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Working Paper

Financial sector development and growth: The Chinese experience

WIDER Research Paper, No. 2006/85

Provided in Cooperation with:
United Nations University (UNU), World Institute for Development Economics Research (WIDER)

Suggested Citation: Hasan, Iftekhar; Zhou, Mingming (2006) : Financial sector development and growth: The Chinese experience, WIDER Research Paper, No. 2006/85, ISBN 9291908630, The United Nations University World Institute for Development Economics Research (UNU-WIDER), Helsinki

This Version is available at:
https://hdl.handle.net/10419/63395

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Research Paper No. 2006/85

Financial Sector Development and Growth

The Chinese Experience

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August 2006

Abstract

This paper documents the financial and institutional developments of China during the past two decades, when China was successfully transformed from a rigid central-planning economy to a dynamic market economy following its unique path. We empirically examine the relationship between financial development and economic growth in China by employing a panel sample covering 31 Chinese provinces during the important transition period 1986-2002. Our evidence suggests that the development of financial markets, institutions, and instruments have been robustly associated with economic growth in China.

Keywords: institutions, growth, financial intermediation, transition, China

JEL classification: G30, G10, O16, K40

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This study has been prepared within UNU-WIDER's research on Globalization, Finance and Growth, linked to the project on Financial Sector Development for Growth and Poverty Reduction.

UNU-WIDER gratefully acknowledges the financial contributions to the research programme by the governments of Denmark (Royal Ministry of Foreign Affairs), Finland (Ministry for Foreign Affairs), Norway (Royal Ministry of Foreign Affairs), Sweden (Swedish International Development Cooperation Agency—Sida) and the United Kingdom (Department for International Development).

ISSN 1810-2611 ISBN 92-9190-863-0 (internet version)

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Camera-ready typescript prepared by Adam Swallow at UNU-WIDER

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1 Introduction

Over the past decade, considerable interest has focused on the link between the financial sector and economic growth. Most empirical studies have concluded that development of the financial sector accelerates economic growth (for example, Levine 1997; Thiel 2001; and Wachtel 2001). However, in the transition countries, the link between financial sector development and economic growth seems to be ambiguous at best (see, for example, Krkoska 2001; Berglof and Roland 1995; Berglof and Bolton 2002). These studies note that most investment in transition countries has been financed from cash inflows, foreign direct investment (FDI) has substituted for domestic financing, and the level of loans granted to the private sector is considerably lower than the European Union (EU) average.

In most countries, especially the transitional economies, financial development has been accompanied by structural institutional changes and it can be very hard to separate their impact in terms of promoting economic growth. Among the transitional economies which transformed from centrally planned systems to market systems, China is probably the most successful case in the late twentieth century, as China has maintained an average 10 per cent (approximately) annual growth rate in real gross domestic product (GDP) over the last 20 years. Unlike the 'big bang', which was characterized by economic liberalization preceded by a massive force of democratization, China's transition is characterized by a market economy developed without democratization, liberalization which proceeded incrementally, and privatization delayed until almost two decades after the reforms began.

Compared with China's apparent success in terms of economic growth, the engine that has been providing such spectacular growth remains a mystery, especially from the perspective of the finance-institutions-growth nexus. Part of the reason might be the lack of reliable and accessible data to facilitate such an investigation. Although it might be tempting to examine Chinese experiences by generalizing from the experiences of European and former Soviet transition countries, there are important differences in economic structure and institutional development that make the Chinese experience unique (Qian and Xu; 1993; Qian 1999a, 1999b). Moreover, cross-country studies are sometimes criticized for being unable to distinguish between the proximate determinants of growth and country specific idiosyncrasies (Wachtel 2003).

An alternative approach to the empirical analysis of growth in China is to examine the variation of experiences within the Chinese economy. Allen et al. (2005) follow this approach by looking at how institutional development affects different sectors of the Chinese economy. Similarly, Cull and Xu (2005) use a survey of managers to examine differences in institutional development. They find that there are surprisingly large variations across regions within China in managers' perceptions of legal protection and property rights. These studies indicate that institutional development has not occurred across China at the same pace and that regional differences may contribute to regional differences in growth.

In this paper we use panel data from the Chinese provinces to study the relationship between economic growth and measures of, or proxies for, financial sector and institutional development. There are wide differences in economic growth among the 31

provinces in the period examined (1986-2002). Our evidence indicates that those regions with more developed financial markets and institutions, more open and easy environments for private and foreign investors, more protection of property rights, more investment opportunities, and more complete market institutions are associated with stronger growth.

The rest of the paper proceeds as follows. Section 2 provides a brief description of financial sector development in China, including the fiscal and banking industry, corporate bond market, and stock market. Sector 3 discusses some other important institutional developments in China over the last two decades. Section 4 reviews the literature. Section 5 describes our data and the various proxies that we employ for institutional development across the 31 Chinese provinces. Methodologies used to calculate these proxies are provided in Section 4. In Section 6 we present the regression results and examine the relationship between institutional development and growth in China. Section 7 concludes.

2 Financial sector development in China

China has experienced significant institutional change during the last twenty years, unique both in its path and the success of the transition to a market economy from a strictly centrally planned economy. The main institutional changes can be described as the structural change of the financial market and institutions, the emergence and legalization of the market economy, the strong growth of the private sector, and the gradual decline of the state sector in the economy. The institutional reforms in China to date can be divided into three stages. The first stage includes the first fifteen years between 1979 and 1993, when a variety of transitional institutions emerged through experiments and innovations. This first stage is characterized by the regional decentralization of government, entry and expansion of non-state enterprises, financial stability through financial dualism, and a dual-track approach to market liberalization (Qian 1999a). The second stage covers 1994 to 2001, when most of the old revolutionaries were gone from the political scene. During this period there was a strategic shift in the official ideology which entailed completely abandoning central planning and embracing a market system and private ownership. This facilitated a wider and more profound promulgation of economic reforms including fiscal and banking system restructuring, privatization of state-owned enterprises (SOEs), and so on. The third stage began in 2002 when China began to revise its legislative framework in order to accommodate the bindings of the World Trade Organization (WTO) agreement which took effect at the end of 2001.

