The causal nexus between financial development and economic growth in Kenya

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1. Introduction

The theoretical and empirical literature on the finance-growth nexus holds an inconclusive and ambiguous explanation about the relationship between the variables in question. The work of Schumpeter, (1934) revealed that financial sector development is an important determinant of economic growth. He argued that a sound and developed financial system can offer efficient services of financial intermediaries, which make it possible to transfer funds to the most innovative entrepreneurs. McKinnon, (1973) and Shaw, (1973) claimed that financial development has positive upshot on economic growth. Moreover, the empirical findings on this issue—in the horizon of developed and developing economies—pars out to be dissimilar. The empirical evidence unwraps that, financial development constitutes a potentially important mechanism for a long run economic growth. Hence, it is critical for a nation to verify, depending on the concerned context, whether financial development influences economic growth as an engine or not.

Popiel, (1994) defined Kenya as one of the countries in the African Region having a well developed financial system basing on the ground that it has Banking, Insurance, Capital Markets, Pension Funds, Quasi-Bankings crafted by Savings and Credit Cooperative Societies (SACCOS), Microfinance institutions (MFIs), Building Societies, Development Finance Institutions (DFIs) and informal financial services such as Rotating Savings and Credit Associations (ROSCAs). In 1997 (IMF, 2000), however, the liberalization of capital account took place, which involved slackening of the restriction in capital and money market, derivatives, credit operations, direct investments, real estate transactions, personal capital movements, provisions specification to commercial banks and institutional investors. The financial sector happens to be a giant contributor in the economy of Kenya. Specifically it contributes 4% to GDP, providing assets equivalent to about 40% of GDP. The financial sector development comprises a number of commercial banks and non-bank financial institutions. In order to achieve price stability and the expected growth in the economy, The Central Bank of Kenya paves the optimal path for both reserve money and consistent money supply.

In the light of the expression of the Central Bank of Kenya, 2 within the fiscal year 2010–11, the money supply, liquidity and reserve money were targeted to grow by 16.8% and 2.4%, respectively. In June 2011, domestic credit increased by Ksh 254.4 billion or 23.4%, compared to Ksh 222.5 billion or 25.8% in a similar period in 2010; and the concerned authority had a target of expanding the credit by Ksh 205.9 billion or by 18.9%. The private sector, in terms of lending, was dominating the segment with a share of 77.8% of the total lending, in June 2011; compared to a share of 73.5% in June 2010. Money supply, M2, grew at the rate of 15.1% in June 2011 compared to an increasing rate of 26.2% in the retrospective period of 2010, which was projected to grow at the rate of 16.8% for June 2011. The expansion in money supply in June 2011 was supported by the growth in net domestic asset (NDA) and in the net foreign asset (NFA) of the banking system. The NDA expanded by Ksh 179.9 billion or by 19.6% in June 2011, compared to the growth rate of Ksh 236.4 billion or 34.6% of the earlier year; which happened due to an amplified credit provision related to private
and other public sectors. The NDA accounted for 99.21% of expansion in M3. The progress rate at the NFA of banking systems was booked at Ksh 1.4 billion or 0.5% in June 2011, having an expansion rate of Ksh 12.3 billion or 4.6% in the last period. The accumulation of the NFA was reflected in the holdings of the Central Bank of Kenya.

The aim of this present study is to reinvestigate the linkages between financial development and economic growth in the case of Kenya using the annual data over the period of 1971–2011. For this purpose, we employ Cobb–Douglas production function to investigate the relationship between financial development and economic growth including real interest rate, capital and labor as additional factors of production. It is being found that, the variables are integrated at $I(1)$, in the presence of structural breaks. A simulation based ARDL approach to cointegration and the Gregory and Hansen's structural break cointegration tests are being applied then. Conditional on the real interest, labor and capital, we report that financial development has a positive impact on economic growth in the long run. This finding of the study might give interesting conclusions to the existing literature for the following reason: developed nations received more attention while exploring the connection between economic growth and financial development compared to the developing nation. Interestingly, the nature of financial development is distinct between developed and developing countries. Hence, it makes more sense to conduct experiments using the time series analysis taking the data of developing country like Kenya, which, to our knowledge, has been inadequately explored or never been explored by applying a financial development index. This particular work intends to fill that gap by addressing the research objective.

The whole study is segmented into five sections. Section 1 bears the introductory discussion, Section 2 expresses a brief literature review, which is followed by Section 3, representing methodology and data issues. Results and related discussions are being presented at the next section, and finally Section 5 draws the conclusion of this study.

