The 'orie de la speculation', *Annales Scientifiques de l'E 'cole Normale Sup'e'rieure*, 17, pp. 21–86

Bandiera, O., Caprio, G., Honohan, P., Schiantarelli, F. (2000) 'Does Financial Reform Raise or Reduce Saving?' *Review of Economics and Statistics* 82 (2), pp. 239-263

Banerjee, A., Duflo, E., Glennerster, R. and Kinnan, C. (2015) 'The Miracle of Microfinance? Evidence from Randomised Evaluation'. *American Economic Journal: Applied Economics* 7, (1), pp. 22–53.

Bangake, C. and Eggoh, J.C. (2011) 'Further Evidence on Finance-Growth Causality: A Panel Data Analysis'. *Economic Systems* 35 (2011), pp. 176–188.

Barajas, A., Chami, R. and Reza, S. (2012) 'The Finance and Growth Nexus Re-examined: Do All Countries Benefit Equally?' *IMF Policy Paper*.

Barro, R.J. (1991) 'Economic Growth in a Cross-Section of Countries', *Quarterly Journal of Economics*, 106 (2), pp. 407-443

Barro, R.J. (1996) 'Inflation and Growth'. *Review*, Federal Reserve Bank of St. Louis, 78 (2), pp. 153–169.

Barro, R.J. and Sala-i.Martin, X. (1995) *Economic Growth*, McGraw-Hill, New York.

Barth, J. R., Caprio Jr, G. and Levine, R. (2004) 'Bank Regulation and Supervision: What Works Best?' *Journal of Financial Intermediation*, 13 (2), pp. 205-238

Basu, D. and Foley, D.K. (2013) 'Dynamics of Output and Employment in the US Economy'. *Cambridge Journal of Economics* 37 (5), pp. 1–30.

Basu, D. and Foley, D.K. (2011) 'Dynamics of Output and Employment in the U.S. Economy. Political Economy Research Institute Working Paper Series 248.

Bateman, M. (2014a) 'South Africa's Post-apartheid microcredit-driven Calamity', *Law, Democracy and Development*, 18 (1), pp. 92-135.

Bateman, M. (2014b) 'The Zombie-like persistence of failed local neoliberalism: The case of

UNDP's Local Economic Development Agency (LEDA) network in Latin America', *International Development Studies*, Working Paper Series, No. 14.3, September.

Bayliss, K. and Fine, B. (eds.) (2007) 'Whither the Privatisation Experiment? Electricity and Water Sector Reform in Sub-Saharan Africa, Basingstoke: Palgrave Macmillan.

Bayliss, K., Fine, B. and Robertson, M. (2017) 'Introduction to special issue on the material culture of financialisation'. *New Political Economy* 22, pp. 355–370.

Bazot, G. (2013) Financial Consumption and the Cost of Finance: Measuring Financial Efficiency in Europe (1950-2007) IPP-PSE

Becker, J., Jager, J., Leubolt, B. and Weissenbacher, R. (2010) 'Peripheral Financialisation and Vulnerability to Crisis: A Regulationist Perspective'. *Competition and Change* 14 (2-3), pp. 225–249.

Beck, S. and Ogden, T. (2007) 'Beware of Bad Credit'. *Harvard Business Review* 85, pp. 20–22. Available at: <https://hbr.org/2007/09/beware-of-bad-microcredit>.

Beck, T. and Levine, R. (2004) 'Stock markets, banks and growth: panel evidence'. *Journal of Banking and Finance*, 28, pp. 423-442.

Beck, T. and Cull, R. (2014a) 'Banking in Africa', in: Allen, N.B., Molyneux, P. and Wilson, J.O.S. (eds.), *Oxford Handbook of Banking*. Oxford University Press.

Beck, T. and Cull, R. (2014b) 'SME Finance in Africa'. Policy Research Working Paper; no. WPS 7018. Washington, DC: World Bank Group.  
<http://documents.worldbank.org/curated/en/294741468006614213/SME-finance-in-Africa>.

Beck, T. and Jerome, A. (2005) 'Bank Privatisation and Performance Empirical Evidence from Nigeria', *World Bank Policy Research Working Paper*, 3511

Beck, T., Buyukkarabacak, B., Rioja, F. and Valev, N. (2012) 'Who Gets the Credit? And does it Matter? Household vs. Firm Lending Across Countries'. *The B.E. Journal of Macroeconomics: Contributions* 12 (1), pp. 1–44.

Beck, T., Cull, R. and Jerome, A. (2005) 'Bank Privatisation and Performance: Empirical Evidence from Nigeria'. *Journal of Banking and Finance* 29, pp. 2355–2379.

Beck, T., Degryse, H. and Kneer, C. (2014) 'Is more finance better? Disentangling intermediation and size effects of financial systems'. *Journal of Financial Stability* 10, pp. 50–64. doi: 10.1016/j.jfs.2013.03.005

Beck, T., Demirguc-Kunt, A. and Levine, R. (2003) 'Law, Endowments, and Finance'. *Journal of Financial Economics* 70, pp. 137–181.

Beck, T., Demirguc-Kunt, A. and Levine, R. (2007) Finance, inequality and the poor. *Journal of Economic Growth* 12 (1), pp. 27–49.

Beck, T., Demirguc-Kunt, A., Luc, L. and Vojislav, M. (2006) 'The Determinants of Financing

Obstacles'. *Journal of International Money and Finance* 25 (6), pp. 392–352.

Beck, T., Demirguc-Kunt, A. and Maksimovic, V. (2005) 'Financial and Legal Constraints to Firm Growth: Does Size Matter?' *Journal of Finance* 60 (1), pp. 137–177.

Beck, T., Demirguc-Kunt, A. and Martinez, S. (2007) 'Reaching Out: Access to and use of banking services across countries'. *Journal of Financial Economics* 85 (1), pp. 234–266.

Beck, T., Fuchs, M. and Uy, M. (2009) 'Finance in Africa: Achievements and Challenges, in: World Economic Forum, World Bank and African Development Bank (eds.), *The Africa Competitiveness Report 2009*, pp. 31 – 47.

Beck, T., Levine, R. and Loayza, N. (2000) 'Finance and the Sources of Growth', *Journal of Financial Economics*, 58 (1-2), pp. 261-300

Beck, T. (2012) The Role of Finance in Economic Development: Benefits, Risks and Politics, in: Dennis Muller (ed.), *Oxford Handbook of Capitalism*

Beck, T. (2013) 'Finance and Growth: Too Much of a Good Thing?' CEPR Discussion Paper.

Beck, T. (2014) 'Finance, growth, and stability: Lessons from the crisis'. *Journal of Financial Stability* 10 (1), pp. 1–6.

Beegle, K., Christiaesen, L., Dabalen, A. and Gaddis, I. (2016) Poverty in a rising Africa: Africa Poverty Report. The World Bank, Washington DC.

Bencivenga, V. and Smith, B. (1991) 'Financial intermediation and endogenous growth'. *The Review of Economic Studies*, 58(2), pp. 195-209.

Berglof, E. and Bolton, P. (2002) 'The Great Divide and Beyond: Financial Architecture in Transition'. *Journal of Economic Perspectives* 16 (1), pp. 77–100.

Berndt, C. (2012) 'Behavioural Economics, Experimentalism and the Marketisation of Development'. *Economy and Society* 44 (4), pp. 567–591.

Bezemer, D.J. (2013) Finance and Growth: When Credit helps and When it Hinders; *Session: Socially Useful Financial Systems*, University Groningen

Bhatti, A.A, Haque, M.E and Osborn, D.R (2013) 'Is the Growth Effect of Financial Development conditional on Technology Innovation?' Centre for Growth and Business Cycle Research, Economic studies, University of Manchester, UK

Blanco, L. (2009) 'The Finance-Growth Link in Latin America', *Southern Economic Journal*, 76 (1), pp. 224-248.

Bonizzi, B. (2016) 'The Changing Impact of Finance on Development'. FESSUD Working Paper 124.

Boyd, J.H. and Smith, B.D. (1998) 'The Evolution of Debt and Equity Markets in Economic Development'. *Economic Theory* 12 (3) pp. 519–560.

- Bruno, M. and Easterly, W. (1998) 'Inflation, crises and long-run growth'. *Journal of Monetary Economics* 4, pp. 3–26.
- Bryan, D. and Rafferty, M. (2014) 'Political Economy and Housing in the Twenty-first Century – From Mobile Homes to Liquid Housing?' *Housing, Theory and Society* 31 (4), pp. 404–412.
- Buera, F.J., Kaboski, J.P. and Shin, Y. (2012) 'The Macroeconomics of Microfinance'. National Bureau of Economic Research Working Paper 17905, pp. 1–43.
- Callon, M. and Caliskan, K. (2009) 'Economization, part 1: Shifting attention from the economy towards processes of economization', *Economy and Society*, 38, pp. 369–98.
- Carlson, M. (2000) 'The Methodology of Radical Political Economics', in Baiman, R., Boushey, H. and Saunders, D. (eds.), *Political Economy and Contemporary Capitalism: Radical Perspectives on Economic Theory and Policy*. M. E. Sharpe, Armonk NY, pp. 21–28.
- Carson, C. and Honsa, J. (1990) 'The United Nations System of National Accounts: An Introduction'. *Survey of Current Business*, 70 (6), pp. 20–30.
- Cecchetti, G. and Kharroubi, E. (2012) 'Reassessing the impact of finance on growth'. BIS Working Papers No. 381, Bank for International Settlements.
- Cecchetti, S., Kharroubi, E., 2015a. Why does Financial Sector Growth Crowd-Out Real Economic Growth? Basel: Bank of International Settlements BIS Working Paper.
- Central Bank of Nigeria (2017) Microfinance. Available from: <https://www.cbn.gov.ng/devfin/microfinance.asp> (Accessed: 01 May 2017).
- Cerra, V. and Saxena, S. C. (2008) 'Growth Dynamics: The Myth of Economic Recovery', *American Economic Review* 98 (1), pp. 439–57.
- Chakraborty, A.B. and Das, A. (2007) 'Banking Sector's Output in National Accounts: Measurement Issues'. *Economic and Political Weekly* 42 (37), pp. 3764–3769.
- Chandler, A. D. Jr. (1977) *The Visible Hand: The Managerial Revolution in American Business*, Harvard University Press, Cambridge, MA
- Chang, H. and Bateman, M. (2012) 'Microfinance and the Illusion of Development: From Hubris to Nemesis in Thirty Years'. *World Economic Review* 1, pp. 13–36.
- Chang, H. and Grabel, I. (2014) *Reclaiming Development: An Alternative Policy Manual*. Zed Books, London and New York.
- Chang H. J. (2002) *Kicking away the ladder: Development strategy in historical perspective* London, Anthem Press.
- Christophers, B. (2011) 'Making finance productive', *Economy and Society*, 40 (1), pp. 112—140
- Christophers, B. (2013) *Banking Across Borders: Placing Finance in Capitalism* Wiley-



Blackwell, Sussex.