In this paper we focus on some important aspects of the financial sector development in China during the last two decades. In the next section, we discuss some fundamental aspects of institutional changes in China.

2.1 Fiscal and financial system reform

Financial liberalization in China since 1978 has taken two forms: the internal dimension and the external dimension (Li and Liu 2001). Internally, marketization and privatization have resulted in a decline of the state sector, while decentralization has

seen the reallocation of the fiscal budget between the state and local government. In 1979 the Chinese government began to substitute state budget allocation with bank loans. From 1980, profit tax began to substitute for profit remittances in the state sector. The 'soft budget' problem reflected the weakness in budgetary control as budget deficits coexisted with 'extra-budgetary' surpluses in some years (Qian and Roland 1996). Furthermore, the various tax reform measures were complicated and subjected to abuse, resulting in a decrease in tax rate (Donnithorne 1986; Wu 1989; Blejer and Szapary 1990).

In 1984, the nature of centrally planned financial resource allocation was revised. Local governments and departments were able to decide their own resource allocation via domestic loans and self-raised funds. During the 1980s, a process of revitalization of banking institutions took place (Li 1994; Yi 1994). In the case of monetary policy, a 'stop-go' strategy has been used, but interest rates have been adjusted on various occasions since the 1993 Austerity Plan (Qian 1994). Since 1988, enterprises have had the right to decide their own investments and a bidding system has been established (Cheng 1997). In January 1994, China introduced major tax and fiscal reforms which brought in a clear distinction between national and local taxes, thus making it very difficult for local governments to reduce national taxes as they had done in the past. In 1995, the new Budget Law took effect. This law prohibited the central government borrowing from the central bank and from running a deficit to finance the current account, required local governments to balance their budget, and restricted local governments from bond issuance or borrowing in the financial market.

Further legislation which substantially reduced the influence of local governments on monetary policy and credit allocation decisions was the Central Bank Law passed in 1995. In 1998, the Central Bank closed 30 provincial branches and replaced them with nine cross-province regional branches in order to centralize macroeconomic control and supervision. This served to further minimize local government influence on monetary policies. Another important financial regulation reform introduced in 1998 was the separation of the supervisory regulation of commercial banks, investment banks, and insurance companies. The supervisory regulation of the equity market and insurance market gained independence from the Central Bank, and two supervisory bodies (China Securities Regulatory Committee and China Insurance Regulatory Committee) were established to supervise the equity market and insurance market respectively. These reforms appear to mirror the Glass-Steagall Act in the United States, and they may reduce systematic risk in China's developing financial industry.

2.2 Banking reform

In the 1980s, reform of financial institutions and regulations was characterized by a process of revitalization of banking institutions (Li 1994; Yi 1994). However, major banking reforms did not take place until 1994 when the central government decided to separate the policy-lending banks from the commercial banks (three policy-lending

banks and four specialized commercial banks were set up), thus establishing the so-called three-tier system. From that point on, banking reforms included:[1]

- Establishing a central bank (People's Republic Bank, 1994).
- Transforming the urban credit cooperatives into commercial banks (1996-98).
- Granting licenses to some foreign banks. There are different licenses stipulating the scope of activities that foreign banks are allowed to engage in. For example, foreign representative offices and foreign branches can only serve foreigners for foreign currency items, and in the case of foreign banks certain business restrictions may still apply.
- Granting licenses to non-state commercial banks.
- Reducing government intervention in credit allocation.
- Loosing interest rate controls.
- Recommending standard accounting and prudential norms.

Although a number of apparently instrumental policies are outlined here, the problems that the Chinese banking sector faces include: under-capitalization, a large percentage of bad loans, the continuing practice of distributing low-interest policy loans to low efficiency state sectors, and bribe-taking and abuse of duties on the part of bank loan officers. The non-performing loans of the state banks have also been regarded as the major obstacle to their efficient performance (EAAU 1999). Despite these problems, the banking sector has been playing a major role in supporting investment in industry and economic growth in China, and the banking sector itself has experienced remarkable growth during the last two decades.

2.3 Corporate bond market

Since China first embarked on its policy of opening up in the late 1970s, the country's stock and government bond sectors have developed rapidly. Corporate bonds (the third major fund-raising tool in the capital market), however, lag far behind stocks and government bonds. In 1986, corporate bonds were issued for the first time, with amounts averaging about RMB 8 billion (Kumar 1997). For a long time the corporate bonds listed in the stock market were all of a small scale and unitary type, which failed to meet issuer's demand for capital, and the curb exchange of corporate bonds was explicitly prohibited. In 1999, the total corporate bonds issued amounted to RMB 42 billion, representing just 0.51 per cent of China's GDP (RMB 8205.4 billion) (*People's Daily* 2000). However, the corporate bond market began to expand from 2000 following the implementation of new rules governing corporate bond issuance.[2] Although state-

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1 See Shirai 2002 for a more detailed description of Chinese banking reforms. Since China joined the WTO at the end of 2001 a new set of rules have begun to take effect. The agenda indicates that further liberalization of interest rates, fairer treatment of tax rates between players, fewer restrictions on takeovers and mergers and acquisitions, and greater freedom of operational and geographical scope can be expected.

2 In September 2000, new rules governing corporate bond issuance were brought in. These aimed to serve the development of China's floor exchange and prepare for the curb exchange. The 2000 rules introduced the listing recommender system, and specified more stringent qualifications for bonds to be listed in the stock market (*People's Daily* 2000).

owned enterprises still dominated in terms of the total value of corporate bonds issued, following the implementation of the reforms private enterprises began to catch up. Between 1987 (when the first corporate bond was issued in the Chinese mainland) and 2002, Chinese enterprises issued a total of RMB 270 billion (US$32.64 billion) worth of corporate bonds. At the same time, the issuance size of individual corporate bonds also increased; now typically exceeding RMB 1 billion (US$120.9 million) (*China Daily* 2003).

