



## A REVIEW OF FINANCE–GROWTH NEXUS THEORIES: HOW DOES DEVELOPMENT FINANCE FITS IN?

**MARWA Nyankomo**

*University of Stellenbosch Business School, South Africa*

**ZHANJE Stephen**

*University of Limpopo, South Africa*

### **Abstract:**

*The finance growth-nexus debates have been contentious over the past three decades both empirically and theoretically. To contribute to this debate, the current paper presents a concise review of finance–growth nexus theoretical development and the current debate around growth-finance nexus theories. Then, it extends the current theoretical debate to include development finance within the broader scheme of finance–growth discourse. The key emerging trend is that, most of the contemporary theories trying to explain finance growth nexus have been exclusively focusing on the standard finance in general. Little attention has been devoted to understand the role of development finance on finance–growth nexus. It concludes that, for a more comprehensive understanding of the finance growth nexus, the role of development finance should be integrated in theory of finance–growth nexus. The paper demonstrates that conventional model of finance–growth nexus is more likely to underestimate the magnitude of the impact of finance on economic growth especially for less developed countries. The paper suggests that, a model which breakdown the finance into standard finance subgroup and development finance subgroup may provide more accurate and insightful findings.*

**Key words:** *finance-growth nexus, development finance, growth, theories*

### **1. Introduction**

The discourse about finance growth-nexus has been both ambiguous and contentious over the past three decades. Yet there seems to be no straight forward theoretical or empirical framework which is able to succinctly solve the puzzle (Aziakpono, 2011; Stolbov, 2012 and Eschenbach, 2004). Despite such ambiguity, the topic is still central to welfare of human kind and necessary effort is needed to succinctly address the puzzle. In least, it should provide some insights to craft

reasonable (second best) policy framework in economic growth and development management. Given the persistence of poverty in many parts of the world, the importance of the debate cannot be over-emphasized.

This paper presents a concise review of finance–growth nexus theoretical development and the current debate around growth-finance nexus theories. Then it further extends the current theoretical debate to include development finance within the broader scheme of finance-growth discourse. The rest of the paper is organized as follows: the next section presents the evolution of finance-growth nexus theories and empirical landscape from late 18 century to date. Section three introduces development finance and further discusses its space within finance-growth nexus framework. Conclusion is presented in the last section.

## **2. Finance–Growth nexus theoretical landscape**

The theoretical thinking and debate on the finance–growth nexus can be traced back to the work of Bagehot during 1870s. There may have been some earlier theoretical thinking before this. But at least according to literature it is a documented “modern” thinking on the importance of financial system on economic growth (Stolbov, 2012). The Bagehot’s theory demonstrated how the financial spheres are linked with real economy. She further showed how financial market in Britain affected capital spillover in the search of profitable ways of application (Stolbov, 2012). She predicted that *“capital will run as surely and instantly where it wanted , and where there is most to be made of it , as water runs to find its level”* (Bagehot , 1873 p.12). This theoretical prediction fit well with the standard neoclassical theory of demand and supply complemented by arbitrage theory. However it should be noted that there is a number of assumptions behind it including perfect information, frictionless economy and mobile resources. The new institutional economics and pioneers of information economics have recently demonstrated that some of the assumptions does not always hold in real life (Stiglitz, 2001; Akerlof ,1970; and North, 1990). This wave of thinking explains why in some instance the neoclassical theory of perfect market fails to hold leading to market imperfection and frictions.

Despite the critics, the Bagehot’s theorizing emphasized on the role of the financial systems in pooling together resources and allocate them to most profitable enterprises which still hold today. The economy at large gains from multiplicative effect from its positive spill over. Also the successful enterprises spur economic growth. Based on Bagehot’s theory, it can be concluded that financial system plays a role in fostering economic growth. Other theoretical thinking which dominated during nineteen century included those of Karl Max on the role of finance capital on economic growth (Hilferding, 1981).

