Economic Modelling 28 (2011) 685–693

Contents lists available at ScienceDirect

Economic Modelling

journal homepage: www.elsevier.com/locate/ecmod

Financial development and economic growth nexus in the MENA countries: Bootstrap panel granger causality analysis

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ARTICLE INFO

Article history:
Accepted 31 May 2010

Keywords:
Financial development
Economic growth
MENA countries
Panel causality
Bootstrap

ABSTRACT

This paper investigates the direction of causality between financial development and economic growth in the Middle East and North African (MENA) countries. The panel causality testing approach, developed by Kónya (2006) [Kónya, L. (2006), exports and growth: Granger causality analysis on OECD countries with a panel data approach, Economic Modelling, 23, 978–992], based on the Seemingly Unrelated Regressions and Wald tests with the country specific bootstrap critical values, is applied to the panel of fifteen MENA countries for the period 1980–2007. In order to capture the different aspects of financial development, six different indicators are used. Empirical results show that there is no clear consensus on the direction of causality between financial development and economic growth for all measurements of financial development and it is also observed that the findings are country specific.

1. Introduction

The relationship between financial development and economic growth has been one of the hotly debated issues of whether the financial sector actually contributes to the real sector in the process of economic development. There is a great deal of empirical literature that has scrutinized the experiences of the developed and developing economies. This special interest comes from the intermediary role of financial markets between savers and investors in the process of economic development. Specifically, financial systems facilitate the trading, hedging, diversifying, and pooling of risk, allocate resources, monitor managers and exert corporate control, mobilize savings, and ease the exchange of goods and services (Levine, 1997). It is, therefore, widely accepted that well-functioning financial markets can positively contribute to economic growth in both developed and developing economies.

The MENA countries, over the last two decades, have experienced a wave of liberalization in the financial sector (Ben Naceur et al., 2008) with an expectation that lifting government restrictions on the banking system in terms of interest rate ceiling, high reserve requirement, and directed credit programs which enhance financial development and, in turn, expected to promote economic growth (McKinnon, 1973; Shaw, 1973). A careful investigation of the results from these experiences provides additional evidence of whether the financial sector actually causes to economic growth. The aim of this paper is therefore to empirically investigate the direction of causality between financial development and economic growth in the MENA countries. To this end, the panel Granger causality testing procedure developed by Kónya (2006) is conducted for fifteen MENA countries over the period 1980–2007.

This paper contributes to the empirical literature on financial development and economic growth by three aspects. Firstly, the panel causality test carried out in this research is novel to the literature on financial development and economic growth. In particular, the panel causality approach controls for cross-sectional dependence across the members. Since the assumption of cross-sectional independence is difficult to satisfy in a panel data, neglecting this information causes bias and inconsistency in empirical results (Bai and Kao, 2006). To the best of our knowledge, there is no attempt to incorporate the hypothesis of cross-sectional dependence in the literature on financial development and economic growth in the MENA countries. Secondly, due to the multidimensional nature of financial development, six different indicators of financial development are utilized to capture these various aspects of financial sector in the process of economic development. Thirdly, the data set utilized in the analysis contains fifteen MENA countries for a quite long period, 1980–2007, which are based upon the availability of the data.

Structure of this paper is as follows: the theoretical framework which provides potential channels for financial sector to economic growth will be explained in Section 2. The existing empirical literature on financial development–economic growth nexus will be reviewed

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doi:10.1016/j.econmod.2010.05.015

in Section 3. The measures of financial development will be introduced in Section 4, followed by the model specification and data in Section 5. The empirical methodology and findings will be presented in Section 6. The paper will end up with the concluding remarks.

2. Theoretical framework

The theoretical links between financial development and economic growth can be traced back to early last century and has been growing since the 1980s (Hermes, 1994, Levine, 1997; Khan and Senhadji, 2003; Trew, 2006). With regard to the theoretical literature on this issue, the views on the importance of financial sector in economic growth can be classified under two main categories (Hermes, 1994; Xu, 2000). The first one is rooted from the work of Schumpeter (1911) who was the earliest economist and highlighted the importance of finance in the process of economic development. Schumpeter (1911) emphasized the importance of financial services in promoting economic growth and highlighted circumstances when financial institutions can actively encourage innovation and promote future growth by determining and funding productive investments. The second one is traced back to the work of Robinson (1952) who considered finance as a relatively unimportant factor in growth process. In particular, Robinson (1952: 52, 86) argued that as output increases the demand for financial service increases too, which in turn has a positive effect on financial development. All other things being equal, financial development follows output growth and not the opposite.