There are various reasons why the development of the corporate bond market has been so slow. First, the process of corporate bond issuance is extremely cumbersome. All new issues must be approved by three different bodies, including the State Development Planning Commission (SDPC), which allocates issuance quotas on the basis of regional and sectoral balance. Second, the issuing enterprise must seek recommendations and guarantees from the local government and the ministry responsible for its sector. Third, interest rates on corporate bonds cannot exceed more than 40 per cent of deposit interest rates with the same term (Kolesnikov-Jessop 2005). Such stringent restrictions on issuers' qualifications, issuance amounts, and the pricing of new non-financial corporate issues, along with the inadequate supervision and legal framework, and lack of investor diversity and low liquidity, has prevented the corporate bond market from playing a major role in the economy.

However, some progress has been seen as the Chinese government is paying increasing attention to the importance of corporate bonds in the capital market. Moves to improve the functioning of the corporate bond market include:

- The right to issue corporate bonds has been extended from mega-sized state-owned enterprises to local enterprises.
- Controls governing fund usage have been eased to the extent that non-project fund-raising methods are allowed, such as issuing corporate bonds to repay bank loans.
- The process of issuing corporate bonds is more streamlined, moving towards a paperless issuance procedure.
- Interest rates for corporate bonds are increasingly being determined by market forces, and institutional investors now play a dominant role in the corporate bond investment sector.
- The liquidity of corporate bonds is on the rise and, based on statistics, between 1998 and 2002 the total traded volume of corporate bonds on the Shanghai Stock Exchange (SHSE) recorded an average annual growth rate of 125 per cent. Meanwhile, the difference in earnings ratios between corporate bonds and the market has narrowed.
- Risk control mechanisms for corporate bonds are improving, as more and more issuers have opted for bank guarantees instead of guarantees from related enterprises.
- Encouraging participation of foreign institutions as underwriters. (*China Daily* 2003; Fung and Leung 2001)

2.4 The establishment of the stock market

The origin of the stock market in post-1949 mainland China can be traced to July 1984, when the Beijing Tianqiao Department Store was converted into a shareholding company. During 1984-1991, policy- and regulation-making power in the equity market was concentrated in the hands of local government and the People's Bank of China (PBOC). The establishment of the SHSE in December 1990 and the Shenzhen Stock Exchange (SZSE) in July 1991 was designed to support SOE reforms, and the two exchanges were overseen by the Shanghai and Shenzhen municipal governments. Provincial governments were not allowed to sponsor companies to come to the market. In early 1992, tens of thousands of SOEs nationwide sought permission to restructure into shareholding companies, following the late Deng Xiaoping's comment that there was a need to push forward with economic reform and to experiment with securities. In October 1992, the central government re-organized the stock market institutions: the State Council Securities Committee (SCSC), a senior governing system, assumed formal policy-making powers, and the China Securities Regulatory Commission (CSRC) was established as its administrative agency. However, at the same time, local leaders retained significant influence over the listing process and the enforcement of secondary market regulation. Green (2004) remarks that this period (1993-96) was plagued with capital market crises, largely caused by the actions of local officials.

Examples of these crises include the treasury bond futures crisis in 1995, the listing of non-tradable shares during 1994-95, and the over-aggressive development strategy of the two stock exchanges during 1996-97. The illegal participation of financial institutions in the stock market (including securities companies, insurance firms, and so on) exacerbated the situation. As a result, speculation and illegal trading practices were rife during the second half of 1997. In response to the chaos, in December 1996 the CSRC tightened restrictions on Chinese residents opening B-share accounts, which were reserved for foreign investors. A new regulation that limited the maximum daily price change to 10 per cent was also imposed (that is, those stocks with daily price changes exceeding 10 per cent of their respective stock prices were prevented from further trading that day). During 1997-98, power was centralized in the CSRC, and in July 1999, the Securities Law became effective, which laid out the legislative foundation for the development of the stock market. Under this law, brokers were banned from using client funds to finance their own operations and foreigners were prevented from buying A-shares. By 2000, the CSRC had become equivalent to a ministry in bureaucratic rank, with its own local offices and wide-ranging policy-making powers. With the influence of local government significantly reduced, public investors regained confidence in the stock market and it has enjoyed rapid expansion since then.

3 Other institutional developments

3.1 Reform of Chinese state owned enterprises

After nearly thirty years of reform, SOEs still remain one of the most intractable problems in the Chinese economic system, hindering the country's transitional process towards a market economy. Chen and Feng (2000) argue that the poor performance of

SOEs can be ascribed to their lack of adaptability to market mechanisms based on prices, lack of technological innovation, triangle debt, redundant employees, a rigid wage mechanism, and being overburdened by retirees, social welfare and pension costs, and so on.

The restructuring of the SOEs began in 1978. Instead of privatizing the SOEs, the Chinese government chose to restructure them by increasing the autonomy of managerial decision-making and creating financial incentives at the enterprise level (Xiang 1998). During 1978-80, a system of entrepreneurship and profit retaining was implemented, and in the following two years, a 'profit-loss' contract system was put in place under which SOEs could negotiate with the local or upper-level government on the share of profit to be retained. By early 1982, over 80 per cent of SOEs were under the 'profit-loss' contract system (Cheng 1997, 2000). In the years that followed, the state experimented with various approaches to rejuvenate the SOEs. These approaches can be broadly grouped under two headings: the contract responsibility system (CRS) and corporatization (Xiang 1998).