Bagehot works sparked interest of many scholars especially in the first half and the second half of 20 century. Schumpeter and Keynes thinking dominated the first half of the 20 century. In his theory of economic development, among others, Schumpeter argued that innovation (new combination) is the key driver to economic

growth. According to him such a new combination can be in form of new means of production, new ways of producing existing goods, new market development like M-pesa in recent time, innovation in raw material and sectorial alteration (Stolbov, 2012). However he insisted that, such new combination can be realized through two channels i.e. administrative powers and by means of banking loans in case of open economy (Stolbov, 2012).

In sum Schumpeter sees the banks and other financial institutions as an intermediary between innovators and owners of capital. Thus, once the bank issues loans, it authorizes the implementation of the new combination “innovative ideas” which in turn will spur economic growth and benefit the entire society. He went further with his analysis by delineating that banks loans are crucial in the initial stage of creating new combinations. At the advanced stage of enterprises growth “at steady state” the revenue accrued from the production may finance the subsequent new combination. At this stage finance plays an auxiliary role. Therefore it can be argued that finance facilitates economic development at least in the infant (early) stages of economic growth.

Surprisingly Schumpeter's idea on the role of financial institution on economics growth was not widely spread. Partly because it was masked by the chaos of the First World War and great depression thereafter which resulted from massive collapse of the stock market subsequently led temporally weakening of the role played by the financial institutions on economic growth. This led to paradigm shift into focusing on real economy development under the influence of Robinson and other followers of Keynesian ideology (Stolbov, 2012). They argued that financial system plays important role but not primary role. Within this framework of theorizing they firmly believed that enterprises lead finance. Therefore within the first two half of the 20 century there were at least two main school of thoughts i.e. those suggesting that finance lead economic growth (Bagehot and Schumpeter) and those who argue that growth leads to finance (Keynesian, Robison and others). These are major ideologies which reined during the first half of 20 century.

The second half of 20 century attracted more scientists and economist on the finance –growth nexus discourse. Gurley and Shaw, 1955 wrote a masters piece on financial aspect of economic growth which sparked further interest of the scientific community. In their article they outlined the weakness of the Keynesian thinking and how inefficient his theoretical framework is when subjected to modeling of both real and financial economies. The debate was further followed by Gerschenkron (1962) who crafted the concept of “economic backwardness”. According to him the role of finance on economic growth depends on the degree of economic backwardness of the country. The countries which are more backward economically they need a strong financial system to catalyse development while those countries which are relatively not economically backward did not need active financial sector (Eschenbach, 2004). He used German and Britain as polar example of economic backward and non-economically backward country respectively during the time of his writing (1960s). These arguments mirrors the argument of Schumpeter which to some extent is taking

us back to the theory of finance leading economic growth especially during the early stage of development.

The work of Gerschenkron was further complemented by the work of Patrick, 1966 and Goldsmith 1969. They stressed on the role of financial sector in propelling the process of economic development. However they were not able to clearly answer the question of causality between the two phenomena. During 1970s McKinnon and Shaw raised the argument of creating incentive for increased saving through interest rate manipulations by allowing the liberalization of the financial market. This however was criticised to be a temporary solution and self-destructive on the long run by neo-structuralist. Also Stiglitz demonstrated further the shortcomings of the idea of financial liberalization based on information asymmetry as a source of market failure in the financial markets.

The next section presents theoretical landscape which tried to explain the linkage between the finance and economic growth and the channels through which they affect each other. This work have been influenced by a group of researchers notably (King and Levine, 1973 ; Thiel 2001; Lee 2005) . It can be further categorized into three main clusters i.e. micro foundation approach, macro foundation approach and empirical approach.

The micro foundation paradigm focuses on the micro economic principles in analysing financial system. It criticizes the premises that all markets in the economy are perfect. They further demonstrate the peculiarity of financial market and how they need to include the information asymmetry, presence of transaction cost and other sources of friction in the modelling process (Akerlof, 1970; Stiglitz, 2001 and North, 1990). They further argued for need to design optimal financial contract which will have positive influence on economic growth. To achieve such an optimal contract there is a need to address the challenges arising from information asymmetry like moral hazards, adverse selection and how to mitigate their manifestation (Stolbov, 2012). It may be argued that the finance is important for economic growth but it should be modelled in a more inclusive framework than the standard neoclassical model.

