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Re-examining the financial development and economic growth nexus in Kenya☆

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ABSTRACT

This paper re-examines the causal relationship between financial development and economic growth in Kenya for the period 1966–2005 within a quadvariate vector autoregressive (VAR) framework by including exports and imports as additional variables to the finance–economic growth nexus. We use four conventionally accepted proxies for financial development, namely money supply (M2), liquid liabilities (M3), domestic bank credit to the private sector and total domestic credit provided by the banking sector (all percent of GDP). Applying a modified version of the Granger causality test due to Toda and Yamamoto [Toda, H.Y. and Yamamoto, T., Statistical inference in vector autoregressions with possibly integrated process. Journal of Econometrics 1995; 66; 225–250], our empirical results suggest that in three out of the four measures of financial development we found evidence of a two-way Granger causality: (1) between domestic credit provided by the banking sector and economic growth; (2) between total domestic credit provided by the banking sector and economic growth, and (3) between liquid liabilities and economic growth. This implies that neither the supply-leading nor the demand-following hypotheses are supported in Kenya and that economic growth and financial development are jointly determined, or they complement each other. A major implication of our finding is that financial development promotes economic growth in Kenya and that policies at enhancing the development of the financial sector can help to spur economic growth.

1. Introduction

The level of financial development and the degree of international trade openness are among the most important macroeconomic variables the empirical economic growth literature has identified as being highly correlated with growth performance across countries (Beck, 2002; Sachs and Warner, 1995). Empirical evidence shows that countries with a better-developed financial system tend to grow faster and that finance is not only pro-growth but also pro-poor suggesting that financial development helps the poor catch up with the rest of the economy as it grows (Beck et al., 2007; Baltagi et al., 2009). Moreover, the endogenous growth theory as articulated by Greenwood and Jovanovic (1990) and Bencivenga and Smith (1991) and others also stresses that financial development is an important factor for fostering long-run economic growth as finance is able to facilitate growth by enabling efficient intertemporal allocation of resources, capital accumulation and technological innovation (see Ang, 2008; Abu-Bader and Abu-Qarn, 2008; Levine, 2005; Demirgüç-Kunt and Levine, 2008). Further, the theoretical model of Blackburn and Hung (1998) also predicts that both financial development and international trade liberalization enhance economic growth. If financial development causes trade openness and since trade openness promotes economic growth, then financial development is beneficial to economic growth. Conversely, if trade causes financial development and since financial development promotes economic growth, then trade openness is beneficial to growth.

The fundamental importance of financial development and international trade in the economic growth process therefore necessitates not only further research but also the use of alternative testing methodologies. The paper attempts to extend the finance–growth nexus in four methodological frameworks for Kenya for the period covering 1966–2005. First, unlike previous time series studies for Kenya[1] where most of these studies were concentrated in a two-variable case, we include exports and imports as additional variables as financial development alone might not be strong enough to spur economic growth because the potential gains to economic growth from liberalisation may depend on the degree to which financial markets and international trade in goods act as complements (Ginebri et al., 2001). Thus, by incorporating exports and imports as additional variables, we not only attempt to underline the importance of trade openness for economic growth but we can also test the hypothesis that openness to international trade promotes financial development or vice versa (Beck, 2002). Further, we include these variables because

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[1] To the knowledge of the author, Odhiambo (2008a,b, 2009) is the only author who tested the finance–economic growth nexus in a multivariate framework for Kenya.

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Table 1
Financial depth and efficiency in Kenya (2005).

	Domestic credit provided by banking sector (% of GDP)	Domestic credit to private sector (% of GDP)	Liquid liabilities (M3) as % of GDP	Money and quasi money (M2) as % of GDP	Interest rate spread (lending rate minus deposit rate)
Kenya	38.4	25.9	40.3	36.9	7.8
World	164.6	133.8	94.8	95.1	6.5
East Asia and Pacific	121.4	101.1	141.0	130.7	5.5
Middle East and North Africa	53.6	39.9	70.8	62.9	4.8
Latin America and Caribbean	52.0	27.8	40.7	38.3	7.8
South Asia	57.2	38.7	62.7	58.4	5.9
East Asia and Pacific	121.4	101.1	141.0	130.7	5.5

Source: World Bank, World Development Indicators (2007).