The experiment with corporatization began in 1984, and remained low key until late 1991, when it was significantly promoted by the establishment of the two stock exchanges in mainland China. Some researchers (for example, Xiang 1998) argue that corporatization helped with facilitating capital-raising, classifying property rights, and restructuring the ownership and other reorganizations of the SOEs. In 1997, the 15th Party Congress Meeting introduced a 'differential treatment' strategy to aid SOE reform which involved the 'protection of the large and release of the small'. Smaller state-owned enterprises were asked to 'find their own solution', and since then the privatization of Chinese SOEs has grown substantially. According to the official statistics, only 60 per cent of the total number of SOEs in 1996 remained under state ownership by 2001 (Yao 2004). In essence, the process of SOE reform since 1978 can be viewed as a gradual decentralization of the management of state enterprises; management authority has shifted from government bureaucrats to SOE managers.

3.2 The emergence and blossoming of the private sector

The privatization of SOEs, and market focused economic reforms have nurtured the growth of the non-state sector (Liu and Li 2001). Over the last two decades, the private sector has grown from an extremely restricted sector into one of the most powerful engines of growth of the Chinese economy.

Zhejiang Province has played a leading role in privatization since the early 1980s when the Wenzhou model was first developed. The Wenzhou model was an early form of privatization based on capital accumulation in a family and village environment of small and non-professionally managed enterprises.

From 1992, enterprises were offered the chance to convert to a limited liability structure in anticipation of the Company Law which was enacted in 1994. And when the Company Law was finally promulgated in 1994, provincial and local authorities supported its implementation as a province-wide policy. According to the interviews conducted by Krug and Hendrischke (2001 2004), local authorities could ask enterprises under their jurisdiction to convert to limited liability companies. Until the end of the 1990s, enterprises were left to decide how to divide shares between different forms of

owners. While improving property rights, incorporation under Company Law did not necessarily lead to privatization in the sense of guaranteeing a majority of private shareholders. The enforcement of the incorporation under Company Law differed between different areas.

A further move towards privatization and the confirmation of private property rights came in 2000, when provincial authorities introduced a 'deepened system reform' for the years 2000 and 2001. This reform aimed to reduce all public enterprise shares to less than 50 per cent, effectively giving private entrepreneurs a majority share in local enterprises. In addition, the province encouraged local institutions to extend legal security to other areas of government activity. One example was the new regulation introduced in 1999 concerning the sale of public land, or more precisely, the sale of long-term usage rights. The legal protection of private enterprises was also improved by protecting them from corrupt officials. Since 2000, restrictions on the maximum share an individual can hold have been lifted.

The establishment of property rights in China has been an incremental process; from the introduction of usage rights to the recognition of individuals (natural persons) as owners of capital assets, and from collective rights to the establishment of firms that as legal entities own corporate assets. The speed of the is process has depended more on local politics than on national legislation, and privatization and the recognition of property rights has also been more an outcome of local politics than of national legislation (Krug and Hendrischke 2001: 27).

3.3 Foreign direct investment and 'open door' policy

The Chinese economy had been closed to Western countries since 1949. In 1979 the government decided to open 'the door' to welcome foreign investment. Two coastal provinces, Guangdong and Fujian, were allowed to adopt 'special policies' to attract more international business. In 1980, four special economic zones (Shenzhen, Zhuhai, Shantou, and Xiamen) were established and these enjoyed a special institutional and policy environment. Their success led the central government to grant special autonomy to an additional 14 coastal cities in 1984 (Nyaw 1997; Lardy 1992, 1994). In 1988, Hainan was added as the largest special economic zone when it became a separate province. In 1992, most cities along the Yangtze River and the country's borders were also granted special privileges as coastal cities. Even many inland cities which did not enjoy the special policies established numerous development zones inside their regions to enjoy the tax benefit. As a result, FDI increased sharply in the early 1990s, from US$ 4.4 billion in 1991 to US$ 28 billion in 1993 (Qian 1999b).

China's 'open door' policy allowed trade expansion in product markets and an inflow of foreign investment in the capital market (Liu and Li 2001), but Qian (1999a) argues that for a large country like China, foreign trade and investment per se are unlikely to be quantitatively as important as for small countries. Openness has contributed more in terms of new ideas and technology and increased competition. However, their impact is ultimately dependent on internal changes.

While it is outside the scope of this paper to describe every important aspect of the transition in detail, it should be stressed that although China's market system remains highly imperfect and many acute problems remain unsolved, the country has been

undergoing highly dynamic, profound, yet smooth institutional change over the 28 years since 1978. This should lay solid foundations for a modern market economy in China.

4 Literature review

Both theoretical and empirical evidence suggest that a strong financial sector promotes economic growth. Seven decades ago, Schumpter (1934) stressed the role of the banking sector as a financier of productive investments and thus as an accelerator of economic growth. Pagano (1993) suggests that the financial sector might affect economic growth in the sense that it increases the productivity of investments, reduces transaction costs, and affects savings. Greenwood and Jovanovic (1990), Levine (1991), Bencivenga and Smith (1991), and Saint-Paul (1992) have all constructed theoretical models wherein efficient financial markets improve the quality of investments and enhance economic growth.

Meanwhile, a number of studies also investigate the link between finance and growth empirically. Goldsmith's (1969) work provides the earliest evidence that the development of financing accelerates economic growth. King and Levine (1993) study cross-country data for 80 countries and find a strong positive relationship between financial development indicators and economic growth. Also based on the cross-country analysis, Levine and Zervos (1996, 1998) research the role of stock markets and the banking sector, and conclude that stock market liquidity and bank development are robustly correlated with economic growth. What is more interesting to financial economists is the role of market institutions, and in the sense that market institutions define property rights,[3] a complex set of institutions must be created to ensure that use and trading in these rights is fair and transparent and that abuses are appropriately punished (Green 2004). At the same time, the weakness of institutions in developing countries is well identified, for example, Aron (2000) argues that institutions in some developing countries are weak because such rules are simply absent, suboptimal, or poorly enforced when the costs of monitoring and enforcement prove too high. Aron argues that in such an environment, transaction costs may be too high when property rights or the rule of law are not reliable.

