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Bank fund reallocation and economic growth: Evidence from China

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A B S T R A C T

This paper examines bank fund reallocation and regional economic growth based on 1991–2005 provincial-level data of four state-owned commercial banks of China that practice fund reallocation nation-wide. We find no correlation between bank fund reallocation and regional economic growth or between bank loans and regional economic growth. We find, however, a positive association between bank deposits and growth. It appears economic growth leads financial development in China, not the other way around. Furthermore, as China's market-oriented reforms deepen, fund reallocation and loans start to manifest positive effects on growth even though the banks are government owned.

1. Introduction

This paper examines the effects of bank fund reallocation on local economic growth in China from 1991 to 2005 based on a unique set of panel data of four Chinese state-owned commercial banks at the regional level. These four banks are Agricultural Bank of China, Bank of China, China Construction Bank, and Industrial and Commercial Bank of China. The Chinese banking industry has been dominated by these four banks that operate throughout an economically diverse country. Unlike the local bank-based and largely segmented US banking sector, the four banks practice fund reallocation by centrally determining the funds available at the regional branch level and thus, loans do not depend upon deposits at the branch. This provides a special opportunity to observe the relationship between bank fund reallocation and local economic growth which then helps us to understand the finance-growth linkage in China, the fastest growing economy in the world. It adds to a stream of recent studies on the performance of the Chinese banking system (e.g. Berger et al., 2009; Firth et al., 2009; Fu and Heffernan, 2009; Hasan et al., 2009; Jia, 2009; Lin and Zhang, 2009).

The relationships between financial development, bank lending, and economic activities at the local level have been the focus of many researchers in recent years (Jayaratne and Strahan, 1996; Dehejia and Lleras-Muney, 2003; Driscoll, 2004; Guiso et al., 2004; Becker, 2007). Brunner and Meltzer (1963), Bernanke (1983) and Kashyap and Stein (2000) focus on the role of banks in the transmission of monetary policy and economic fluctuations down to the local level and confirm that local financial development matters. If local businesses are bank-dependent, then the availability of funds through local banks would affect the performance of local industries and economies. If the capital markets are segmented, there would be variation of output due to variation of bank lending and this is what Becker (2007) suggests. Empirical evidence of the linkages has obvious economic as well as monetary policy implications.

The nation-wide state-owned commercial banks of China contrast with those in the US, where the banking system is traditionally based on segmented unit banks. Although the percentage of unit banks had declined from over one-half in 1980 to one-third among US banks in 2000 (Becker, 2007), they have no ability to transfer funds to other locations. Multi-bank holding companies and financial conglomerates, however, have been active with reallocation of capital through internal capital markets (Houston et al., 1997; Houston and James, 1998; Campello, 2002) and thus break segmentation to the extent permitted by regulations. Due to the lack of data on loans at the branch level (Becker, 2007), no research

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has been undertaken to directly examine the relationship between bank loans and local economic growth. We believe our paper is the first to use branch level data to study how bank internal capital markets might affect local growth.

We use the loan–deposit ratio (LDR) at the regional level as a proxy for fund reallocation. Funds are redistributed by the national headquarters through its internal capital market. Regions with an above average LDR benefit from reallocation and regions with a below average ratio suffer; the decision belongs to the headquarters. The fact that the LDR varies widely – from 38% to 212%, across the regions demonstrates the exogenous nature of the LDR. Our study finds, in general, there is no correlation between bank fund reallocation and economic growth at the provincial branch level in China during the period from 1991 to 2005. We find no significant association between bank loans and economic growth, either. This is consistent with the findings of Driscoll (2004).[1] However, as China undertakes market-oriented reforms of the banking sector, positive effects of fund reallocation and bank loans on local economic growth start to emerge and we find a positive correlation for the most recent period, 2001–2005. Furthermore, we find that bank deposits in China are positively correlated with local economic growth during the period from1991 to 2005.

In addition to contributing to the literature on bank fund reallocation and bank internal capital markets, this paper adds to the finance-growth nexus in the literature.[2] The inquiry on the relationship between financial development and economic growth dates back to Schumpeter (1912) who advocates the positive effects of financial sector development on a country's economic growth. Robinson (1952), however, proposes a competing view that financial development is only a consequence of economic growth. While the debate on causality has not been resolved, active investigations since the 1990s show that the extent of financial development is a good predictor of economic growth (e.g., King and Levine, 1993a,b; Levine and Zervos, 1998; Neusser and Kugler, 1998; Rajan and Zingales, 1998; Rousseau and Wachtel, 1998). There is further cross-country evidence that the exogenous legal and accounting systems are positively related to economic growth and thus legal and accounting reforms are important (Levine et al., 2000).