exclusion of a relevant variable(s) makes the estimates not only biased as well as inconsistent, but no-causality in a bi-variate system can result from neglected variables (Lütkepohl, 1982). It is possible that the introduction of a third or a fourth variable in the causality framework may not only alter the direction of causality but also the magnitude of the estimates (Loizides and Vamvoukas, 2005; Odhiambo, 2008a). In addition, since a four-variable case incorporates more information than a bivariate case, the causal inference drawn may be more reliable (Loizides and Vamvoukas, 2005). Second, as there are several controversies surrounding the measurement of the financial development indicator variable, we use four conventionally accepted proxies in order to capture the variety of the different channels through which financial development can affect growth. Third, unlike Odhiambo (2008a) and other studies, who used the ECM (error correction model) that dependent on the integration and cointegration properties of the system for causality, we use a modified version of the Granger causality test due to Toda and Yamamoto (1995). Our procedure does not depend on the integration and cointegration properties of the system and is valid regardless of whether a series is I(0), I(1) or I(2), non-cointegrated or cointegrated of any arbitrary order. And fourth, to test the robustness of our results, we use a bootstrap simulation technique to generate more reliable critical values for our Granger causality test.

The rest of the paper is structured as follows. In Section 2 we present a brief discussion about Kenya's financial development and economic growth. A short summary of the literature is presented in Section 3. The data and the methodology used are discussed in Section 4. This is followed by the presentation of the empirical evidence in Section 5, while some concluding remarks are presented in Section 6.

2. Financial depth in Kenya

It is generally believed that Kenya's financial system is relatively well developed and diversified compared to many African countries but less developed than other regions of the world (Bech and Fuchs, 2004; Odhiambo, 2008a). As can be seen from Table 1, Kenya is lagging behind in all the four measure of financial development when compared to the various regions of the world but its interest spread seems to be higher than any other region. Kenya liberalised its interest rates between January 1988 and July 1991 but the period before that was characterised by financial repression with selected credit controls and fixed interest rates (Ngugi, 2001). Kenya like many African countries is now looking to more integration with the world economy and to a liberalised financial system as key policy instruments for reversing Kenya's past poor growth performance. However, despite the trend in liberalization, the failure to meet the basic prerequisite for successful financial reforms resulting from increasing inflationary pressure and deteriorating economic conditions, Kenya was not able to reap the fruits of its liberalisation efforts (Ngugi, 2001). Kenya has experienced extended and recurrent banking crisis during 1985–89 and 1992–97 (Ngugi, 2001). As can be seen from Figs. 1 and 2, almost all the indicators of financial development were declining from their peaks in the early 1990s. Only the financial depth (M2/GDP) was rising. Gross saving and investment rates were declining from their peaks in the 1990s. The growth of the economy was not promising either (see Fig. 2). Economic growth after 1992 was not so impressive as the previous decades. Kenya's worst economic performance has been in the decade of the 1990s with annual GDP growth rate averaging about 2%. From 1990 to 2004 real per capita income was falling. It is indeed ironic that this poor record has taken place when Kenya's economy was being liberalized. Many of the problems associated with the difficulties in the financial sector can be traced back to the mal-administration of the economy in general and the financial sector in particular (Roe, 2004). Generally, the financial system in Kenya has not yet fulfilled its role in fostering effective resources allocation and economic growth (Bech and Fuchs, 2004).

3. Finance, openness and economic growth: an overview

3.1. Financial development and economic growth

Over the past several years the role of financial development in economic growth has been a focus of attention and has attracted several theoretical and empirical studies to investigate the causal relationship between the two (Levine, 2005; Ang, 2008; Demirgüç-Kunt and Levine, 2008). Central to the debate is (a) whether the financial sector drives economic growth or (b) whether it is economic

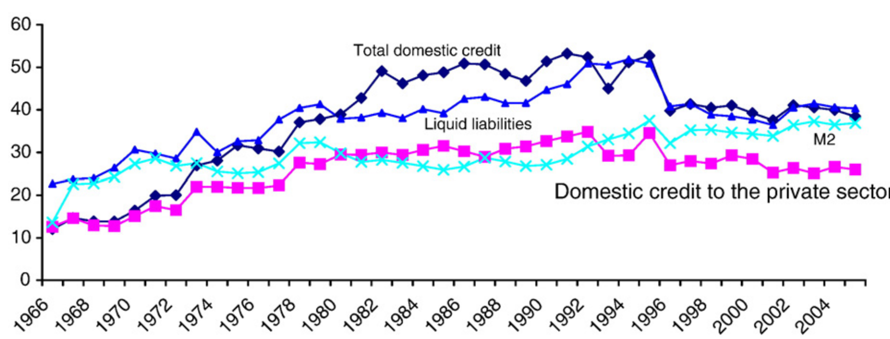

Fig. 1. Indicators of Kenya's financial development (as % of GDP). Source: World Bank, World Development Indicators (2007).