Christophers, B. (2015) 'The Limits to Financialisation'. *Dialogues in Human Geography* 5 (2), 183–200. Christophers. doi.org/10.1177/2043820615588153

Cihak, M. (2012) 'Global Financial Development Report 2013: Rethinking the Role of the State in Finance' No. 1. The World Bank, Washington DC.

Cihak, M., Mare, D.S. and Melecky, M. (2016) 'The Nexus of Financial Inclusion and Financial Stability: a study of trade-offs and synergies'. Policy Research working paper; no. WPS 7722. Washington, D.C.: World Bank Group.

Claessens, S., Demirguc-Kunt, A. and Huizinga, H. (2001) 'How Does Foreign Entry Affect Domestic Banking Markets?' *Journal of Banking and Finance* 25 (5), pp. 891–911.

Claessens, S. and Laeven, L. (2003) 'Financial Development, Property rights, and Growth'. *Journal of Finance* 58 (6), pp. 2401–2436.

Claessens, S. and Laeven, L. (2005) 'Financial Dependence, Banking Sector Competition, and Economic Growth'. *Journal of the European Economic Association* 3 (1), pp. 179–207.

Cohen, B. J. (1996) 'Phoenix Risen: The Resurrection of Global Finance'. *World Politics*, 48, pp. 268–296.

Crotty, J. (2011) 'The Realism of Assumption Does Matter: Why Keynes Theory Must Replace Efficient Market Theory as the Guide to Financial Regulation Policy'. Department of Economics, University of Massachusetts Amherst, Working Paper Series 113

Cull, R., Demirguc-Kunt, A and Morduch, J (2009) 'Microfinance Meets the Market'. *Journal of Economic Perspectives*, 23 (1), pp. 167–192

Cull, R., and Peria, M.S.M. (2010) Foreign Bank Participation in Developing Countries: What Do We Know About the Drivers and Consequences of the Phenomenon? World Bank, Policy Research Working Paper. doi.org/10.1596/1813-9450-5398.

Das, A. and Jangili, R. (2017) 'Financial Intermediation Services Indirectly Measured: the role of reference rate', *Statistical Journal of IAOS*, 33, pp. 515–524.

Deaton, A. and Cartwright, N. (2016) 'Understanding and Misunderstanding Randomised Controlled Trials'. NBER Working Paper 22592.

De Gregorio, J. (1996) 'Borrowing Constraints, human capital accumulation, and growth'. *Journal of Monetary Economics* 37 (1), pp. 49–71.

De Gregorio, J. and P. Guidotti (1995) 'Financial Development and Economic Growth', *World Development*, 23 (3), pp. 433–48.

Deidda, L. and Fattouh B. (2002) 'Non-linearity between finance and growth', *Economics Letters* 74 (3), pp. 339–345.

- Delong, J.B. (1998) 'Productivity growth, convergence and welfare: Comment'. *American Economic Review* 78 (5), pp. 1138–1154.
- Demetriades, P. and Hussein, K. (1996) 'Does Financial Development Cause Economic Growth? Time Series Evidence from 16 Countries', *Journal of Development Economics*, 51 (2), pp. 387–411
- Demetriades, P. and Law, S. H. (2006) 'Finance, institutions and economic growth', *International Journal of Finance and Economics*, 11 (3), pp. 245–260. DOI: 10.1002/ijfe.296
- Demetriades, P. and Rousseau, P.L. (2010) 'Government Openness and Finance: Past and Present'. NBER Working Paper 16462.
- Demetriades, P. and Rousseau, P.L. (2015) 'The Changing Face of Financial Development'. Department of Economics, University of Leicester, Working Paper 15/20
- Demir, F. (2007) 'The Rise of Rentier Capitalism and the Financialization of Real Sectors in Developing Countries'. *Review of Radical Political Economics*, 39, pp. 351–359.
- Demirguc-Kunt, A. and Detragiache, E. (1998) 'Financial Liberalisation and Financial Fragility', *Policy Research Working Paper Series*, The World Bank
- Demirguc-Kunt, A. and Levine, R. (2001) 'Bank-based and market-based financial systems: Cross-Country Comparisons', in: Demirguc-Kunt, A. and Levine, R. (eds): *Financial Structure and Economic Growth: A Cross-Country Comparison of Banks, Markets, and Development*. Cambridge, MA, MIT Press.
- Demirguc-Kunt, A., Beck, T. and Honohan, P. (2008) 'Finance for All? Policy and Pitfalls in Expanding Access'. The World Bank.
- Demirguc-Kunt, A., Feyen, E. and Levine, R. (2013) 'The Evolving Importance of Banks and Securities Markets'. *World Bank Economic Review* 27, pp. 476–490.
- Dollar, D. (1992) 'Outward-oriented developing countries really do grow more rapidly: evidence from 95 LDCs, 1976–85'. *Economic Development and Cultural Change* 40 (3), pp. 523–544.
- Dollar, D. and Kraay, A. (2002) 'Growth is Good for the Poor', *Journal of Economic Growth*, 7 (3), pp. 195–225
- dos Santos, P.L. and Kvangraven, I.H. (2016) 'Financial Inclusion and Its Discontents'. *Private Debt Project*. Available from: [privatedebtproject.org/view-articles.php?Financial-Inclusion-and-Its-Discontents-16](http://privatedebtproject.org/view-articles.php?Financial-Inclusion-and-Its-Discontents-16) (Accessed: 23 February 2017)
- Drummond, P. and Liu, E.X. (2013) 'Africa's Rising Exposure to China: How Large are Spillovers through Trade?' IMF Working Paper.
- Ductor, L. and Grechyna, D. (2011) 'Excess Financial Development and Economic Growth', Working Paper, Department of Economics, University of Alicante. Available from: <http://econfin.massey.ac.nz/school/seminar%20papers/albany/2012/Ductor-PII.pdf> (Accessed: 01 June, 2015).

Dumenil, G. and Levy, D. (2004) *Capital resurgent: Roots of the Neoliberal Revolution*. Harvard University Press, Massachusetts.

Dymski, G. (1999) 'Asset Bubbles and Minsky Crises in East Asia: A Spatialised Minsky Approach'. Research Paper, Department of Economics, University of California-Riverside.

Dymski, G. (2010) 'Why the Subprime Crisis is Different: a Minskyian approach.' *Cambridge Journal of Economics* 34 (2), pp. 239–255.

Dymski, G. and Veitsch, J. (1992) 'Race and the Financial Dynamics of Urban Growth: LA as Fay Wray', in: Riposaand, G and Dersch, C. (eds.), *City of Angels*. Kendall/Hunt, Durbuque IA, pp. 131–158.

Easterly, W., Islam, R. and Stiglitz, J. (2000) 'Shaken and Stirred, Explaining Growth Volatility', Annual Bank Conference on Development Economics. World Bank, Washington D.C.

Eichengreen, B. (2008) 'Thirteen Questions about the Subprime Crisis', Paper presented at the tobin Project conference, toward a New theory of Financial regulation, Yulee, FL, February 1–3.

Eichengreen, B. (1991) 'Historical Research on International Lending and Debt'. *Journal of Economic Perspectives* 5 (2), pp. 149–169.

Elyachar, J. (2012) 'Next Practices: Knowledge, Infrastructure, and Public Goods at the Bottom of the Pyramid'. *Public Culture* 24 (1 66), pp. 109–129.

Ergungor, O. E. (2008) 'Financial system structure and economic growth: structure matters', *International Review of Economics and Finance* 17(2), pp. 292–305.

Erturk, I., Froud, J., Johal, S. and Leaver, A. (eds.) (2007) *Financialisation at work: Key texts and commentary*. London: Routledge.

Fama, E.F. (1970) 'Efficient Capital Markets: A review of theory and empirical work', *The Journal of Finance*, 25 (2), pp. 383–417.

Fama, E. F. (1975) 'Short-term interest rates as predictors of inflation', *American Economic Review*, 65 (3), pp. 269–282.

Fama, E. F. and French, K. (1989) 'Business conditions and expected returns on stocks and Bonds', *Journal of Financial Economics*, 25 (1), pp. 23–49.

Fama, E. F. and Schwert, W. (1977) 'Asset return and inflation', *Journal of Financial Economics*, 5 (2), pp. 115–146.

Fama, E. F., Fisher, L., Jensen, M. and Roll, R. (1969) 'The adjustment of stock prices to new information', *International Economic Review*, 10 (1), pp. 1–21.