Within this paradigm, the financial systems are required to put in place a well-designed screening mechanism to select the good borrowers from not so good borrowers. Such a design will help to optimize the effective allocation of resources to the enterprises which are more likely to succeed. It is important to complement screening with monitoring. However, more often the cost of monitoring is high which may lead to credit rationing. Once credit rationing reins, it lowers saving and subsequent transformation of saving into investment which retards economic growth. This school of thought has been more influential and is mainly a business as usual for mainstream banks. While it has its advantage, its impact may be far reaching especially for less developed economy. To put things into perspective, about 80% of the population in most developing countries works in informal sector managing small and micro enterprises. These enterprises are somewhat risky and small in operation and most of them are in their start up stage. Dealing with such clusters of business given the complexities of the information asymmetry may be very costly for financial

institutions. This has lead to problem of credit rationing for this group and hampered the process of economic growth. There is an urgent need to think differently in order to address this problem and it is hoped that the recent movement in development finance which carters for this group will play a part in mitigating the effect. The further discussion on the topic is presented to the next section.

Another group of theoreticians addressed the topic from macro-foundation approach using endogenous growth model developed by Lucas and Romer to explain the relationship between finance and economic growth (Aziakpono, 2011). While the mathematical derivation and proof of this model is beyond the scope of this paper, the steady state dynamic equilibrium equation can be represented as follows.

$$g = A\phi s - \delta \dots\dots\dots (i)$$

Where  $g$  is the a steady state growth rate ,  $A$  is the level of technology which exhibits non decreasing return to scale,  $\theta$  is the proportion of saving transformed into investment ,  $s$  is the savings rate and  $\delta$  is the depreciation rate . According to this group of modellers, finance impacts economic growth via different channels through capital accumulation. The accrued capital can be invested to fund innovation and improve technological progress which will spur economic growth. This argument is in line with the thinking of Schumpeter. Also the financial institutions are considered to reduce transaction cost through specialization in handling information asymmetry problem and resource pooling. The net saving as result of reduced transaction cost and increased efficiency can be ploughed back to foster economic growth. According to this paradigm the influence of financial market on saving is inconclusive because it depends on other factors such as individuals' utility function and indifference curves of an economic agent. Therefore an enhanced financial market may lead to either increase or decrease in savings. Depreciation has a negative effect on economic growth (Stilobov, 2012).

Since the introduction of endogenous growth model, a lot of attention of empirical work have been ignited and sparked the need to test for causality between finance and growth. There is a series of empirical work which have been done on these areas trying to understand the causality relationship between the two economic variables.

While there is mixed evidence, but there is a varsity number of literature which show that there is significant correlation between economic growth and financial development (Aziakpono, 2011, Eschenbach, 2012 and Stilbov, 2012). Other literatures have gone further by showing empirically that there is causal linkage between finance and growth (King and Levine, 1993; Arestis and Demetriades, 1997 and Odedokun, 1998). A good number of the evidence shows that finance causes economic growth but there some other literatures which have shown that growth causes finance. Some other studies have shown that relationship between finance and growth is nonlinear (Arcand et al, 2012; Demetriades, Adrianova, 2003). They argue that finance enhances economic growth up to a certain threshold where it starts becoming self-destructive. This threshold is estimated be 70 % of private credit to GDP

ratio. Also, less than 3.5 % of labour force is required to be employed in the financial sector at any time (Arcand et al, 2012; Demetriades, Adrianova, 2003).

In summary, there is a general consensus that there is a relationship between finance and economic growth .However it is still not clear from both theoretical and empirical point of view about a dominant view on the causal linkage between the two. It is argued that that finance plays important role as catalyst for economic growth especially during the initial stage of development of an enterprises or a country. This view is well supported by Schumpeter and much other empirical evidence. Also it must be noted that the relationship between finance and growth is nonlinear. Meaning that that finance enhances economics growth to certain point where it starts becoming self-destructive. Empirical evidence has suggested a tipping point to be 70% of the private credit to GDP ratio.