As Williamson (1996: 377-79) argues, creating effective institutions and the rules that govern economic transactions lie at the heart of a successful transition. Institutional studies in settings of transitional and developing economies have gained more attention in recent years (World Bank 1993, 1997; Stiglitz 1998). For example, Johnson et al. (2002) examine the relative importance of property rights and external finance in several Eastern European countries. They find property rights to be overwhelmingly important, while external finance explains little in terms of firm reinvestment. Acemoglu and Johnson (2003) separate proxies for the security of property rights into two groups: those measuring the risk of expropriation by the government and those measuring the ease and reliability of contract enforcement. Their cross-country results suggest that risk of expropriation is the more severe impediment to economic development.

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3 Demsetz (1967) defines the 'bundle of rights' as the use, revenues, and transfer of assets.

Following the same definition of security of property rights while using Chinese firm-level data in 2002, Cull and Xu (2005) indicate that at China's current stage of development, expropriation risk, contract enforcement, access to finance, and ownership structure all appear to matter for Chinese firms' reinvestment decisions. Allen et al. (2005), also based on firm-level data in China, compare growth in the formal sector (state-owned and publicly traded firms) and the informal sector (all other firms). They find that the informal sector grows much faster than the formal sector and provides most of the economy's growth, despite the informal sector being associated with much poorer legal and financial mechanisms. They argue that effective informal financing channels and governance mechanisms exist to support this growth, such as those based on reputation and relationships.

Although these studies are based on firm-level data, they shed some light on the relationship between financial markets and institutional development and growth at the macro level. There are a number of studies on regional disparities among the Chinese provinces (Borensztein and Ostry 1996; Sachs and Woo 1997; Park and Prime 1997; Hu and Khan 1997), but very few studies make efforts to incorporate the role of institutions.[4] In particular, Chen and Feng (2000) find that growth of private and semi-private enterprises leads to an increase in economic growth while the presence of SOEs reduces growth rates among the provinces based on their sample of 29 Chinese provinces from 1978-89. Similarly, based on a provincial level sample during the period 1986-2001, Biggeri (2003) finds that the level of aggregate output in each province is negatively influenced by the presence of SOEs, which proxies for the non-marketization of Chinese provincial economic systems. Although these works tend to study some aspects of institutions, their analysis and measure of institutional development is incomplete and unsystematic. Moreover, when they incorporate both institutional development and other explanations to explain economic growth, the role of institutions is blurred or contaminated by the endogeneity of these other factors on institutional development.

Unlike the previous provincial studies, we try to present a complete framework to examine and measure the role of financial markets and institutional development in explaining regional growth disparities across China since 1986.

5 Sample and methodology

Our sample consists of panel data which includes relevant variables observed in 31 provinces[5] in mainland China during 1986-2002. These 31 provinces are (alphabetically) Anhui, Beijing, Chongqing, Fujian, Gansu, Guangdong, Guangxi, Guizhou, Hainan, Hebei, Heilongjiang, Henan, Hubei, Hunan, Jiangsu, Jiangxi, Jilin, Liaoning, Neimenggu, Ningxia, Qinghai, Shaanxi, Shandong, Shanghai, Shanxi, Sichuan, Tianjing, Xinjiang, Xizhang, Yunnan, and Zhejiang. Our data is collected from various sources, including *China Statistics Yearbook*, *China Almanac of Banking and Finance*, and *China's National and Provincial Consensus* (2000, 1990, 1982).

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4 Chen and Feng (2000) and Biggeri (2003), however, may be the few exceptions.

5 This includes the four municipalities which enjoy the same level of authority as the provinces: Beijing, Shanghai, Tianjing, and Chongqing.

Growth is measured by real GDP growth in natural logged form, and it serves as the dependent variable in our study.

As this study investigates the role of financial sector development on the cross-provincial basis, all the variables are measured at the province level. As we have argued before in this paper, investigating the role of financial institutions and markets at the provincial level can give more insights into China's experience than studying the country as a whole. Even though the Chinese political system is unitary rather than federal – in that all the provincial leaders are appointed directly by the senior political leadership (Green 2004) – it is well recognized that provinces in China are quite heterogeneous in terms of their institutions as well as their economic development. For example, Krug and Hendrischke (2001) clearly refute the assumption that China can be treated as country with homogenous culture, because: 'the regional variations (or different "cultures") within China might find their explanations in the different practices remembered and revised by locally entrenched networks and/or negotiated between firms and political authorities responsible for the implementation of reforms'. Likewise, Xie (2004) also remarked that it is necessary and worthwhile to study regional differences between financial markets and institutions in China because they represent substantially different investment risk across the regions.

As an attempt to capture financial sector development at the provincial level, we construct the following four proxies:

(1) **Loans by state banks to GDP**. Because China's state banks represent more than 90 per cent of the total banking industry (in terms of both savings or loans), the ratio of state banks' loans to GDP is a valid proxy for total bank lending to GDP. This variable captures the degree of bank loan financing at the province level.

(2) **Private lending to total loans**, that is, the ratio of total bank loans made by non-state banks to total loans made by all financial institutions. This variable signifies the degree of private financing from non-state financial institutions.

(3) **Corporate bonds issuance to GDP**. This variable measures the relative scale of financing through corporate bonds in the economy at the provincial level.

(4) **The number of listed firms to total firms**. As China began to establish its stock market institutions in the early 1990s, many SOEs were restructured in order to go public in the domestic stock market. Private equity thus won the opportunity to invest in SOEs through buying and trading shares in the open market. This ratio captures the degree of development of stock market-associated institutions, including investment banks, accounting professionals, supervisory bodies, and so on. As the development of these institutions should serve to both clarify the definition of and protect property rights, this ratio also indicates the extent of property rights-related institutional development.

Our model also includes some other institutional variables:

(5) **The extent of foreign involvement**, as proxied by FDI/GDP (per cent). As well as FDI in the direct sense, this measurement also reflects the extent to which local governments are willing to attract foreign investment, and accept new ideas, technology, and increased competition in a broader sense.