Favara. G. (2003) 'An Empirical Reassessment of the Relationship Between Finance and Growth', International Monetary Fund Working Paper No. 03/123,

- Fine, B. (2000) 'Endogenous Growth Theory: A Critical Survey', *Cambridge Journal of Economics*, 24 (2), pp. 245-265
- Fine, B. (2001) *Social Capital versus Social Theory: Political Economy and Social Science at the Turn of the Millennium*, London: Routledge.
- Fine, B. (2007a) State, Development and Inequality: The Curious Incidence of the Developmental State in the Night-Time. Draft Text as Basis for Contribution to Sanpad Conference, Durban, 26-30 June.
- Fine, B. (2007b) 'Financialisation, Poverty, and Marxist Political Economy', Working paper presented in Poverty and Capital Conference, 2-4 July, 2007, University of Manchester.
- Fine, B. (2009) Social Policy and the Crisis of Neo-Liberalism, Prepared for Conference on "The Crisis of Neo-Liberalism in India: Challenges and Alternatives", Tata Institute of Social Sciences (TISS) Mumbai and International Development Economics Associates (IDEAs), 13-15 March
- Fine, B. (2010a) 'Locating Financialisation'. *Historical Materialism* 18, pp. 97–116. doi: 10.1163/156920610X512453
- Fine, B. (2010b) Theories of Social Capital: Researchers Behaving Badly, In Association with the International Initiative for Promoting Political Economy (IIPE), London, Pluto Press
- Fine, B. (2010c) 'Flattening Economic Geography: Locating the World Development Report for 2009', *Journal of Economic Analysis*, 1 (1), pp. 15-33
- Fine, B. (2011) 'Financialisation on the Rebound?' *Actuel Marx*, forthcoming.
- Fine, B. (2012) 'Neo-Liberalism in Retrospect? - It's Financialisation, Stupid', in: Kyung-Sup, C. et al. (Eds). *Developmental Politics in Transition*, Palgrave Macmillan, a division of Macmillan Publishers Limited, pp. 51-69.
- Fine, B. (2013) 'Financialisation from a Marxist Perspective'. *International Journal of Political Economy* 42 (4), pp. 47–66.
- Fine, B., Bayliss, K. and Robertson, M. (2016) 'From Financialisation to Systems of Provision'. FESSUD Working Paper Series, Financialisation, Economy, Society and Sustainable Development.
- Fine, B. and Dimakou, O. (2016) *Macroeconomics - A Critical Companion*, First edition, International Initiative for the Promotion of Political Economy (IIPPE). Pluto Press, London.
- Fink, G., Haiss, P. and Vukšić, G. (2006) 'Importance of financial sectors for growth in accession countries', in Liebscher, K., Christi, J, and Mooslechner, P. (eds). *Financial Development, Integration and Stability*. Cheltenham: Edward Elgar, 155-185
- Finlayson, A. (2009) 'Financialisation, Financial Literacy and Asset-Based Welfare'. *British Journal of Politics and International Relations* 11, pp. 400–421. doi:10.1111/j.1467-856X.2009.00378.x

- FitzGerald, V. (2006) 'Financial Development and Economic Growth: A critical View'. Background paper for *World Economic and Social Survey*. Oxford University. Available from: [http://www.un.org/en/development/desa/policy/wess/wess\\_bg\\_papers/bp\\_wess2006\\_fitzgerald.pdf](http://www.un.org/en/development/desa/policy/wess/wess_bg_papers/bp_wess2006_fitzgerald.pdf) (Accessed: 10 January, 2014).
- Fixler, D. and Zieschang, k. (1990) 'The productivity of the banking sector: Integrating financial and production approaches to measuring financial service output. *Canadian Journal of Economics*, 32 (2), pp. 547-569
- Flamini, V., McDonald, C. and Schumacher, L. (2009) 'The Determinants of Commercial Bank Profitability in Sub-Saharan Africa'. IMF Working Paper 9.
- Fritz, R.G. (1984) 'Time Series Evidence of the Causal Relationship between Financial Deepening and Economic Development', *Journal of Economic Development*, 9 (1), pp. 91-112.
- Fry, M. J. (1997) 'In Favour of Financial Liberalisation', *The Economic Journal*, 107 (442), pp. 754-770
- Fullbrook, E. (2017) 'Why Economics Needs Pluralism'. *World Economics Association* 7, pp. 9–10.
- Gabor, D. (2013) 'The Financialisation of the Romanian Economy: from Central Bank-led to Dependent Financialisation'. Financialisation, Economy, Society & Sustainable Development (FESSUD) Project.
- Gabor, D. and Brooks, S. (2017) 'The digital revolution in financial inclusion: international development in the fintech era'. *New Political Economy* 22, pp. 423–436.
- Gerschenkron, A. (1952) 'Economic Backwardness in Historical Perspective', in: Hoselitz, B. (ed.), *The Progress of underdeveloped areas*, University of Chicago Press, Chicago, pp. 5-30
- Ghirmay, T. (2004) 'Financial Development and Economic Growth in Sub-Saharan African Countries: Evidence from Time-Series Analysis', *African Development Review*, 16 (3), pp. 415-432.
- Ghosh, J. (2008) 'The Financial Crisis and the Developing' World. Global Policy Forum. Available from: <https://www.globalpolicy.org/component/content/article/214/44087.html> (Accessed: 26 August, 2017).
- Giovanni, A. (1985) 'Savings and the rate of interest in LDCs'. *Journal of Development Economics* 18, pp. 197–217.
- Goda, T. and Lysandrou, P. (2014) 'The contribution of wealth concentration to the subprime crisis: a quantitative estimation' *Cambridge Journal of Economics*, 38, pp 201-327.
- Godley, W. (2001) 'The developing recession in the United States'. *BNL Quarterly Review* 54, pp. 417–425.
- Goldsmith, R. W. (1969) "*Financial Structure and Development*", Yale University Press, New Haven.

- Graeber, D. (2014) *Debt: The First 5,000 Years*. Melville House, Brooklyn, London.
- Granger, C.W.J. (1988) 'Causality, Cointegration, and Control'. *Journal of Economic Dynamics and Control*, 12, pp. 555–559.
- Greenwood, J. and Jovanovich, B. (1990) 'Financial development, growth and the distribution of income', *Journal of Political Economy* 98(5), pp. 1076–1108.
- Gries, T., Kraft, M. and Meierrieks, D. (2009) 'Linkages between Financial Deepening, Trade Openness, and Economic Development: Causality Evidence from Sub-Saharan Africa'. *World Development* 37 (12), pp. 1849–1860.
- Griffith-Jones, S. and Karwowski, E. (2013) 'Finance and Growth in Sub-Saharan Africa: Policy and Research Challenges', Working paper prepared for JICA/IPD Africa Task Force Meeting, Yokohama, Japan, June 2–3.
- Grossman, S.J and Stiglitz, J.E. (1980) 'On the Impossibility of Informational Efficient Markets', *The American Economic Review*, 70 (3), pp. 393–408
- Guerrien and Gun (2014) 'Fama-Shiller Economic Sciences Prize Committee and the “efficient markets hypothesis”'. *real-world economics review*, 66, 13 January, pp. 58–64.
- Guiso, L., Sapienza, P. and Zingales, L. (2004) 'The Role of Social Capital in Financial Development'. *American Economic Review* 94 (3), pp. 526–556.
- Gujarati, D.N. and Porter, D.C. (2009) *Basic Econometrics*, 5<sup>th</sup> Edition, McGraw-Hill/Irwin, New York.
- Gurtner, B. (2010) 'The Financial and Economic Crisis and Developing Countries'. *International Development Policy* 1, pp. 189–213.
- Haig, B. (1973) 'The treatment of banks in the social accounts'. *Economic Record*, 49, pp. 624–628.
- Haldane, A., Brennan, S. and Madouros, V. (2010) 'What is the contribution of the financial sector: Miracle or mirage?' in: Turner et al., *The Future of Finance*: LSE Report. London School of Economics and Political Science, London.
- Hallward-Driemeier, M. and Nayyar, G. (2017) "Trouble in the Making?: The Future of Manufacturing-Led Development". Washington, DC. World Bank. Available from: <https://openknowledge.org/handle/10986/27946>
- Hansen, L. (1982) 'Large sample properties of generalised method of moments estimators', *Econometrica*, 50 (4), pp. 1029–1054
- Hassan, M.K., Sanchez, B. and Yu, J. (2011) 'Financial Development and Economic Growth: New Evidence from Panel Data'. *The Quarterly Journal of Economics and Finance*, 51 (1), pp. 88–104.

Haugen, R. A. (1999), *The New Finance: The Case Against Efficient Markets*, second edition, Prentice Hall, Upper Saddle River.

Hesse, H. and Poghosyan, T. (2016) 'Oil Prices and Bank Profitability: Evidence from Major Oil-Exporting Countries in the Middle East and North Africa', in: Gevorkyan, A.V. and Canuto, O. (eds.) *Financial Deepening and Post-Crisis Development in Emerging Markets*. Palgrave Macmillan, New York, pp. 1–279.

Hoff, K. and Stiglitz, J.E. (2001) 'Modern Economic Theory and Development', in: Meier, G.M. and Stiglitz, J.E. (eds.), *Frontiers of development Economics: the future in perspective*. New York: Oxford University Press, pp. 389–485.

Honahan, P. (2004) 'Financial Development, Growth and Poverty: How Close are the Links?' *Policy Research Working Paper Series*, The World Bank.

Huang, H. C. and Lin, S. C. (2009) 'Non-linear finance–growth nexus'. *Economics of Transition* 17 (3), pp. 439–466.

Ikhide, S.I. (2015) 'The Finance and growth Debate in Africa: What Role for Financial Inclusion?' Inaugural Lecture, University of Stellenbosch Business School, Stellenbosch University.

Ikhide, S.I. (1997) 'Financial Liberalisation and the Growth of the Capital Market in Nigeria'. *African Review of Money Finance and Banking* 1, pp. 5–37.

International Monetary Fund (2007) 'Sub-Saharan Africa: Regional Economic Outlook', IMF, Washington DC.

International Monetary Fund (2014) 'Sub-Saharan Africa: Staying the Course'. Regional Economic Outlook. IMF, Washington DC.