### **3. Development Finance and Finance–Growth Nexus Linkages**

Development finance institutions (DFI) distinguish themselves by judiciously focusing on a balance of commercial norms of operation, as would be adopted by any private financial institution, and developmental obligations. It emphasizes on the "project approach" - meaning the viability of the project to be financed – against the "collateral approach" in their financing mechanism (Adesoye and Akinwande, 2012). Unfortunately, this type of institution has only gained strong attention in recent years after repeated failure of development policies which were relying on conventional financial system in funding development.

The DFI have gained significant attention as new paradigm of enhancing financial inclusion especially for less developed countries. As discussed before, these institutions are meant to reduce the financial service gap for over 75% (in case of Africa) of the population who are excluded from mainstream financial system .These are the same people who need the help the most and access to financial services if at all we need to make any significant stride towards reducing poverty. More importantly, development finance enhances financial depth and financial inclusion. The two parameters have been shown to enhance economic growth (World Bank, 2008; Demirguc-Kunt, Klapper, 2012).

Therefore, for a more comprehensive understanding of the finance growth nexus, it is argued that the role of development finance should be integrated in theory of finance–growth nexus. If the assertion that finance enhances growth in the early stages of economic development is true (as mentioned in Schumpeter (1982), Patrick (1996)), then there is a need to integrate development finance when theorizing about finance–growth nexus. We hypothesize that , since the informal sector (“excluded sector”) is significantly large , the conventional model of finance–growth nexus is more likely to underestimate the magnitude of the impact of finance has to economic growth in less developed countries. Therefore a model which breakdown the finance into standard finance enterprises subgroup and development finance enterprises subgroup may provide more accurate and insightful findings.

In the future work such a hypothesis can be tested using micro level enterprises data to empirically model the influence of development finance on growth and its relationship with finance–growth nexus and their determinants. The knowledge obtained will add to the on-going debate on the finance-growth nexus and will be insightful for development practitioners and policy makers in the field.

Existing empirical evidence (including most advanced countries) shows that small and medium enterprises creates more than 80% new jobs every year. For the developing countries especially sub-Saharan Africa the role of that sector cannot be overemphasized. Unfortunately due to obvious reason mentioned previously, the conventional financial system has failed to adequately offer financial access to this sector. In order to make a significant progress in the economic growth of these countries, there is a need to integrate the role of development finance in the general theory of finance–economic growth theory.

As it has been discussed before, countries which are economically backward, the finance plays a big role in enhancing growth .It is obvious that finance for developing countries is of critical importance. While the role played by conventional financial institution cannot be underscored, yet the urgent need to strengthen and increase the supply and access of development finance and development finance institutions cannot be ignored. However, it should be noted that while finance plays an important role in economic growth but by itself is not a silver bullet or panacea. Other supporting environment needs to be in place as mentioned earlier. These factors include other actors like microfinance institutions, training programme, and harmonized legal and business environment. Also supporting macroeconomic environment needs to be in place in order to achieve the effective growth.

#### **4. Conclusion**

The discourse on finance–growth nexus is still a contentious topic which calls for more theorising and empirical work. While there still a lack of clear understanding of the causal link between finance and growth. It is generally accepted that finance leads to economic growth at least in the early stage of enterprises or for economically backward countries. While finance plays a critical role on economic growth further evidence has shown that it enhances economic growth up to a point where it starts becoming self-destructive.

Most of the contemporary theories trying to explain finance growth nexus have been exclusively focusing on the standard finance in general. Little attention has been given to role of development on finance–growth nexus. Therefore, for a more comprehensive understanding of the finance growth nexus, it is argued that the role of development finance should be integrated in theory of finance–growth nexus. It is urged in this paper that conventional model of finance–growth nexus is more likely to underestimate the magnitude of the impact of finance on economic growth especially for less developed countries. Therefore a model which breakdown the finance into

standard finance enterprises subgroup and development finance enterprises subgroup may provide more accurate and insightful findings.

