

# Chapter 14

## Re-Examining the Impact of Financial System on Economic Growth: New Evidence From Heterogeneous Regional Panels

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### ABSTRACT

*Recent developments in panel data econometrics allow researchers to estimate heterogeneous parameters. Given this novelty, the goal of this paper is to revisit the financial development-economic growth nexus for a panel of 76 developing counties using recent heterogeneous panel time series estimation methods. Findings indicate that results are very volatile across different empirical specifications. Overall, results provide a strong support of a negative impact that banking development on growth. At regional level, however, there is relatively little evidence of such relationship. On the side of the stock market, there is no much indication in favor of stock market-led growth hypothesis either at pooled panel or at regional level.*

### INTRODUCTION

The history of finance-growth relationship dates back to Bagehot's (1873) study. For more than a century, the literature expands very much with the contributions of theorists as well as empiricists. Many of these studies point out that financial development affects growth process via capital accumulation and technological innovation (see, for example: Robuini and Sala-i Martin 1992; Bencivenga and Smith, 1993; King and Levine, 1993a, b; Miller, 1998). Although most of these papers have found a positive impact of finance on growth, results can vary with regard to which estimation techniques are used.

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Given the recent development in panel data econometrics, researchers can employ panel time series methodologies in which heterogeneous parameter estimations could be presented. Although there is a well-documented literature in the case of developing countries, to the best of our knowledge, there is no empirical evidence in the case of emerging countries using heterogeneous parameter estimation methods. Therefore, this paper revisits the finance-growth nexus with a different empirical view. To this end, annual observations ranging from 1990 to 2013 are used for a panel of 76 developing countries.

Following introductory part, remainder of the study is balanced as follows: section 2 reviews related literature, section 3 describes model, data, and methods and presents results, and finally section 4 concludes.

## **LITERATURE REVIEW**

The relationship between financial development and economic growth is not a new discovery. Bagehot (1873) identified the role of financial sector development on economic growth about 150 years ago. According to his study, the financial system plays a crucial role in stimulating industrialization in England by facilitating the mobilization of capital.

There are four different theoretical views about the relationship between financial development and economic growth. The first is supply-leading hypothesis, suggesting that the positive effects of financial development on economic growth, according to Schumpeter (1911). In this approach, causality runs from financial development to growth (see, for example: Roubini and Sala-i Martin, 1992; King and Levine, 1993a; b). Second, with the pioneer study of Robinson (1952), demand-following hypothesis states that the causality from economic growth to financial development (see, for example: Patrick, 1966; Jung, 1986; Ireland, 1994). The third approach, bi-directional causality hypothesis, emphasizes that there is a cause and effect relation between finance and growth (see, for example: Berthelemy and Varoudakis, 1996; Demetriades and Hussein, 1996; Blackburn and Hung, 1998). The fourth approach indicates that there is no causality between financial development and economic growth which is known as independent hypothesis (see, for example: Lucas, 1988; Stern, 1989; De Gregorio and Guidotti, 1995).

Likewise this study, finance-growth literature includes a plethora of multi-country case studies. Calderon and Liu (2003), using data for 109 developing and developed countries, find that financial development commonly leads to economic growth for developed countries, but that the Granger causality for developing countries is bi-directional. Yay and Oktayer (2009) examine the relationship for 37 developing and developed countries using GMM. For the developing country group; both banking and stock market development exhibits positive impact on economic growth. In developed countries, however, only the development of the stock market affect growth positively. For a panel of 65 developing countries, Narayan and Narayan (2013) conclude that bank credit as a proxy of financial development has a negative impact on growth. King and Levine (1993a) study on 80 developed and developing countries and find that four measures of the financial system, namely financial depth, the relative importance of banks vis-a-vis the central bank, the percentage of credit allocated to nonfinancial private firms, and credit to private sector, all have a statistically significant and positive effect on growth indicators. Levine (1998) examines the impact of the banking sector development, for 42 developed and developing countries over the period 1976–1993 and concludes that banking sector development has a statistically significant positive effect on economic growth. Levine and Zervos (1998) find that banking sector development and stock market liquidity are both good predictors of economic growth, capital accumulation, and productivity growth for 45 developed and developing countries over the period 1976–1993. Cole et al.

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