International Monetary Fund (2015) 'Rethinking Financial Deepening: Stability and Growth in Emerging Markets', *IMF Staff Discussion Note*, SDN/15/08

Information Service of the Intersecretariat Working Group on National Accounts (ISWGNA) (2014) 'The Delineation of Head Offices and Holding Companies in the National Accounts'. *SNA News*, Published by UNSD.

Jalilian, H. and Kirkpatrick, C. (2002) "Financial Development and Poverty Reduction in Developing Countries", *International Journal of Finance and Economics*, 7 (2), pp. 97-108

Jefferson, T., Austen, S., Sharp, R., Ong, R., Lewin, G. and Adams, V. (2014) 'Mixed methods research: What's in it for economists?' *The Economic and Labour Relations Review*, 25 (2), pp. 290-305.

Jensen, M.C. (1978) 'Some Anomalous Evidence Regarding Market Efficiency', *Journal of Financial Economics*, 23 (2), pp. 389-416

Jensen, M. C. and Meckling, W (1976) 'Theory of the Firm: Managerial Behaviour, Agency Costs and Capital Structure', *Journal of Financial Economics*, 3 (4), pp. 305-60

- Jorgenson, D.W. (2005) Accounting for Growth in the Information Age, in: *Handbook of Economic Growth*. North-Holland/Elsevier, Amsterdam.
- Jung, W.S. (1986) 'Financial Development and Economic Growth: International Evidence', *Economic Development and Cultural Change*, 34 (2), pp. 333-346.
- Kaboski, J. and Townsend, R. (2011) 'A Structural Evaluation of a Large-Scale Quasi Experimental Microfinance Initiative'. *Econometrica*, 79 (5), pp. 1357–1406.
- Kaltenbrunner, A. (2015), Financial Integration and Exchange Rate Determination: a Brazilian Case Study. *International Review of Applied Economics*, 29, pp. 129–149.
- Kaltenbrunner, A. and Paineira, J.P. (2016) 'International and Domestic Financialisation in Middle income Countries: The Brazilian Experience'. FESSUD Working Paper Series.
- Kaminsky, G. and Reinhart, C. (1999) 'The Twin Crises: The Causes of Banking and Balance-of-Payments Problems', *American Economic Review*, 89 (3), pp. 473-500.
- Karacimen, E. (2014) 'Financialisation in Turkey: The Case of Consumer Debt'. *Journal of Balkan and Near Eastern Studies*, pp. 1-20.
- Karras, G. (1996) 'The optimal government size: further international evidence on the productivity of government services'. *Economic Inquiry* 34 (2), pp. 193–203.
- Karwowski, E. and Stockhammer, E. (2016) 'Financialisation in Emerging Economies: A Systemic Overview and Comparison with Anglo-Saxon Economies'. Post Keynesian Economics Working Group Study Paper 1–42.
- Kear, M. (2013) 'Governing Homo Subprimicus: Beyond Financial Citizenship, Exclusion and, Rights'. *Antipode*, 45 (4), pp. 926–946.
- Keen, S. (2011) *Debunking Economics: The Naked Emperor Dethroned?* Zed Books Ltd, London, New York.
- Keynes, J. (1930) *A Treatise on Money*. Macmillan and Co., London.
- Kidd, S., Gelders, B. and Bailey-Athias, D. (2017) 'Exclusion by design: An assessment of the effectiveness of the proxy means test poverty targeting mechanism'. ESS - Extension of Social Security, No. 56. International Labour Organisation, Switzerland.
- Kindleberger, C.P. (1993) *A Financial History of Western Europe*, New York: Oxford University Press.
- Kindleberger, C. P. (1978) *Manias, Panics, and Crashes: A History of Financial Crises*, New York: Basic Books.
- King, R. G. and Levine, R. (1993) 'Finance and Growth: Schumpeter Might Be Right', *The Quarterly Journal of Economics*, 108 (3), pp. 717–38.



- Khan, M., Senhadji, A. and Smith, B. (2001) 'Inflation and Financial Depth', Working Paper No. 00/110. Washington, D.C.: International Monetary Fund.
- Kregel, J. A. (1998) 'Yes, "It" Did Happen Again: A Minsky Crisis Happened in Asia', Economics Working Paper Archive No. wp\_234). Levy Economics Institute.
- Kuczynski, P. P. and Williamson, J. (2003) 'After the Washington Consensus: Restarting Growth and Reform in Latin America'. Washington, DC: Institute for International Economics.
- Kvangraven, I.H. (2016) 'The Changing Character of Financial Flows to Sub-Saharan Africa', in: Gevorkyan, A.V and Canuto, O. (eds.), *Financial Deepening and Post-Crisis Development in Emerging Markets*. Palgrave Macmillan, New York, pp. 223-245.
- Laeven, L. and Valencia, F. (2008) 'Systemic Banking Crisis: A New Database', *IMF Working Paper*, Research Department, Washington D.C.
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A. and Vishny, R.W. (1998) 'Law and Finance', *The Journal of Political Economy*, 106 (6), pp. 1113-1155.
- La Porta, R., Lopez-de-Silanes, F. and Shleifer, A. (2002) 'Government Ownership of Commercial Banks'. *Journal of Finance*, 57 (1), pp. 265–3001.
- Lapavitsas, C. (2009a) 'What to do about banks'. *Public Policy Review* 16 (3), pp. 156–162.
- Lapavitsas, C. (2009b) 'Financialised Capitalism: Crisis and Financial Expropriation', *Historical Materialism*, 17 (2), pp. 114–48.
- Lapavitsas, C. (2013) *Profiting without Producing: How Finance Exploits us All*, London: Verso Books.
- Law, S.H. and Singh, N. (2014) 'Does Too Much Finance Harm Economic Growth?' *Journal of Banking and Finance*, 41 (C), pp. 36-44.
- Lawson, T. (2003) *Reorienting Economics*. Routledge, London and New York.
- Lee, C.C. and Chang, C.P. (2009) 'Financial Development and Economic Growth: International Evidence'. *Journal of Applied Economics* XII, pp. 247–249.
- Lee, K. K. and Islam, M. R. (2008) 'The Empirics of Finance and Growth Revisited: Using Time-Series Method', *Journal of Business Administration*, 34 (3&4), pp. 25-45.
- Levine, R. (1991) 'Stock Markets, Growth and Tax Policy', *Journal of Finance*, 46 (4), pp. 1445-1465.
- Levine, R. (1996) 'Foreign Banks, Financial Development and Economic Growth', in *International Financial Markets: Harmonisation Versus Competition*. Washington D.C. AEI
- Levine, R. (1997) 'Financial development and economic growth: views and agenda'. *Journal of Economic Literature*, 35 (2), pp. 688–726.

- Levine, R. (1998) 'The Legal Environment, Banks and Long-Run Economic Growth' *Journal of Money, Credit and Banking*, 30, pp. 596-613.
- Levine, R. (1999) 'Law, Finance and Economic Growth', *Journal of Financial Intermediation*, 8 (1-2), pp. 8-35.
- Levine, R. (2000) 'Bank-based or Market-based Financial System: Which is better?' Carlson School of Management Working Paper, University of Minnesota. Available at: <http://eres.bus.umich.edu/docs/workpap-dav/wp442.pdf>
- Levine, R. and Zervos, S. (1996) 'Stock Markets and Economic Growth'. *Mimeo*, World Bank.
- Levine, R. and Zervos, S. (1998) 'Stock Markets, Banks, and Economic Growth', *American Economic Review*, 88 (3), pp. 537-58.
- Levine, R. (2002) 'Bank-Based or Market-Based Financial Systems: Which is Better?' *Journal of Financial Intermediation*, 11 (4), pp. 398-428.
- Levine, R. (2005) 'Finance and Growth: Theory and Evidence', in: Aghion, P. and Durlauf, S. (eds.), *Handbook of Economic Growth*. Elsevier 1 (1), pp. 1-12.
- Levine, R., Loayza, N. and Beck, T. (2000) 'Financial Intermediation and Growth: Causality and Causes', *Journal of Monetary Economics*, 46 (1), pp. 31-77.
- Levine, R. and Renelt, D. (1992) 'A sensitivity analysis of cross-country growth regressions'. *American Economic Review*, 82 (4), pp. 942-963.
- Levy-Orlik, N. (2012) 'Effects of financialisation on the Structure of Production and Nonfinancial Private Enterprises: the Case of Mexico'. *Journal of Post Keynesian Economics*, 35, pp. 235-254.
- Leyshon, A. and Thrift, N. (1996) 'Financial Exclusion and the Shifting Boundaries of the Financial System'. *Environment and Planning, A* (28), pp. 1150-1156.
- Lind, J.T. and Mehlum, H. (2010) 'With or Without U? The Appropriate Test for a U-Shaped Relationship', *Oxford Bulletin of Economics and Statistics*, 72 (1), pp. 109-118.
- Loayza, N. and Ranciere, R. (2006) 'Financial Development, Financial Fragility, and Growth', *Journal of Money, Credit and Banking*, 38 (4), pp. 1051-1076.
- Lucas, R. (1988) 'On the Mechanics of Economic Development'. *Journal of Monetary Economics* 22 (1), pp. 3-42.
- Luintel, B.K. and Khan, M. (1999) 'A Quantitative Re-assessment of the Finance-Growth Nexus: Evidence from a Multivariate VAR', *Journal of Development Economics*, 60 (2), pp. 381-405.
- Lyons, S.E. and Murinde, V. (1994) 'Cointegration and Granger-Causality Testing of Hypotheses on Supply-Leading and Demand-Following Finance'. *Economic Notes* 23 (2), pp. 308-316.
- Lysandrou, P. (2012) 'The primacy of hedge funds in the subprime crisis', *Journal of Post*

*Keynesian Economics*, 34 (2), pp. 225–54.