## **5. References**

- Akerlof, G.A.(1970), The Market for "Lemons": Quality Uncertainty and the Market Mechanism. *The Quarterly Journal of Economics*, Vol. 84, No. 3: 488-500.
- Arcand, J.L., Berkes, E., Panizza, U. (2012) , Too Much Finance?, IMF Working Paper No 12/161.
- Arestis, P and Demetriades, PO. (1997), Financial Development and Economic growth: Assessing the Evidence. *Economic Journal*, 107(442), 783-799.
- Adesoye, A.B., and Akinwande, A.A.(2012), Development Finance Institutions in Nigeria: Structure, Roles and Assessment. MPRA Paper No. 35839
- Aziakpono M. J. (2011), Financial development and economic growth: theory and a survey of evidence, *Journal of Studies in Economics and Econometrics*, 35(1): pp 1-30.
- Bagehot, W.(1873), Lombard Street: A Description of the Money Market (available at [www.econlib.org](http://www.econlib.org)).
- Demetriades, P., Andrianova, S.(2003) , Finance and Growth: What We Know and What We Need To Know, University of Leicester Discussion Paper 03/15.
- Demirguc-Kunt, A., Klapper, L. (2012), Measuring financial inclusion: the Global Findex Database, Policy Research Working Paper Series 6025, The World Bank
- Eschenbach F. (2004), Finance and Growth: A Survey of the Theoretical and Empirical Literature. Tinbergen Institute Discussion Paper No. TI 2004-039/2 Department of Economics, Erasmus University of Rotterdam, and Tinbergen Institute.
- Gerschenkron, A. (1962) , Economic Backwardness in Historical Perspective". Cambridge, Massachusetts: Belknap Press of Harvard University Press.
- Goldsmith, R. (1969) , Financial Structure and Development. New Haven: Yale University Press.
- Gurley, J., Shaw, E. (1955), Financial Aspects of Economic Development. *American Economic Review* , Vol. 44(4)., 515–38.
- Hilferding, R., (1981), Finance Capital. A Study of the Latest Phase of Capitalist Development. London: Routledge.
- King, R., Levine, R., (1993), Finance and Growth: Schumpeter Might Be Right, *Quarterly Journal of Economics*, Vol. 108(3), 717-37.
- Lee, J., (2005), Financial Reforms: Benefits and Inherent Risks. Asian Development Bank Institute Discussion Paper № 44.
- McKinnon, R., (1973), Money and Capital in Economic Development. Washington, D.C., Brookings Institution.
- North, D. (1990) , Institutions, Institutional Change and Economic Performance, Cambridge University Press
- Odedokun, M.O.(1998), Financial Intermediation and Economic Growth in Developing Countries . *Journal of Economic Studies*, 25 (3), 203-224.
- Patrick, H., (1966) , Financial Development and Economic Growth in Underdeveloped Countries, Economic Development and Cultural Change , Vol. 14, 174-89.
- Schumpeter, J. (1982), The Theory of Economic Development. New Jersey: Transaction Publishers.



- Stiglitz, J.E.(2001), Information and the Change in the Paradigm in Economics. Prize Lecture, December 8, 2001. Accessed online on March 24, available online at [http://www.nobelprize.org/nobel\\_prizes/economics/laureates/2001/stiglitz-lecture.pdf](http://www.nobelprize.org/nobel_prizes/economics/laureates/2001/stiglitz-lecture.pdf)
- Stolbov M. (2012), The Finance-Growth Nexus Revisited: From Origins to Modern Theoretical Landscape. Discussion paper, economics open access E-journal.
- Thiel, M., (2001), Finance and Economic Growth. A Review of Theory and the Available evidence. European Commission.
- World Bank. (2008) , Finance for All? (Policies and Pitfalls in Expanding Access)".
- World Bank Policy Research Report, Washington, DC: World Bank.