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Financial development and economic growth: Evidence from China

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Abstract

This paper investigates the relationship between financial development and economic growth for the case of China over the period 1952–2001. After considering the time series characteristics of the dataset, a multivariate vector autoregressive (VAR) framework is used as an appropriate specification and the long-run relationship among financial development, growth and other key growth factors is analyzed in a theoretically based high dimensional system by identification of co-integrating vectors through tests of over-identifying restrictions. The empirical results suggest that there exists a unidirectional causality from economic growth to financial development, conclusions departing distinctively from those in the previous studies.
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1. Introduction

The economic growth of China is remarkable since the outset of the reform program in early 1980s. A great number of theoretical and empirical studies have explored the sources of economic growth at both national and provincial levels (e.g., Borensztein & Ostry, 1996; Chen & Feng, 2000; Chow, 1993; Chow & Li, 2002; Wu, 2000; Yu, 1998), and ongoing debate is mainly concerned with which source, factor accumulation or productivity improvement, is the

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key growth-driving factor. However, unfortunately, the role of financial development in economic growth has till recently often been ignored, with a conspicuous lack of studies being made to theoretically examine and empirically determine this. The effects of the financial sector on real economy can hardly be over-emphasized, as Goldsmith (1969, p. 390) puts "*one of the most important problems in the field of finance... is the effect that financial structure and development have on economic growth*".

On one hand, it is difficult to investigate various aspects of the finance-growth nexus since simply examining the correlations among them, which are utilized in most cross-country studies, can lead to spurious estimations due to a number of limitations inherent in the cross-sectional technique.[1] Besides, it is well known that correlations reveal nothing about causation. On the other hand, the majorities of the existing time-series studies applying only bivariate causality tests between indicators of financial development and growth variables (e.g., Bell & Rousseau, 2001; Calderón & Liu, 2003; Demetriades & Hussein, 1996)[2] also suffered from the omitted variables bias and could lead to erroneous causal inferences, since any causality test between financial development and economic growth which excludes other decisive growth determinants from the system and analyzes only a financial development indicator and an output variable, is very likely to be mis-specified, and little reliance could be placed on the results of such studies. There are, to the best knowledge of authors, only a few studies using multivariate causality test in the examination of finance-growth nexus. For example, Luintel and Khan (1999) propose an approach through which long-run relationship between financial development and economic growth is evaluated in a theoretically based multivariate VAR model—a framework in which the analysis in the present paper relies heavily. By identifying the finance-growth nexus in a co-integrating framework through tests of over-identifying restrictions, Luintel and Khan find bi-directional causality between financial development and economic growth in all the sample countries. Christopoulos and Tsionas (2004) also investigate the long-run relationship between financial development and economic growth in a multivariate VAR framework, though the examination is carried out via panel unit root tests and panel co-integration analysis in a panel-based vector error correction model (VECM). For all the developing countries in their sample, Christopoulos and Tsionas find unidirectional causality from financial depth to growth. These two reviewed studies are subject to limitations such that the capital formation is the *only* additional growth-determining variable incorporated in the framework. Moreover, stock-flow problem inherent in the indicator measurement of financial development is not finely dealt with. Additionally, focusing exclusively on one country instead of a number of nations is advantageous in that the econometric findings can be related to the prevailing institutional structure (Bell & Rousseau, 2001), as Chandavarkar (1992, p. 134) argues that the relationship between finance and growth "*merits systematic testing on a country wide basis over sufficiently long periods*".

This paper aims to examine the relationship between financial development and economic growth for the case of China over the period 1952–2001. Specifically, what kind of role has financial sector played to the economic growth process? What is the nature and direction of the

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[1] Quah (1993) focuses on the lack of balanced growth paths across countries; Pesaran and Smith (1995) explore the heterogeneity of slope coefficients; Demetriades and Hussein (1996) dwell on the model misspecification resulted from omitted variable bias, sample selection bias and inappropriate weighting of countries; while Arestis and Demetriades (1997) and Luintel and Khan (1999) emphasize the problem of causality.

[2] Bell and Rousseau (2001) examine the finance-growth nexus in a *tri-variate* VAR framework using macroeconomic, monetary and financial indicators, their specification, however, could hardly be free of omitted variable bias since M1, a measurement of monetary, is also a proxy indicator of financial development.