(6) **The proportion of private (and individually-owned) enterprises in the economy**, proxied by the ratio of the output of private enterprises in the secondary industry to total output in the second industry. This measurement captures the degree of privatization at the provincial level. It may also provide an additional signal of the quality and nature of the institutions: the degree of protection of property rights, the fairness of legal system, the attitude of local government to the private sector, and spirit of and incentives driving local entrepreneurship. Our views here are partly consistent with Cull and Xu (2005), who argue that the extent of private ownership is another aspect of property rights. Aron (2000) also points out that the scale of private firms typically correlates positively with the strength of the institutions in place.

Finally, we include three control variables in the model:

(7) **ln (real GDP level, with one-year lag).** This controls for the scale of each province's economy.

(8) **Secondary school enrolment ratio**. This controls for the education quality at the provincial level.

(9) **Fixed assets investment to GDP**. This controls for the capital input of the economy which may provide economic growth.

Our descriptive statistics are presented in Tables 1 and 2. Table 1 presents the summary statistics for the whole sample, including the number of observations and the mean, standard deviation, and minimum and maximum values of each variable in the sample. All these variables are measured at the provincial level.

Table 1: Summary statistics

	Variable	Obs	Mean	Std Dev.	Min	Max
LHS	Real GDP growth, logged	516	0.086	0.058	-0.243	0.435
RHS	1 Loans by state banks/GDP	558	0.831	0.298	0.000	2.280
	2 Private lending/total loans	516	0.129	0.118	0.000	0.622
	3 Corporate bond issuance/GDP	471	0.004	0.005	0.000	0.036
	4 Listed firms/total firms	513	0.005	0.009	0.000	0.067
	5 FDI/GDP	508	0.025	0.038	0.000	0.244
	6 Private output/total output	498	0.299	0.173	0.000	0.811
	7 ln (real GDP level), one-yr lag	546	24.319	1.093	21.045	26.651
	8 Secondary school enrolment ratio	547	0.846	0.124	0.396	1.000
	9 Fixed asset investment/GDP	543	0.331	0.097	0.153	0.688

Table 2: Summary statistics by selected years

		1986	1988	1990	1992	1994	1996	1998	2000	2002
	Real GDP growth, logged	0.057	0.044	0.104	0.125	0.074	0.091	0.097	0.113	0.110
		(0.040)	(0.039)	(0.077)	(0.059)	(0.050)	(0.077)	(0.026)	(0.029)	(0.017)
1	Loans by state banks/GDP	0.728	0.693	0.791	0.852	0.772	0.812	0.913	0.985	1.038
		(0.252)	(0.247)	(0.287)	(0.274)	(0.270)	(0.254)	(0.266)	(0.309)	(0.369)
2	Private lending/total loans	0.073	0.088	0.103	0.128	0.152	0.162	0.148	0.153	0.157
		(0.136)	(0.125)	(0.125)	(0.109)	(0.103)	(0.106)	(0.101)	(0.104)	(0.119)
3	Corporate bond issuance /GDP	.	0.002	0.004	0.016	0.004	0.002	0.002	0.001	0.003
		.	(0.002)	(0.006)	(0.009)	(0.004)	(0.002)	(0.002)	(0.001)	(0.004)
4	Listed firms/total firms	0.000	0.000	0.000	0.001	0.002	0.002	0.011	0.014	0.015
		(0.000)	(0.000)	(0.000)	(0.003)	(0.003)	(0.003)	(0.009)	(0.012)	(0.012)
5	FDI/GDP	0.004	0.008	0.008	0.020	0.052	0.043	0.039	0.026	0.027
		(0.008)	(0.014)	(0.013)	(0.033)	(0.063)	(0.051)	(0.042)	(0.026)	(0.026)
6	Private output/total output	0.218	0.200	0.216	0.266	0.350	0.423	0.500	0.258	0.348
		(0.077)	(0.093)	(0.089)	(0.110)	(0.167)	(0.172)	(0.175)	(0.171)	(0.188)
7	ln (real GDP level), one-yr lag	23.755	23.893	23.898	24.092	24.342	24.502	24.688	24.876	25.092
		(0.933)	(0.962)	(0.968)	(0.986)	(1.036)	(1.083)	(1.083)	(1.071)	(1.068)
8	Secondary school enrolment ratio	0.754	0.751	0.793	0.821	0.869	0.906	0.922	0.915	0.943
		(0.144)	(0.138)	(0.114)	(0.104)	(0.075)	(0.081)	(0.073)	(0.085)	(0.059)
9	Fixed asset investment/GDP	0.317	0.320	0.253	0.302	0.353	0.340	0.352	0.362	0.407
		(0.066)	(0.066)	(0.083)	(0.078)	(0.107)	(0.103)	(0.086)	(0.092)	(0.118)

Table 3: Correlation matrix

		1	2	3	4	5	6	7	8	9
1	Loans by state banks/GDP	1.000								
2	Private lending/total loans	-0.032	1.000							
3	Corporate bond issuance /GDP	0.008	0.050	1.000						
4	Listed firms/total firms	**0.398**	0.199	-0.131	1.000					
5	FDI/GDP	0.101	0.299	0.033	0.241	1.000				
6	Private output/total output	-0.230	**0.374**	0.002	0.043	**0.626**	1.000			
7	ln (real GDP level), one-yr lag	-0.215	0.210	-0.055	0.039	0.210	**0.547**	1.000		
8	Secondary school enrolment ratio	0.285	0.245	0.004	0.237	0.305	**0.418**	**0.470**	1.000	
9	Fixed asset investment/GDP	**0.441**	0.062	-0.028	**0.390**	**0.390**	0.043	-0.260	0.276	1.000

Table 2 provides the mean and standard deviation (in parentheses) of the variables in selected years (not all the years are presented here due to space limits). Looking at the statistics, we notice that real GDP growth at the provincial level has maintained an average level of 8.59 per cent. In particular, during the period 1996-2002, GDP reached an average growth rate of almost 10.5 per cent[6] across the country. Meanwhile, loans by state banks/GDP, private lending, the ratio of listed firms, the secondary school enrolment ratio, and fixed asset investment/GDP follow a general rising pattern. Other variables, however, are mixed in the direction of their changes.