China, however, seems to be an exception to the consensus on the importance of financial development. Paradoxically, China has an underdeveloped financial system but boasts the fastest economic growth the world has ever seen. China commenced economic reforms in 1978, but gradual reforms of the banking system did not start until 1984 and bank property rights reforms did not take place until 2004. Our finding that there is no correlation between loan supply and economic growth at the branch level during the 1991–2005 period does not support the view that financial development facilitates growth. The positive correlation between bank deposit and local economic growth however is consistent with the view that financial development follows economic growth. Bank fund reallocation allows for the possibility that loans and deposits have different relationships with economic growth; we can discern the direction of causality through these relationships. In China's case, might Robinson be right and Schumpeter be wrong (King and Levine, 1993a)?

Our paper complements Allen et al.'s (2005) descriptive study of China that bank financing is not an important factor to economic growth. State owned banks tend to favor the less efficient government corporations. Biggeri (2003) even finds that the level of aggregate output in each province is negatively related to the presence of state-owned enterprises.

Our paper also sheds some light on the debate of the role of government banks in economic development. According to the "political" view, governments participate in finance in order to control investment by firms and the objective is political and social, not economic efficiency (Kornai, 1979; La Porta et al., 2002; Shleifer and Vishny, 1994). This contrasts with the competing "development" view (Gerschenkron, 1962) that emphasizes the economic development objective of government ownership of banks is to have an efficient banking system so as to attract funds to finance large scale industrialization.

Our finding that while generally bank loans have no effects on local growth during the 1991–2005 period, there are indications that the case of China seems to be consistent with the "political" view. As reforms intensified, and some positive association emerges, evidence supporting the "development" views start to surface from 2001 to 2005. Our interpretation is that while the system is basically a "political" one, as the banking reforms deepened, efficiency improves and fund reallocation is gradually associated with economic growth in a positive way as Becker (2007) suggests. This is consistent with Jia (2009) who shows that while lending by state-owned banks in China has been less prudent than joint-equity banks, it has improved over time as market-based incentives are introduced. Taking the dynamics of China's reforms into consideration is necessary to interpret our statistics. This is also compatible with Firth et al.'s (2009, p. 1145) study that "after 30 years of reform, China's banks have begun to behave more like the commercial corporate banks of the developed world."

2. Background

Since the commencement of economic reforms in 1978, China has experienced the fastest economic growth the world has ever seen. The average annual GDP growth rate from 1978 to 2006 was 9.6%. In 2005, China became the fourth largest economy in the world based on simple exchange rate conversion. When adjusted for purchasing power, China is already the second largest economy trailing only behind the US.[3] China's financial sector has also flourished as it successfully implemented a series of reforms. These include separating commercial banking from central banking through the creation of four state-owned commercial banks from 1979 to 1984, issuing treasury securities since 1981, increasing banking competition by the formation of 14 joint-equity banks during the 1986–2005 period,[4] strengthening the capital market by the establishment of two stock exchanges in 1990–1991, separating policy function from commercial banking through the formation of three policy banks in 1994, founding an interbank fund market in 1996 and an interbank bond market in 1997, and enhancing the market economy by the public listing of three state-owned banks in Hong Kong in 2005–2006. The successful reforms resulted in a dynamic financial industry of gigantic size. At the end of 2007, the total assets of China's depository institutions were 52598.25 billion Yuan, and a total of 1550 firms, including 14 banks, were listed on the two stock exchanges.

Before the economic reforms, there was only one bank in China, People's Bank of China (PBOC), which played the dual roles of both a central bank and a national commercial bank. Between 1979 and 1984, four state-owned commercial banks were spun off from

[1] While our finding is consistent with Driscoll (2004), the institutional context is different and would warrant a different interpretation. Driscoll's is a study of the market based US financing system and attributes the insignificant association between loan and economic growth to substitution of bank finance. Our study is on the government owned bank based financing system of China in an economy in transition.

[2] See Levine (1997) for a comprehensive survey on the finance-growth body of literature and Allen et al. (2005) for an update of the law-finance-growth nexus with China as a counter example.

[3] For a good overview of Chinese economic reforms and growth, see Allen et al., 2005; Bosworth and Collins, 2007.

[4] The youngest joint-equity bank, Bohai Bank, was founded on December 31, 2005.