Magdoff, F. and Foster, J.B. (2014) ‘Stagnation and Financialisation: The Nature of the Contradiction’. *Monthly Review* 66 (1). Available from: <https://monthlyreview.org/2014/05/01/stagnation-and-financialization/> (Accessed: 10 August, 2017)

Marois, T. and Pradella, L. (2015) ‘Polarising Development – Introducing Alternatives to Neoliberalism and the Crisis’, in Pradella, L. and Marois, T. (eds.) *Polarizing Development: Alternatives to Neoliberalism and the Crisis*. London: Pluto Press, pp. 1– 12. Available from: <http://www.plutobooks.com/display.asp?K=9780745334691> (Accessed: 01 December 2015).

Marx, K. (2004) *Critique: A Critique of Political Economy*, (B. Fowkes, Trans.) (Vol. 1). London: Penguin Books.

Mayer, C. (1988), ‘New issues in corporate finance’, *European Economic Review*, 32 (5), pp. 1167–1189

Mazzucato, M. and Shipman, A. (2014) ‘Accounting for productive Investments and value creation’. *Industrial and Corporate Change* 23 (4), pp. 1059–1085.

McKinnon, R.I. (1991) *The Order of Economic Liberalisation: Financial Control in the Transition to a Market Economy*. John Hopkins University Press, Baltimore.

McKinnon, R. I. (1973) ‘Money and Capital in Economic Development’, Brookings Institution, Washington, DC.

Merton, R.C. and Bodie, Z. (2004) ‘The Design of Financial Systems: Towards a Synthesis of Function and Structure’. National Bureau of Economic Research Working Paper 10620.

Michell, J. and Toporowski, J. (2014) ‘Critical Observations on Financialisation and the Financial Process’. *International Journal of Political Economy* 42, pp. 67–82.

Minsky, H. P. (1974) ‘The modelling of financial instability: An introduction’, in *Modelling and Simulation*, Vol. 5, Proceedings of the Fifth Annual Pittsburgh Conference, Instruments Society of America, pp. 267–72.

Modigliani, F. and Miller, M. (1958). ‘The Cost of Capital, Corporation Finance and the Theory of Investment’. *American Economic Review*. 48 (3), pp. 261–297.

Montgomerie, J. and Budenbender, M. (2015) ‘Round the Houses: Home Ownership and Asset-Based Welfare in the United Kingdom’. *New Political Economy* 20 (3), pp. 386–405.

Murinde, V. (2012) ‘Financial Development and Economic Growth: Global and African Evidence’. *Journal of African Economies* 21 (1), pp. i10–i56. doi:10.1093/jae/ejr042

Narayan, P.K. and Smyth, R. (2005) ‘Electricity consumption, employment and real income in Australia: evidence from multivariate granger causality tests’. *Energy Policy* 33, pp. 1109–1116.

National Statistics (2006) *United Kingdom National Accounts: The blue book 2006*. Basingstoke:

Palgrave Macmillan.

National Accounts Official Country Data, United Nations Statistical Division. Available from: <http://data.un.org/DataMartInfo.aspx> (Accessed: 01 June 2015).

Naude, W. (2009) 'The Financial Crisis of 2008 and the Developing Countries'. UN *University World Institute for Development Economics Research, Discussion Paper*, January

Ncube, M. (2007) 'Financial Services and Economic Development in Africa'. *Journal of African Economies* 16 (1), pp. 13–57.

Ndulu, B.J and O'Connell, S.A. (2007) 'Policy Plus: African Growth Performance 1960-2000', in Ndulu, B.J, Collier, P., Bates, R.H. and O'Connell, S.A. (eds.) *The Political Economy of Economic Growth in Africa, 1960-2000*, Cambridge, Cambridge University Press, pp. 3-75.

Nigerian Stock Exchange (2017) 'Q1 Fact Sheet', Quarterly Report No. 20170331. Nigerian Stock Exchange, Lagos.

Norfield, T. (2016) *The City: Why London Still Rules the World*. Verso Books, London.

Obstfeld, M. (2009) 'International Finance and Growth in Developing Countries: What Have We Learned?' *IMF Staff Papers*, 56 (1), pp. 63–111.

Odedokun, M.O. (1989) 'Causalities between Financial Aggregates and Economic Activities in Nigeria: The Result from Granger's Test'. *Savings and Development* 23, pp. 101–111.

Odhiambo, N.M. (2010) 'Finance-investment-growth nexus in South Africa: an ARDL-bounds testing procedure', *Econ Change Restruct*, 43 (3), pp. 205-219

OECD (2001) *National accounts: OECD input-output database*, Agenda Item 6, 1 October. Document reference STD/NA (2001) 22

Odhiambo, N.M. (2008) 'Financial Deepening in Kenya: A Dynamic Test of the Financial-led Growth Hypothesis'. *Economic Issues* 13 (2), pp. 21–36.

Odhiambo, N.M. (2008) 'Financial Depth, Savings and Econometric Growth in Kenya, A Dynamic Causal Linkage'. *Economic Modelling* pp. 25 (4), pp. 704–713.

Ohanian, L. E. (2010) 'The Economic Crisis from a Neoclassical Perspective', *Journal of Economic Perspectives*, 24 (4), pp. 45-66.

Olsen, W. and Morgan, J. (2005) 'A Critical Epistemology of Analytical Statistics: Addressing the Sceptical Realist'. *Journal for the Theory of Social Behaviour* 35 (3), pp. 255–285.

Ostry, J.D. and Reinhard, C.M. (1992) 'Private Saving and Terms of Trade Shock: Evidence from Developing Countries'. *IMF Staff Papers* pp. 494–517.

Oulton, N. (2013) 'Has the Growth of Real GDP in the UK been overstated because of Mis-Measurement of Banking Output?' Centre for Economic Performance Occasional Paper No. 33.

- Pagano, M. (1993) 'Financial Markets and Growth: An Overview', *European Economic Review*, 37 (2-3), pp. 613-622
- Pagano, M. (2012) 'Finance: Economic lifeblood or toxin?' CSEF Working Papers 326. Napoli: University of Naples.
- Palma, G. (1998) 'Three and a half cycles of manias, panics and (asymmetric) crash: East Asia and Latin America compared'. *Cambridge Journal of Economics*, 22 (6), pp. 789-808.
- Panizza, U. (2013) 'Financial Development and Economic Growth: Known Knowns, Known Unknowns, and Unknown Unknowns'. The Graduate Institute Geneva.
- Patrick, H.T. (1966) 'Financial Development and Economic Growth in Underdeveloped', *Economic Development and Cultural Change*, 14 (2), pp. 174-189
- Philippon, T. (2008) 'Why has the US financial sector grown so much? The role of corporate finance'. NBER Working Paper.
- Philippon, T. and Reshef, A. (2013) 'An international look at the growth of modern finance'. *Journal of Economics Perspectives*, 27 (2), pp. 73-96.
- Pike, A. and Pollard, J. (2010) 'Economic Geographies of Financialisation'. *Economic Geography*, 86, pp. 29-51.
- Porter, T. (1995) *Trust in numbers: The pursuit of objectivity in science and public life*. Princeton, NJ: Princeton University Press.
- Powell, J. (2013) Subordinate financialisation: a study of Mexico and its non-financial corporations. PhD Thesis. SOAS, University of London.
- Qin, D., van Huellen, S. and Wang, Q. (2016) 'How Credible Are Shrinking Wages of Elasticities of Married Women Labour Supply', *econometrics* 4(1), pp. 1-31.  
doi:10.3390/econometrics4010001
- Rajan, R. G. and Zingales, L. (1998) 'Financial Dependence and Growth', *American Economic Review*, 88 (3), pp. 559-686.
- Rajan, R. and Zingales, L. (2003) *Saving Capitalism from the Capitalists*. Random House, New York.
- Rajan, R.G. (2010) *Fault Lines: How Hidden Fractures still Threaten the World Economy*. Princeton University Press, Princeton, NJ.
- Ram, R. (1986) 'Government Size and Economic Growth: A new framework and some evidence from cross-section and time-series data'. *American Economic Review* 76 (1), pp. 191-203.
- Ramey, G. and Ramey, V. A. (1995) 'Cross-Country Evidence on the Link Between Volatility and Growth', *American Economic Review*, 85 (5), pp. 1138-51.
- Rangelova, R. (2007) 'Different Methodologies for National Income Accounting in Central and

Eastern European Countries, 1950-1990'. Bulgarian National Bank Discussion Paper, pp. 1–49.

Rioja, F. and Valev, N. (2004a) 'Finance and the sources of growth at various stages of economic Development'. *Economic Inquiry* 42 (1), pp. 127–140.

Rioja, F. and Valev, N. (2004b) 'Does one size fit all? A re-examination of the finance and growth relationship', *Journal of Development Economics*, 74 (2), pp. 429-447.

Robinson, J. (1952), 'The Generalization of the General Theory,' in *The Rate of Interest and Other Essays*, Macmillan.

Rodriguez, F. and Rodrik, D. (2000) 'Trade policy and economic growth: a skeptic's guide to the cross-national evidence', in Bernanke, B and Rogoff, K. (eds.), *Macroeconomics Annual*, MIT Press for NBER, Cambridge MA.

Rodrik, D. (1998) 'Has Globalization Gone Too Far?' *Challenge*, 41, pp. 81–94

Rodrik, D. (2008) 'Now's the time to sing the praises of financial innovation'. Dani Rodrik's Weblog. Available from: [http://rodrik.typepad.com/dani\\_rodriks\\_weblog/2008/09/nows-the-time-to-sing-the-praises-of-financial-innovation.html](http://rodrik.typepad.com/dani_rodriks_weblog/2008/09/nows-the-time-to-sing-the-praises-of-financial-innovation.html). (Accessed: 01 March, 2017)

Rodrik, D. and Subramanian, A. (2009) 'Why Did Financial Globalization Disappoint?' *IMF Staff Papers*, 56 (1), pp. 112–138.

