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Finance and growth: Evidence from the ARF countries

Rudra P. Pradhan[a,*], Mak B. Arvin[b], Sahar Bahmani[c], John H. Hall[d], Neville R. Norman[e,f]

[a] *Vinod Gupta School of Management, Indian Institute of Technology, Kharagpur, WB 721302, India*
[b] *Department of Economics, Trent University, Peterborough, Ontario K9J 7B8, Canada*
[c] *Department of Economics, University of Wisconsin-Parkside, Kenosha, Wisconsin 53144, USA*
[d] *Department of Financial Management, University of Pretoria, Pretoria 0028, South Africa*
[e] *Department of Economics, University of Melbourne, Victoria 3053, Australia*
[f] *Department of Economics, University of Cambridge, Cambridge CB3 9DD, UK*

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ABSTRACT

This paper examines the relationships between economic growth and four different types of financial development in ASEAN Regional Forum (ARF) countries over the period 1991–2011. Using principal component analysis (PCA) to construct development indices, and a panel vector auto-regressive model to test for Granger causalities, the study demonstrates unidirectional and bidirectional causality between the variables. The study enhances understanding of the interrelationship between the variables, combining different strands of the literature, and investigating countries previously neglected in this context. The paper recommends making banking more accessible to residents without bank accounts in ARF countries and promoting stock market development to facilitate access to investment capital in order to enhance economic growth.

1. Background of the Study

In the last twenty years or so, most countries have adopted new development strategies that prioritize the modernization of their financial sector and the link of that sector to economic growth. The ASEAN[1] regional forum countries (commonly known as the ARF countries) are no exception. Since the end of the 1980s, most ARF countries have promoted their own financial development, for instance, by reducing government intervention in national financial sectors, by privatizing banks, or by increasing the level of financial globalization[2] (financial openness). In order to increase financial globalization, these countries have increased capital account liberalization and increased openness to capital flows. Financial globalization has significantly enhanced stability among industrialized countries. Clearly, financial globalization is a matter of considerable policy relevance, especially for major economies that have recently been taking steps to open up their capital accounts. Among developing economies, several are in the early stages of financial globalization and they are facing numerous on-going policy decisions about the timing and pace of further integration. The stakes for such policy decisions are high because financial globalization is often blamed for many damaging economic crises. When it comes to the policy implications of financial globalization, there is enormous variation of approaches and experiences across countries.

* Corresponding author. Fax: +91 322 227 8027.
E-mail addresses: rudrap@vgsom.iitkgp.ernet.in, pradhanrp@gmail.com (R.P. Pradhan), marvin@trentu.ca (M.B. Arvin), bahmani@uwp.edu (S. Bahmani), john.hall@up.ac.za (J.H. Hall), nrn1v@econ.cam.ac.uk, n.norman@unimelb.edu.au (N.R. Norman).

[1] ASEAN stands for the Association of South East Asian Nations.

[2] Financial globalization is an effective tool for achieving high outward-oriented development (see, for instance, Khan & Khan, 2003). Financial globalization has taken place in these countries in different forms over time. The two most important dimensions of this process are diversification and offshoring. The first one refers to the increase in foreign assets and liabilities in countries' portfolios, while the second one relates to the allocation of financial activities to the international markets, namely, to where transactions take place regardless of who holds the assets (see Ceballos, Didier, & Schmukler, 2012; Hoekman & Kostecki, 2001).

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It is anticipated that financial development policies would promote economic growth through, inter alia, higher mobilization of savings or increased home and foreign investment (Reinhart & Tokatlidis, 2003). However, if such policies are to be effective, there needs to be a proven causal relationship between financial and real sectors (Gries, Kraft, & Meierrieks, 2009).

The present paper focuses on whether financial development has actually influenced economic growth in a sample of seventeen ARF countries, and whether a policy focus on financial sector development is conducive to fostering economic development. Hence, we test the causality between financial development and economic growth, capturing different linkages by disaggregating financial sector development into four sub-categories: banking sector development, stock market development, bond market development, and insurance market development.

Our study makes four significant contributions to the existing literature on the finance-growth nexus. First, we combine different strands of the finance literature. Secondly, we deploy four composite indices of financial sector development, namely the composite index of banking sector development (CBSD), the composite index of stock market development (CSMD), the composite index of bond market development (CBMD), and the composite index of insurance market development (CIMD). Thirdly, we test for panel Granger causality, which is less prone to the misspecifications that often occur when testing causality between different subsectors of financial development and economic growth. Fourthly, we distinguish between the short-run and long-run causalities between various financial development indices and per capita economic growth.

The remainder of this paper is structured as follows: Section 2 provides an overview of financial development and economic growth; Section 3 provides a literature review on the connection between banking sector development, stock market development, bond market development, insurance market development, and economic growth; Section 4 highlights the research questions and the proposed hypotheses; Section 5 presents the data structure, sample selection, and the variables, followed by Section 6 which outlines our empirical model. The results are presented in Section 7, and the final section, Section 8, concludes with a summary and a discussion of the policy implications of our results.