Patrick (1966) also contributed to this literature by identifying two possible patterns in the causal relationship between financial development and economic growth. The first one is called demand-following which means that the creation of modern financial institutions, their financial assets and liabilities, and related financial services is in response to the demand for these services by investors and savers in the real economy (Patrick, 1966: 174). This approach implies that financial system can thus support and sustain the leading sectors in the process of growth. Here, an expansion of the financial system is induced as a consequence of real economic growth. The second one is termed as supply-leading which means the creation of financial institutions and the supply of their financial assets, liabilities, and related financial services in advance of demand for them, especially the demand of entrepreneurs in the modern, growth-inducing sectors. Supply-leading has two functions: to transfer resources from traditional (non-growth) sectors to modern sectors, and to promote and stimulate an entrepreneurial response in these modern sectors (Patrick, 1966: 75). In addition, Gurley and Shaw (1955) and Goldsmith (1969) have argued that more developed financial markets promote economic growth by mobilizing savings and facilitating investment.

Despite the previous literature stressing the importance of financial development in the process of economic growth (Gurley and Shaw, 1955; Patrick, 1966; Goldsmith, 1969), a convincing theoretical framework was lacking until the publications of McKinnon (1973) and Shaw (1973). According to them, pervasive government and central bank regulations distort financial markets and these distortions adversely affect savings and investment decisions. In other words, artificially low levels of interest rate depress savings and promote inefficient investment and, hence, hinder economic growth in the developing economies. The prescriptions of McKinnon–Shaw for the developing countries are to liberalize financial markets by deregulating interest rates and permitting financial institutions to allocate credit on the basis of viability and productivity of borrowers, their enterprises or projects. They basically argue that the determination of the rate of interest in the banking sector, usually the only organized financial institutions in developing countries, should be market-driven to achieve a superior allocation of funds for investment and hence faster economic growth. It is believed that financial liberalization through higher interest rate leads not only to a more efficient allocation of funds but also to an increase in loanable funds by attracting more households' savings to banking deposits. This in turn leads to greater investment and hence faster economic growth. McKinnon–Shaw approach constructed a theoretical link between financial liberalization and economic growth and implicitly highlighted that finance leads economic growth as in Schumpeter (1911).

The emergence of endogenous growth theory in the 1980s (Romer, 1986, 1990; Lucas, 1988; Barro, 1991) has attracted a renewed attention to the relationship between financial development and economic growth. Several studies, therefore, have attempted to explain how the operation of the financial sector may affect the rate of economic growth in the endogenous framework (Greenwood and Jovanovic, 1990; Bencivenga and Smith, 1991; King and Levine, 1993a, b; Roubini and Sala-i Martin, 1992, Pagano, 1993, Bencivenga et al., 1996; Blackburn and Hung, 1998; Deidda, 2006). In these studies, financial intermediaries such as information collection and analysis, risk sharing, liquidity provision are explicitly modeled in which financial development is generally growth-promoting (Levine, 1997).

However, Robinson (1952), Lucas (1988), Stern (1989), Chandavarkar (1992), Stiglitz (1994) and Singh and Weisse (1998) question the importance of the financial system in promoting economic growth. In particular, while Lucas (1988: 6) states that "the importance of financial matters is very badly overstressed", Chandavarkar (1992: 134) notes that "none of the pioneers of development economics … even list finance as a factor of development". Singh and Weisse (1998) emphasize the risks of financial collapse and consequent economic recession that may result from a rapid deregulation of once repressed financial systems.

These theoretical discussions reveal that there is not a consensus on the role of finance in economic growth and the direction of causal inference between finance and growth. However, the debate whether the financial sector leads economic growth or *vice versa* has important policy implications for both developed and developing countries. As Levine (1998) notes that empirical evidence concerning the causality between financial development and economic growth could assist governments to carry out whether the reforms should be prioritized in the financial sectors. The proponents of the first view (Schumpeter, 1911; Gurley and Shaw, 1955; Goldsmith, 1969; McKinnon, 1973; Shaw, 1973; Greenwood and Jovanovic, 1990; Bencivenga and Smith, 1991; King and Levine, 1993a,b; Roubini and Sala-i Martin, 1992, Pagano, 1993) suggest that government policies should be directed towards improving financial system, since financial development has important causal effects on growth. On the other hand, the supporters of the second view (Robinson, 1952; Lucas, 1988; Stern, 1989; Chandavarkar, 1992; Stiglitz, 1994) argue that government policies towards improving financial system has little effects on growth, since financial development results from economic growth and has little impact on it (Xu, 2000: 332).

The divergent theoretical approaches, discussed above, towards the relationship between finance and growth show that economists and policy-makers are still confronted with supply-leading and demand-following dichotomy (Murinde, 1996; Murinde and Eng, 1994a,b; Shan et al. 2001; Deidda, 2006). Conflicting results from numerous empirical studies for country groups and specific countries have not contributed to reach a firm conclusion. Instead, the empirical results seem to be deepened the existing dichotomy further, since the results are ambiguous (Lawrence, 2006).

3. Literature review

The relationship between financial development and economic growth has been recently tested empirically in a number of studies for many specific country or country groups. So far, there is no general consensus on the relationship between financial development and