Roe, A.R. (2006) 'Financial systems in new middle-income African countries'. UN-WIDER Working Paper. Pp. 1–37.

Roubini, N. and Sala-i Martin, X. (1992) 'Financial Repression and Economic Growth', *Journal of Development Economics*, 39 (1), pp. 5-30.

Rousseau, P.L. (1999) 'Finance, Investment, and Growth in Meiji-era Japan'. *Japan and the World Economy* pp. 11 (2), 185–198.

Rousseau, P.L. and Wachtel, P. (2001) 'Inflation, Financial Development and Growth', in Negishi, T., Ramachandran, R. and Mino, K. (eds.), *Economic Theory, Dynamics and Markets: Essays in Honour of Ryuzo Sato*, Boston, Kluwer.

Rousseau, P. L., and Wachtel, P. (2002) 'Inflation Thresholds and the Finance-Growth Nexus. *Journal of International Money and Finance*, 21, pp. 277-93.

Rousseau, P. L. and Yilmazkuday, H. (2009) 'Inflation, Financial Development and Growth: A Trilateral Analysis', *Economic Systems* 33 (4), pp. 310-324

Rousseau, P. L., and Wachtel, P. (2011) 'What is happening to the impact of financial deepening on economic growth?' *Economic Enquiry* 49 (1), pp. 276-288

Sachs, J. (1988) 'Conditionality, Debt Relief and the Developing Countries' Debt Crisis', in: Sachs, J. (ed.), *Developing Country Debt and Economic Performance*. University of Chicago Press, Chicago.

- Sachs, J.D. and Warner, A. (1995) 'Economic reform and the process of global integration'. *Brookings Papers on Economic Activity*, pp. 1–118.
- Sahay, R., Cihak, M., N'Diaye, P., Barajas, A., Bi, R., Ayala, D., Gao, Y., Kyobe, A., Nguyen, L., Saborowski, C., Svirydzienka, K. and Yousefi, S.R. (2015) 'Rethinking Financial Deepening: Stability and Growth in Emerging Markets' IMF, Washington DC, SDN/15/08.
- Sala-I-Martin (1994) 'Cross-Sectional Regressions and the Empirics of Economic Growth', Economics Working Paper 79, Yale University and Universitat Pompeu Fabra. Available from: <https://econ-papers.upf.edu/papers/79.pdf> (Accessed: 01 October, 2015).
- Samargandi, N., Fidrmuc, J. and Ghosh, S. (2015) 'Is the Relationship Between Financial Development and Economic Growth Monotonic? Evidence from a Sample of Middle-Income Countries'. *World Development* 68, pp. 66–81.
- Samuelson P.A. (1965), 'Proof That Properly Anticipated Prices Fluctuate Randomly', *Industrial Management Review*, 6, pp. 41-50. Available at: <http://www.e-m-h.org/Samuelson1973b.pdf>
- Sangolt, L. (1999) 'To count or not to count: Increasing the visibility of household labour in national accounting'. *Nordic Journal of Feminist and Gender Research*, 7 (1), pp. 63-77
- Sardoni, C. (2015) 'Is a Marxist explanation of the current crisis possible?' *Review of Keynesian Economics* 3 (2), pp. 143–157.
- Sasabuchi, S. (1980) 'A test of a multivariate normal mean with composite hypotheses determined by linear inequalities', *Biometrika* 67, pp. 429-39.
- Sayers, R.S. (1960) *Modern Banking*. Oxford University Press, London.
- Schularick, M., and Alan M.T. (2012) 'Credit Booms Gone Bust: Monetary Policy, Leverage Cycles, and Financial Crises, 1870–2008', *American Economic Review* 102(2), pp. 1029–61.
- Schumpeter, J. A. (1911) *A Theory of Economic Development*, Harvard University Press, Cambridge, MA.
- Shabani, M. and Toporowski, J. (2014) 'A Nobel Prize for the Empirical Analysis of Asset Prices', *Review of Political Economy*, 27 (1), pp. 68-85.
- Shaw, E. S. (1973) *Financial Deepening in Economic Development*, Oxford University Press, New York.
- Shen, C. H. and Lee, C. C. (2006) 'Same financial development yet different economic growth – why?' *Journal of Money, Credit and Banking* 38 (7), pp. 1907–1944.
- Shiller, R. (1981) 'Do stock prices move too much to be justified by subsequent changes in dividend?' *American Economic Review*, 71 (3), pp. 421–436.
- Shiller, R.J. (1984) 'Stock prices and social dynamics', *Brookings Papers on Economic Activity*, No. 2, pp. 457–498.

- Shiller, R. (2000) *Irrational Exuberance*, Princeton, NJ: Princeton University Press.
- Smith, A. (1804) *An inquiry into the nature of the wealth of nations*, Vol. 1
- Soederberg, S. (2013) 'Universalising Financial Inclusion and the Securitisation of Development'. *Third World Quarterly* 34 (4), pp. 592–612.
- Stiglitz, J. (1969) 'A Re-Examination of Modigliani-Miller Theorem'. *American Economic Review* 59 (5), pp. 784–793.
- Stiglitz, J.E. (1989) 'Financial Markets and Development'. *Oxford Review of Economic Policy*, 5(4), pp 55-68.
- Stiglitz, J.E. (1994) 'The Role of the State in Financial Markets', in Bruno, M and Pleskovic, B. (eds.), *Proceedings of the World Bank Annual Conference on Development Economics*. Washington, DC: World Bank, pp. 19-52.
- Stiglitz, J.E. (2000) 'Capital Market Liberalisation, Economic Growth and Instability. *World Development Journal*. The World Bank, 28(6), pp 1075-1086
- Stiglitz, J.E. (2013) *The Price of Inequality*. Norton, New York.
- Stiglitz, J.E. (2004) 'Capital-Market Liberalisation, Globalisation and the IMF'. *Oxford Review of Economic Policy* 20 (1), pp. 57–71.
- Stiglitz, J. E. and Weiss, A. (1981) 'Credit Rationing in Markets with Imperfect Information'. *American Economic Review*, 71 (3), pp. 393-410.
- Stock, J.H., Wright, J. and Yogo, M. (2002) 'GMM, Weak Instruments, and Weak Identification'. Prepared for the *Journal of Business and Economic Statistics*.
- Stockhammer, E. (2004) 'Financialisation and the Slowdown of Accumulation', *Cambridge Journal of Economics*, 28 (5), pp. 719-741
- Studenski, P. (1958) *The income of nations*. New York University Press
- System of National Accounts (2008) EC, IMF, OECD, UN and World Bank. Available from: <https://unstats.un.org/unsd/nationalaccount/docs/SNA2008.pdf> (Accessed: 30 April, 2016)
- Taylor, L. (1998) 'Capital markets crises: liberalisation, fixed exchange rates and market-driven destabilisation'. *Cambridge Journal of Economics*, 22, pp. 663–676.
- The World Bank, 'What is your constant U.S. dollar methodology?'. Available from: <https://datahelpdesk.worldbank.org/knowledgebase/articles/114943-what-is-your-constant-u-s-dollar-methodology>. (Accessed: 5 December 2016).
- Tobin, J. (1984) 'On the Efficiency of the Financial System'. *Lloyds Bank Review* pp. 1–15.
- Turner, A. (2010) 'What do banks do? Why do credit booms and bursts occur and what can public



policy do about it?' in: Turner, A. et al. (2010), *The Future of Finance*. London School of Economics and Political Science, London.

United Nations (1947) '*Measurement of national income and the construction of social accounts*'. Geneva: United Nations

United Nations Statistical Division (2017), National Accounts Statistical Division, New York.

van de Ven, P. (2015) 'New Standards for Compiling National Account: What's the impact on GDP and other Macro-economic indicators?' OECD Statistics Brief 20.

Vanoli, A. (2005) *A history of national accounting*. Amsterdam: IOS

van Waeyenberge, E. (2009) 'Selectivity at Work: Country Policy and Institutional Assessments at the World Bank', *European Journal of Development Research*, 21 (5), pp. 792-810.

van Waeyenberge, E. (2016) 'The private turn in development finance', FESSUD Working Paper Series, No. 140.

Wade, R. (1996) 'Japan, the World Bank, and the Art of Paradigm Maintenance: The East Asian Miracle in Political Perspective', *New Left Review*, 217, May/June, pp. 3-37

Walras, L. (1954) *Elements of Pure Economics*. (W. Jaffé, Trans.). Allen and Unwin, London.

Weeks, J. F. (2014) *The Economics of the 1%: how mainstream economics serves the rich, obscures reality and distorts policy*. Anthem Press, London, New York

Weisbrod, A. and Whalley, J. (2012) 'The Contribution of Chinese FDI to Africa's Pre Crisis Growth Surge'. NBER Working Paper.

Williams, M. (2001) 'Mysticism, Method and Money in the Marx-Hegel Dialectic: Review Article. *Cambridge Journal of Economics*, 25 (4), pp. 555-68

Williamson, J. (2002) 'Did the Washington Consensus Fail?' Remarks to the Centre for Strategic and International Studies, Washington, DC, November 6.

Williamson, J. and Mahar, M. (1998) 'A Survey of Financial Liberalisation'. *Princeton's Essays in International Finance*, No. 221.

Windmeijer, F. (2005) 'A finite sample correction for the variance of linear efficient two-step GMM estimators', *Journal of Econometrics*, 126 (1), pp. 25-51.

Wolf, M. (2009) 'Why dealing with the huge debt overhang is so hard'. Financial Times. Available from: <https://www.ft.com/content/b048d69c-ec90-11dd-a534-0000779fd2ac> (Accessed: 10 May 2014).

Wolf, M. (2010) *Fixing Global Finance*. Yale University Press, expanded and updated edition.