Table 3 presents the correlation matrix of the independent variables in the regression. Among the variables, the pairs ‘private output/total output’ and ‘FDI/GDP’, ‘private output/total output’ and ‘real GDP level’, and so on seem to be most strongly correlated.

6 Results

Table 4 presents the results of two groups of regressions: the fixed-effects regression results (first five columns) and fixed-effects regressions with AR(1) correction for error terms (columns six to ten). t-statistics are reported in parentheses.

6 It should be noted, however, that the number here is the simple average of the GDP growth rate in the 31 provinces. Without being weighted by provincial output, this number does not equate to GDP growth at the national level.

Table 4: Fixed effects regressions

	Fixed effects regressions					Fixed effects regressions with AR(1)				
	1	2	3	4	5	1	2	3	4	5
Constant	0.231	0.406*	0.521**	0.215	0.840***	0.085	0.154	0.160	0.040	0.105
	1.096	1.747	2.225	0.834	2.771	0.790	1.428	1.344	0.291	0.789
Loans by state banks/GDP		0.035*	0.084***	0.071***	0.066***		0.064***	0.076***	0.077***	0.059**
		1.764	3.929	3.191	3.017		2.737	3.173	3.262	2.437
Private lending/total loans			0.077**	0.081**	0.097***			0.086*	0.093**	0.098**
			2.143	2.129	2.592			1.909	2.031	2.160
Corporate bond issuance /GDP				2.270***	2.321***				2.496***	2.758***
				4.363	4.551				4.575	5.083
Listed firms/total firms					1.752***					1.269***
					3.849					2.753
FDI/GDP	0.361***	0.435***	0.445***	0.368***	0.473***	0.210	0.316**	0.336**	0.395***	0.435***
	2.790	3.207	3.413	2.755	3.528	1.382	2.029	2.244	2.677	2.977
Private output/total output	0.012	0.013	0.035	0.038	0.053*	0.015	0.015	0.023	0.042	0.042
	0.440	0.505	1.298	1.384	1.922	0.520	0.545	0.757	1.401	1.416
ln (real GDP level), one-yr lag	-0.012	-0.021*	-0.028**	-0.015	-0.042***	-0.005	-0.010	-0.012*	-0.009	-0.011
	-1.215	-1.893	-2.550	-1.227	-2.978	-0.774	-1.436	-1.673	-1.189	-1.410
Secondary school enrolment ratio	0.134***	0.160***	0.166***	0.133**	0.155***	0.110**	0.115**	0.125**	0.170***	0.140**
	2.817	3.216	3.394	2.544	2.978	2.096	2.209	2.321	3.054	2.520
Fixed assets investment/GDP	0.078*	0.055	0.045	0.066	0.044	0.100*	0.061	0.042	0.037	0.027
	1.736	1.179	1.027	1.433	0.975	1.885	1.120	0.807	0.696	0.522
N	475	475	450	426	423	445	445	420	396	393
R-sq: within	0.0946	0.1010	0.1665	0.2021	0.2308	0.0518	0.0685	0.1100	0.1944	0.2122
between	0.0035	0.0215	0.0219	0.0051	0.0296	0.0414	0.0043	0.0019	0.0137	0.0176
overall	0.0372	0.0121	0.0164	0.0469	0.0200	0.0545	0.0198	0.0317	0.0824	0.0935
P-value of F-test of regression	0.0000	0.0000	0.0000	0.0000	0.0000	0.0005	0.0001	0.0000	0.0000	0.0000
P-value of F-test that all u_i=0	0.6910	0.5620	0.0029	0.0007	0.0000	0.9506	0.6974	0.1462	0.0095	0.0051

*, **, and *** correspond to the coefficients being significant at 10%, 5%, and 1%, respectively.

Table 4 shows that the development of financial markets and institutions (bank loans, private lending, corporate bonds, and the stock market) is strongly and positively related to growth. Combining the role of lending activities – at both the state and private sector levels – it is obvious that the increased availability of loans is instrumental in promoting economic development. Increased competition from private banks and foreign affiliated banks has also encouraged the public banks to compete for customers, resulting in a substantial growth in lending activities. But it is the newly available private lending activities in China that have fuelled the new phenomenon of economic growth. Coefficients associated with both the 'loans by state banks to GDP' and 'private lending to total loans' show a significant impact on economic growth. In the case of the private lending variable the impact is not only statistically significant but also significant in the sense of its economic effect on growth. The development of the stock exchange and the process of new companies issuing equity is an important development in institutional building within the financial and capital market arena. The growth of new firms seems to significantly affect economic growth, as can be seen from the coefficient of the 'listed firms to total firms' variable. Another financing source – debt – also seems to have an important affect on growth as the 'corporate bond to GDP' ratio is associated with growth at the 1 per cent statistical significance level. FDI/GDP is also strongly correlated with growth, which is consistent with other studies (for example, Biggeri 2003). In sum, these results indicate that those regions with more developed financial markets and institutions, more investment opportunities, and a more open and easy environment for private and foreign investors are associated with stronger growth.

7 Conclusion

China's economic success is not only one of the most remarkable cases in recent history; the transitional reform path that the country has followed is also unique in its very nature. Thus it is important to see whether and how these institutional transitions have impacted on economic growth in China. In this paper, we have reviewed financial sector and institutional development in China since the ideological reform of 1978. We have also empirically examined the role played by financial institution development in economic growth by employing our cross-province sample. Our evidence indicates the strong role of financial markets and institutions in promoting economic growth. Four proxies were used to capture the degree of financial sector development at the provincial level in China: 'loans by state banks to GDP' was used to capture the degree of bank loan financing at the provincial level; 'private lending to total loans' showed the extent of private financing from non-state financial institutions; 'corporate bonds issuance to GDP' measured the relative scale of financing by means of corporate bonds in the economy at the provincial level; and the 'number of listed firms to total firms' captured the extent of the development of stock market-associated institutions. Our model also included two institutional variables: the 'degree of foreign involvement', as proxied by FDI/GDP (per cent) and the 'proportion of private (and individually-owned) enterprises in the economy', proxied by the share of private enterprise output to total output in manufacturing industry.