2. An overview of financial development and economic growth

The level of financial development is one of the most important variables identified by the empirical growth literature as being correlated with economic growth performance across countries (see, for instance, Ang, 2008; Banos, Crouzille, Nys, & Sauviat, 2011; Beck & Levine, 2004; Bojanic, 2012; Boulila & Trabelsi, 2004; Calderon & Liu, 2003; Gochoco-Bautista, Sotocinal, & Wang, 2014; Graff, 2003; Jedidia, Boujelbene, & Helali, 2014; Levine & Zervos, 1998; Naceur & Ghazouani, 2007; Ngare, Nyamongo, & Misati, 2014; Peia & Roszbach, 2015; Pradhan, Arvin, & Norman, 2015; Pradhan, Zaki, Chatterjee, Maradona, & Dash, 2015; Samargandi, Fidrmuc, & Ghosh, 2015). The rate and level of financial development is a challenge for developing countries, as slow development can prevent such countries from taking full advantage of technology transfers, causing some of these countries to diverge from the growth rate of the world production frontier (Aghion, Howit, & Mayer-Foulkes, 2005; Menyah, Nazlioglu, & Wolde-Rufael, 2014). Fung (2009) contends that poor countries with a weakened financial system are trapped in a vicious cycle, where low levels of financial development lead to low economic performance, and, conversely, low economic performance leads to low financial development. An inadequately supervised financial system may be crisis-prone, with potentially devastating effects (Moshirian & Wu, 2012). The inverse is also true: an efficient financial system provides better financial services, which enables an economy to increase its growth rate (Bencivenga, Smith, & Starr, 1995; Esso, 2010; King & Levine, 1993a). Financial development is not only pro-growth, but it is also pro-poor, suggesting that financial development helps poor citizens to catch up with the rest of the economy as it grows (Demirguc-kunt & Levine, 2009). Furthermore, the endogenous growth theory, as articulated by Greenwood and Jovanovic (1990) and Bencivenga and Smith (1991) and others, stresses that financial development is a strategic factor that fosters long-run economic growth, because financial development, along with advancement, is able to facilitate economic growth through various channels. These channels are (a) supplying information about possible investments, so as to allocate capital efficiently; (b) supervising firms and exerting corporate governance; (c) diversifying risk; (d) mobilizing/pooling savings; (e) facilitating an exchange of goods and services; and (f) managing technology transfer (Garcia & Liu, 1999; Levine, 2005; Zhang, Wang, & Wang, 2012).

Not surprisingly, the relationship between financial development[3] and economic growth has been an important area of discussion among researchers and policy-makers (see, for instance, Bangake & Eggoh, 2011; Beck, Levine, & Loayza, 2000; Chow & Fung, 2011; Herwartz & Walle, 2014; King & Levine, 1993a, 1993b; Levine, 2003; Levine, Loayza, & Beck, 2000; Nieuwerburgh, Buelens, & Cuyvers, 2006; Rashid, 2008; Thornton, 1994; Tsouma, 2009; Wachtel, 2003). However, it is still unclear what the roles are played by and levels of cointegration and causality that exist among various subsectors of financial development, such as development in the banking sector, stock market, bond market and insurance market.

Development economics studies four types of relationships: firstly, the link between banking sector development and economic growth (Christopoulos & Tsionas, 2004; Moshirian & Wu, 2012; Menyah et al., 2014; Pradhan, Arvin, Norman, & Nishigaki, 2014; Tang, 2005); secondly, the link between stock market development and economic growth (Akinlo & Akinlo, 2009; Kar, Nazlioglu, & Agir, 2011; Pradhan, Arvin, Bele, & Taneja, 2013; Pradhan, Arvin, Norman, & Hall, 2014), thirdly, the link between bond market development and economic growth (Fink, Haiss, & Vuksic, 2006a, 2006b; Matei, 2013; Pradhan, Arvin, Bennett, Nair, & Hall, 2016; Puente-Ajovin & Sanso-Navarro, 2015), and fourthly, the link between insurance market development and economic growth (Avram, Nguyen, & Skully, 2010; Chen, Lee, & Lee, 2012; Han, Li, Moshirian, & Tian, 2010; Lee, Huang, & Yin, 2013; Pradhan, Arvin et al., 2015; Pradhan, Zaki et al., 2015).

In the broad spectrum of 'financial development', banking sector development, stock market development, bond market development and insurance market development are the main forces that can lead to high economic growth in a country. It has been argued in a subset of the finance-growth literature that development of the banking sector, stock market, bond market, and insurance market can cause each other. While policy-makers may differ on the degree to which these financial-sector developments contribute to economic growth, they generally concur that all the sub-sectors do in fact matter. As a result, many countries have adopted development

[3] Financial development is defined in terms of the aggregate size of the financial sector, its sectorial composition, and a range of attributes of individual sectors that determine their effectiveness in meeting users' requirements. The evaluation of financial structure should cover the roles of the key institutional players, including the central bank, commercial and merchant banks, saving institutions, development financial institutions, insurance companies, mortgage entities, pension funds, the stock market, and other financial market institutions (International Monetary Fund, 2005). Hence, financial development includes development in the banking sector, stock market, bond market and insurance market.