2. Literature review

The works which were done in the past, revolving around the study in the objective of finding association between financial development and economic growth, were especially focused on the data of developed economies; whereas the literature on the same ground based on emerging and developing countries, particularly for African economies is not adequate. The fundamental question that is found in the relevant empirical literature is: what role does financial development play in the economic growth of a nation? To answer this, it is necessary to investigate the causal relationship between the two variables (Ang, 2008; Demirgüç-Kunt and Levine, 2008; Levine, 2005; Shahbaz, 2009, 2012). The direction of the causality had much attention from different researchers; yet, generally speaking, they left out the nature of this relationship in a vague state (Calderon and Liu, 2003). Frequently, the properties of the developing and emerging economies differ from that of the developed countries basing on the traits of their political and economic systems, various institutional arrangements, the level of financial development and the role of financial institution on capital market.

In African countries, there is no conclusive evidence on the causal nexus between financial development and economic growth. Agbetsiafa, (2004) conducted a study based on seven African countries and ended up vouching for the unidirectional causality running from financial development to economic growth. Abu-Bader and Abu-Garn, (2008) applied four dissimilar indicators of financial development in the cases of Egypt, Morocco and Tunisia. They found that bi-directional causality exists between financial development and economic growth. Bialamoune-Lutz, (2008) investigated short-run dynamics and long-run relationship between income and financial development of the North African countries—specifically Algeria, Egypt, and Morocco—by utilizing the cointegration and the VECM models using four indicators of financial development. The empirical results depicted long-run relationship between income and each of the financial development indicators except credit to private sector in Algeria. Based on the Granger causality test, one cannot ascertain a certain way of causality, since the connection type of the variables turns out to be a mixed bag.

Atindehou et al. (2005) used three different indicators of financial development related to West African countries and found fragile causal relationship between financial development and economic growth. Interestingly enough, for the three SSA countries, Odhiambo (2007) found conflicting outcomes. According to him, in Kenya and South Africa demand-side effect was supported, while in Tanzania, the supply-side impact was indentified. Odhiambo, (2008) vouched for a unidirectional cohesion, running from economic growth to financial development, by considering money supply ($M_2$/GDP) and saving rate as measures of financial development. Unidirectional causality, starting from $M_2$/GDP and heading towards economic growth—in Kenya—was found by Agbetsiafa, (2004). However, in the case of South Africa, a bi-directional causality running between $M_2$/GDP and economic growth was found by Odhiambo (2010), which supported the supply-side hypothesis. Here Odhiambo worked with the ratio of currency to narrow down the definition of money as a gage of financial development. By using the Granger Causality test, Odhiambo (2009) found that $M_2$/GDP has a grave bearing on the economic growth in Kenya, both in the long and short run scenarios.

After investigating the impact of financial development on economic growth by applying ARDL bounds testing approach to cointegration, in Bangladesh, Hye and Islam, (2012) found negative impact of real interest rate and financial development on economic growth. Hye, (2011) went for the same nature of work, within the context of India, finding a positive influence of financial development on economic growth. Within the circumstances of Pakistan, Hye and Wizarat (2013) investigated the relationship between financial liberalization and economic growth. They came to a conclusion that, financial liberalization has a positive impact on economic growth in long run; yet, the degree of that impact may remain insignificant.

3. Methodology and data construction

By going through the empirical studies on finance and growth nexus, it can be comprehended that, the researchers have utilized various proxies of financial development in order to construct a financial development index (FDI). The construction of an FDI required the calculation of the weights of financial indicators, which took aid from the principal component method (PCM). In this study, emphasize is given to build an FDI for Kenya. In Kenya, financial system is dominated by the banking sector. The index focuses more on financial development in the context of the banking sector. The ratios used here are: domestic credit provided by banking sector as a percent of GDP; domestic credit to private sector as a percent of GDP; and money plus quasi money ($M_2$) as a ratio of money ($M_1$). The data of all these series are collected from world development indicators (WDI). The weight of each series is computed by using the principal component method (PCM).

Table 1 explains the construction of a financial development index. In order to select the principal component (PC), the three PCs–domestic credit provided by the banking sector as a percent of GDP, domestic credit to private sector as a percent of GDP and money plus quasi money ($M_2$) as a ratio of $M_1$–turn out to be 75.65%, 22.66% and 1.69% of the standardized variance, respectively. In this paper, we select the first PC to calculate a financial development index. The first principal component is a linear combination of the three standard measures of financial development with weights given by the first eigenvector. In Kenya, the

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