Wooldridge, J.M. (2014) *Introduction to Econometrics: Europe, Middle East and African Edition* (Mason, Ohio: Thompson South-Western)

- World Bank (1989) World Bank Development Report. University of Oxford, Oxford.
- World Bank (2010) 'Transforming the Bank's Knowledge Agenda: A Framework for Action'. Knowledge Strategy Group, Washington, DC
- World Bank (2015) 'World Development Report: Mind, Society, Behaviour'. The World Bank, Washington DC.
- World Bank, (2017) 'Financial Inclusion: Overview'. The World Bank Group. Available from: <http://www.worldbank.org/en/topic/financialinclusion/overview> (Accessed: 11 March 2017).
- World Bank (2017b) World Development Indicators. The World Bank Group.
- Xu, Z. (2000) 'Financial development, investment and economic growth', *Economic Inquiry*, 38 (2), pp. 331-344.
- Yilmazkuday, H. (2011) 'Thresholds in the Finance-Growth Nexus: A Cross-Country Analysis', *The World Bank Economic Review*, 25 (2), pp. 278-295
- Yu, J., Hassan, M.K. and Sanchez, B. (2012) 'A re-examination of financial development, stock markets development and economic growth', *Applied Economics*, 44 (27), pp. 3479-3489
- Zang, H. and Kim, Y. C. (2007) 'Does financial development precede growth? Robinson and Lucas might be right', *Applied Economics Letters*, 14 (1), pp. 15-19.
- Zhao, T., Murinde, V., 2011. Bank Deregulation and Performance in Nigeria. *African Development Review* 23, pp. 30-43.

## APPENDICES

### Appendix 1: Table of Countries used in Estimations with Financial Services

Countries		Ten-Year Periods Showing FS Availability					Total No. of Years for which FS is Available
		1961-1970	1971-1980	1981-1990	1991-2000	2001-2010	
1	Aruba				7	3	10
2	Angola					8	8
3	Albania				4	8	12
4	United Arab Emirates					9	9
5	Argentina				8	10	18
6	Armenia				6	10	16
7	Antigua and Barbuda				1	10	11
8	Australia		7	10	10	8	35
9	Austria		5	10	10	8	33
10	Belgium				5	8	13
11	Burkina Faso				6	10	16
12	Bangladesh				9	10	19
13	Bulgaria				2	10	12
14	Bahrain				9	8	17
15	Bahamas, The			2	10	10	22
16	Bosnia and Herzegovina					10	10
17	Belarus			1	10	10	21
18	Belize			5	6	10	21
19	Bermuda				5	9	14
20	Bolivia				9	10	19
21	Brazil				5	9	14
22	Brunei Darussalam				6	9	15
23	Bhutan			10	10	10	30
24	Botswana				9	10	19
25	Canada	1	10	10	10	9	40
26	Switzerland			1	10	4	15
27	China	10	10	10	10	10	50
28	Cote d'Ivoire				9		9
29	Cameroon				5	10	15
30	Colombia				9	10	19
31	Cape Verde				2	10	12
32	Costa Rica				10	10	20
33	Cyprus				6	9	15
34	Czech Republic			1	10	8	19

35	Germany				10	8	<b>18</b>
36	Dominica			1	10	8	<b>19</b>
37	Denmark	5	10	10	10	8	<b>43</b>
38	Algeria				9	10	<b>18</b>
39	Ecuador				8	10	<b>18</b>
40	Egypt, Arab Rep_				5	10	<b>15</b>
41	Spain				6	8	<b>14</b>
42	Estonia				7	9	<b>16</b>
43	Ethiopia				4	10	<b>14</b>
44	Finland		6	10	10	8	<b>34</b>
45	Fiji				5	10	<b>15</b>
46	France		3	10	10	9	<b>32</b>
47	Micronesia, Fed_ Sts_				6	10	<b>16</b>
48	Gabon					9	<b>9</b>
49	United Kingdom	1	10	10	10	5	<b>36</b>
50	Georgia				5	10	<b>15</b>
51	Guinea			1	10	10	<b>21</b>
52	Gambia, The				6	10	<b>16</b>
53	Guinea-Bissau					8	<b>8</b>
54	Greece				5	9	<b>14</b>
55	Grenada		4	10	10	10	<b>34</b>
56	Guatemala					10	<b>10</b>
57	Guyana			2	10	6	<b>18</b>
58	Hong Kong SAR, China		1	10	10	10	<b>21</b>
59	Honduras	10	10	10	10	10	<b>50</b>
60	Croatia				6	9	<b>15</b>
61	Hungary				6	7	<b>13</b>
62	Indonesia				1	9	<b>10</b>
63	India				8	10	<b>18</b>
64	Ireland			1	10	8	<b>19</b>
65	Iran, Islamic Rep_				9	9	<b>18</b>
66	Iraq				4	10	<b>14</b>
67	Iceland			1	10	2	<b>13</b>
68	Italy	1	10	10	10	8	<b>39</b>
69	Jamaica			1	10	10	<b>21</b>
70	Jordan				9	10	<b>19</b>
71	Japan	1	10	10	10	5	<b>36</b>
72	Kazakhstan				10	9	<b>19</b>
73	Kenya				5	10	<b>15</b>
74	Kyrgyz Republic			1	10	9	<b>20</b>
75	Cambodia				5	10	<b>15</b>
76	Kiribati				10	10	<b>20</b>
77	St_ Kitts and Nevis		4	10	10	10	<b>34</b>
78	Korea, Rep_	1	10	10	10	7	<b>38</b>

79	Kuwait				5	6	<b>11</b>
80	Lao PDR					9	<b>9</b>
81	Libya					8	<b>8</b>
82	St_ Lucia			1	10	10	<b>21</b>
83	Sri Lanka					9	<b>9</b>
84	Lesotho			9	10	10	<b>29</b>
85	Lithuania			1	10	9	<b>20</b>
86	Luxembourg			6	10	8	<b>24</b>
87	Latvia			1	10	10	<b>21</b>
88	Macao SAR, China				9	9	<b>18</b>
89	Morocco				3	10	<b>13</b>
90	Moldova				7	10	<b>17</b>
91	Madagascar				6	10	<b>16</b>
92	Maldives				6	10	<b>16</b>
93	Mexico			3	10	10	<b>23</b>
94	Marshall Islands				4	10	<b>14</b>
95	Mali				5	10	<b>15</b>
96	Malta				3	9	<b>12</b>
97	Montenegro				1	10	<b>11</b>
98	Mongolia				6	9	<b>15</b>
99	Mozambique				10	10	<b>20</b>
100	Mauritania				2	10	<b>12</b>
101	Mauritius				9	10	<b>19</b>
102	Malawi					9	<b>9</b>
103	Malaysia				1	10	<b>11</b>
104	Namibia				8	10	<b>18</b>
105	Niger			6	10	10	<b>26</b>
106	Nigeria			10	10	9	<b>29</b>
107	Nicaragua				9	10	<b>19</b>
108	Netherlands	2	10	10	10	8	<b>40</b>
109	Norway	1	10	10	9	9	<b>39</b>
110	New Zealand			4	10	6	<b>20</b>
111	Oman			2	10	8	<b>20</b>
112	Panama			2	10	10	<b>22</b>
113	Peru	1	2		10	10	<b>23</b>
114	Philippines				9	10	<b>19</b>
115	Poland				9	8	<b>17</b>
116	Portugal				6	6	<b>12</b>
117	Paraguay				7	10	<b>17</b>
118	Romania				5	10	<b>15</b>
119	Russian Federation				5	10	<b>15</b>
120	Rwanda			1	10	10	<b>21</b>
121	Senegal				5	10	<b>15</b>
122	Singapore	10	10	10	10	9	<b>49</b>
123	Sierra Leone					10	<b>10</b>
124	El Salvador			1	10	10	<b>21</b>

125	Serbia				4	9	<b>13</b>
126	Suriname			1	10	7	<b>18</b>
127	Slovenia				5	9	<b>14</b>
128	Sweden				8	7	<b>16</b>
129	Swaziland		1	10	10	10	<b>31</b>
130	Seychelles				9	6	<b>15</b>
131	Chad				9	7	<b>16</b>
132	Togo				3	10	<b>13</b>
133	Thailand			1	10	10	<b>21</b>
134	Tajikistan				6	10	<b>16</b>
135	Timor-Leste				1	10	<b>11</b>
136	Tonga				7	10	<b>17</b>
137	Trinidad and Tobago				3	7	<b>10</b>
138	Turkey	1	10	10	10	6	<b>37</b>
139	Tanzania				3	10	<b>13</b>
140	Uganda				1	10	<b>11</b>
141	Ukraine				5	10	<b>15</b>
142	Uruguay				9	10	<b>19</b>
143	United States			3	10	10	<b>23</b>
	St_ Vincent and the						
144	Grenadines				7	10	<b>17</b>
145	Venezuela, RB				4	10	<b>14</b>
146	Vietnam				6	10	<b>16</b>
147	Vanuatu				7	9	<b>16</b>
148	Samoa					9	<b>9</b>
149	Yemen, Rep_				9	9	<b>18</b>
150	South Africa				1	10	<b>11</b>

## Appendix 2: Financial Development Indicators for Nigeria, 1960-2015

	Liquid Liabilities	Private Credit by Deposit money banks to GDP	Bank Deposits to GDP	Stock Market Capitalisation to GDP	No. of Listed Companies	Bank Concentration (%)
1960	11.38	4.57	5.67			
1961	12.36	4.91	6.25			
1962	13.08	6.05	6.71			
1963	11.86	6.54	6.17			
1964	12.68	7.29	6.71			
1965	13.60	7.89	7.45			
1966	14.39	8.55	8.18			
1967	16.64	10.17	9.20			
1968	17.00	8.88	9.95			
1969	12.64	4.92	7.82			
1970	9.32	3.29	5.82			
1971	10.19	4.21	6.47			
1972	10.47	5.13	6.77			
1973	10.64	5.49	6.91			
1974	10.02	4.18	6.15			
1975	15.13	5.41	9.62			
1976	17.30	6.28	11.92			
1977	20.23	7.52	13.85			
1978	21.27	9.44	14.07			
1979	20.65	9.81	13.91			
1980	23.96	10.31	16.18			
1981	32.41	15.21	21.64			
1982	32.52	17.77	22.16			
1983	34.11	18.55	23.80			
1984	36.54	18.26	25.80			
1985	33.52	16.27	23.72			
1986	34.15	18.95	24.41			
1987	24.75	14.65	18.29			
1988	25.99	13.66	18.85		112.37	
1989	21.83	10.67	14.41	3.84	119.12	
1990	19.00	8.55	12.13	3.95	137.00	
1991	21.88	8.70	14.20	5.26	144.77	
1992	20.51	9.80	13.43	4.52	152.10	
1993	25.66	13.04	16.97	11.71	168.69	
1994	26.32	12.59	16.70	13.26	167.37	
1995	16.35	9.39	10.03	17.04	166.94	
1996	13.44	8.80	8.48	29.01	164.62	36.64

1997	14.55	10.19	9.55	35.84	159.68	35.70
1998	17.78	12.58	11.83	34.80	159.16	22.28
1999	19.54	12.96	13.68	18.16	161.90	26.49
2000	19.05	11.33	13.75	7.47	158.70	27.45
2001	25.82	15.25	18.70	10.89	153.96	23.52
2002	21.35	12.97	15.80	3.92	150.90	23.32
2003	19.55	12.47	14.80	10.71	150.89	23.41
2004	16.77	11.77	13.01	16.97	151.43	36.11
2005	17.00	12.45	13.31	17.76	154.00	58.96
2006	17.05	12.20	13.52	19.55	140.25	71.09
2007	22.85	18.41	19.32	35.47	143.39	67.76
2008	30.58	27.77	27.18	34.60	140.29	54.90
2009	39.69	36.01	34.66	20.86	137.88	60.32
2010	20.52	16.64	17.52	11.14	134.86	48.53
2011	19.59	13.05	16.91	10.84	119.68	42.21
2012	19.94	11.54	17.41	10.33	112.34	38.58
2013	20.20	11.57	17.95	13.24	108.79	39.42
2014	19.75	12.89	17.91	12.73	105.93	44.97
2015	19.44	14.04	17.69	10.56	100.44	45.65

**Source: Financial Structure Database, World Bank**



### Appendix 3: Bank Credit Sectoral Share (N' Million) Q12015-Q3

2017

Quarter-Year\Sector	Mining &			Power &		
	Agriculture	Quarrying	Manufacturing	Oil & Gas	Energy	Services
Q1 2015	466,381.34	222,303	1,878,091.98	2,153,166.81	282,697.75	8,354,461.31
Q2 2015	484,947.80	17,937.35	1,909,491.64	2,058,656.54	353,910.83	8,608,481.37
Q3 2015	469,924.38	12,142.76	1,958,451.18	2,241,331.26	359,567.76	7,972,463.73
Q4 2015	449,307.29	11,714.18	1,736,192.99	2,272,812.29	340,308.57	8,275,869.60
Q1 2016	485,639.22	11,336.49	1,862,589.07	2,237,712.11	357,587.99	8,252,739.06
Q2 2016	480,639.22	16,328.38	2,058,036.94	3,366,153.62	447,228.40	9,169,067.19
Q3 2016	491,282.18	27,282.41	2,130,441.30	3,647,251.14	428,448.59	9,460,398.61
Q4 2016	525,945.19	21,283.46	2,215,741.07	3,587,904.75	432,293.83	9,334,117.20
Q1 2017	556,544.59	8,229.26	2,142,390.15	3,575,664.85	472,083.75	9,247,574.16
Q2 2017	501,088.16	11,417.18	2,216,749.95	3,528,162.53	466,086.89	8,987,006.01
Q3 2017	491,496.69	11,761.54	2,267,425.12	3,542,289.06	459,248.46	9,053,078.04

Source: Author's Compilation from National Bureau of Statistics (NBS) and Central Bank of Nigeria (CBN)

Note: 'Services' in Bank credit to the private sector as categorised by the Nigeria Bureau of Statistics (NBS) comprises construction, trade/general commerce, government services, real estate, finance, insurance and capital market, education services, oil and gas, power and energy services, information and communication, transportation and storage, general services and others.

#### Appendix 4: Banking Sector Credit Sectoral Share as % of Total Credit - Q3 2017

Quarter- Year\Sector	Q1 2015	Q2 2015	Q3 2015	Q4 2015	Q1 2016	Q2 2016	Q3 2016	Q4 2016	Q1 2017	Q2 2017	Q3 2017
<b>Agriculture</b>	3.49	3.61	3.61	3.43	3.68	3.09	3.04	3.26	3.48	3.19	3.11
<b>Mining &amp; Quarrying</b>	1.66	0.13	0.09	0.09	0.09	0.11	0.17	0.13	0.05	0.07	0.07
<b>Manufacturing</b>	14.06	14.21	15.05	13.27	14.1	13.25	13.16	13.75	13.39	14.11	14.33
<b>Oil &amp; Gas</b>	24.16	23.86	26.53	26.2	24.76	28.98	29.95	30.13	30.44	29.4	29.59
<b>Power &amp; Energy</b>	3.35	3.83	4.06	3.84	4	4.41	4.51	4.5	4.86	4.89	4.78
<b>Construction</b>	4.38	4.77	4.26	4.06	3.93	3.91	3.9	3.92	3.86	4.01	4.13
<b>Trade/General Commerce</b>	9.36	7.88	7.91	7.53	7.2	6.56	6.01	6.11	5.96	6.11	6.03
<b>Government</b>	5.74	5.19	4.75	7.05	9.32	8.91	8.44	8.45	8.56	8.7	8.66
<b>Finance, Insurance &amp; Real Estate</b>	10.28	10.12	10.97	11.34	10.81	10.12	10.47	10.73	10.77	10.85	10.84
<b>Education</b>	0.5	0.48	0.61	0.57	0.63	0.56	0.55	0.54	0.54	0.48	0.49
<b>General</b>	11.02	13.85	9.9	10.63	9.81	8.53	8.59	8.16	7.99	8.16	8.13
<b>Information &amp; Communication</b>	5.78	6.32	6.34	6.24	6.28	6.08	5.92	5.25	5.13	5	5.2
<b>Transport &amp; Storage</b>	3.43	3.08	3.23	3.21	2.95	2.94	2.84	2.8	2.7	2.57	2.36
<b>Others</b>	2.69	2.65	2.66	2.54	2.46	2.53	2.46	2.28	2.28	2.45	2.28
<b>Total</b>	100	100	100	100	100	100	100	100	100	100	100

Source: National Bureau of Statistics (NBS) and Central Bank of Nigeria (CBN)

Note: Oil and Gas and Power and Energy comprise industry and services allocation

**Appendix 5: Bank Credit to the Private Sector (N' Million) Q1 2015 - Q3 2017**

Quarter- Year\Sector	Q1 2015	Q2 2015	Q3 2015	Q4 2015	Q1 2016	Q2 2016	Q3 2016	Q4 2016	Q1 2017	Q2 2017	Q3 2017
Agriculture	466381.34	484947.8	469924.38	449307.29	485639.22	480639.22	491282.18	525945.19	556544.59	501088.16	491496.69
Mining & Quarrying	222302.53	17937.35	12142.76	11714.18	11336.49	16328.38	27282.41	21283.46	8229.26	11417.18	11761.54
Manufacturing	1878091.98	1909491.64	1958451.18	1736192.99	1862589.07	2058036.94	2130441.3	2215741.07	2142390.15	2216749.95	2267425.12
Oil & Gas	3226657.94	3205895.4	4453414.56	3428346.02	3270554.75	4503149.95	4847605.02	4855650.82	4871809.71	4618716.54	4683741.84
Power & Energy	446625.96	515154.5	528966.83	502746.51	527560.38	685225.86	729812.18	726287.31	778059.76	768269.54	756120.25
Construction	585520.35	641300.42	554253.16	531739.23	519036.24	607390.33	631405.26	631092	617770.14	630677.08	653606.29
Trade/General Commerce	1250693.78	1058732.11	1029996.29	985693.67	950542.64	1020014.61	973006.59	984899.21	953092.55	960049.11	954231.99
Government	766339.94	696874.19	618389.79	922888,21	1230301.35	1384963.25	1366684.41	1361853.09	1369061.27	1367342.27	1369946.93
Finance, Insurance & Real Estate	1372598.98	1360135.63	1427942.8	1483587.91	1426987.58	1572998.98	1693576.2	1728899.54	1723526.06	1704465.56	1715239.2
Education	79696.47	64642.82	79141.13	74158.67	83303.8	87762.11	89311.85	87221.21	86379.3	75071.55	77185.83
General	1472227.54	1859908.52	1288867.67	1390492.79	1295464.15	1326069.15	1390094.02	1314483.44	1278945.01	1282417.54	1287117.91

Information & Communication	771560.81	848856.41	825436.03	816381.29	829440.86	944571.11	957940.65	845936.38	820343.52	786223.69	822626.6
Transport & Storage	458442.91	413138.37	420878.33	420608.7	389545.46	456889.25	459224.34	450755.69	431941.49	403147.53	373260.09
Others	359961.18	356410.37	346076.14	332347.47	325301.94	393416.62	397437.82	367237.08	364393.95	384936.03	361538.63
Total	13357101.71	13433425.55	13013881.07	13086204.91	13207598.46	15537453.74	16185103.23	16117285.5	16002486.76	15710570.72	15825298.91

Source: Source: National Bureau of Statistics (NBS) and Central Bank of Nigeria (CBN)

Note: Oil and Gas and Power and Energy comprise industry and services allocation