Overall, our evidence suggests that those regions with more developed financial markets and institutions, a more open and easy environment for private and foreign investors, more protection of property rights, better investment opportunities, and more complete market institutions are associated with stronger growth. Further research on the role of

institutional developments – following Hasan et al. (2006) – is warranted in order to gain a more conclusive understanding of the finance-growth nexus in a transitional country like China.

References

Acemoglu, D. and Johnson, S. (2003) 'Unbundling institutions', unpublished working paper 9934, Cambridge MA: National Bureau of Economic Research.

Allen, F., Qian, J. and Qian, M. (2005) 'Law, finance and economic growth in China', *Journal of Financial Economics*, 77: 57–116.

Aron, J. (2000) 'Growth and institutions: a review of the evidence', *The World Bank Research Observer*, 15(1): 99–135.

Bencivenga, V. R. and Smith, B. (1991) 'Financial intermediation and endogenous growth', *Review of Economic Studies*, 58: 195-209.

Berglöf, E. and Roland, G. (1995) 'Bank restructuring and soft budget constraints in financial transition', Centre for Economic Policy Research Discussion Paper 1250, London: CEPR.

Berglöf, E. and Bolton, P. (2002) 'The great divide and beyond – financial architecture in transition', *Journal of Economic Perspectives*, 16: 77-100.

Biggeri, M. (2003) 'Key factors of recent Chinese provincial economic growth', *Journal of Chinese Economic and Business Studies*, 1(2): 159-83.

Blejer, M. I. and Szapary, G. (1990) 'The evolving role of tax policy in China', *Journal of Comparative Economics*, 14(3): 452-72.

Borensztein, E. and Ostry, J. D. (1996) 'Accounting for China's growth performance', *The American Economic Review*: Papers and Proceedings, 86: 224–28.

Chen, B. and Feng, Y. (2000) 'Determinants of economic growth in China: Private enterprises, education, and openness', *China Economic Review*, 11: 1-15.

Cheng, C-Y. (1997) *The process and effects of China economic reform*, Taipei: Chinese Association for Eurasian Studies.

Cheng, C-Y. (2000) *China economic reform and the relationship with Taiwan*, Taipei: LianJin Publisher.

Cull, R. and Xu, L. C. (2005) 'Institutions, ownership, and finance: the determinants of profit reinvestment among Chinese firms', *Journal of Financial Economics*, (submitted).

Demsetz, H. (1967), 'Toward a Theory of Property Rights', in *Ownership, Control, and the Firm*, Oxford: Blackwell: 104-116.

Donnithorne, A. (1986) 'Banking and fiscal changes in China since Mao', Conference on China's System Reforms, Paper 31, Center of Asian Studies, Hong Kong: University of Hong Kong.

EAAU (1999) ‘Asia’s financial markets: capitalizing on reform’, East Asia analytical unit, Canberra: Department of Foreign Affairs and Trade, 285-317.

Fung, H-G. and Leung, W. K. (2001) ‘Financial liberalization and corporate governance in China’, *International Journal of Business*, 6(2): 3-32.

Goldsmith, R. (1969) *Financial structure and development*, New Haven: Yale University Press.

Green, S. (2004) ‘Equity politics and market institutions: the development of stock exchange governance in China, 1984-2003’, Asia Programme Working Paper 12: 1-36.

Greenwood, J. and Jovanovic, B. (1990) ‘Financial development, growth and the distribution of income’, *Journal of Political Economy*, 98: 1076-1107.

Hasan, I., Wachtel, P. and Zhou, M. (2006) ‘Political pluralism, institutional development, and economic growth: the Chinese experience’, Working Paper.

Hu, Z. F.and. Khan, M. S (1997) ‘Why is China growing so fast?’, IMF Staff Paper 44: 103–31, Washington DC: International Monetary Fund.

China Daily (2003) ‘Huge potential of China’s corporate bond market’, HK Edition, 25 July.

Johnson, S., McMillan, J. and Woodruff, C. M. (2002) ‘Property rights and finance’, *American Economic Review*, 92 (5): 1335–56.

King, R. G. and Levine, R. (1993) ‘Finance and growth: Schumpeter might be right’, *Quarterly Journal of Economics*, 108: 717-38.

Kolesnikov-Jessop, S. (2005) ‘China slowly developing bond market’, United Press International.

Krkoska, L. (2001) ‘Foreign direct investment financing of capital formation in central and eastern Europe’, European Bank for Reconstruction and Development Working Paper 67, London: EBRD.

Krug, B. and Hendrischke, H. (2001) ‘China incorporated: property rights, privatisation, and the emergence of a private business sector in China’, Erasmus Research Institute of Management Report Series Reference ERS-2001-81-ORG, Rotterdam: ERIM.

Krug, B. and Hendrischke, H. (2004) ‘Entrepreneurship in transition: searching for governance in China's new private sector’, Erasmus Research Institute of Management Report Series Reference ERS-2004-008-ORG, Rotterdam: ERIM

Kumar, A. (ed.) (1997) *China’s Emerging Capital Markets*, Hong Kong: FT Financial Publishing Asia Pacific.

Lardy, N. R. (1992) *Foreign trade and economic reform in China 1978-1990*, Cambridge: Cambridge University Press.

Lardy, N. R. (1994) *China in the World Economy*, Washington DC: Institute for International Economics.

Levine, R. (1991) ‘Stock markets, growth and tax policy’, *The Journal of Finance*, 46: 1445-65.

Levine, R. (1997) 'Financial development and economic growth: views and agenda', *Journal of Economic Literature*, 35(2): 688–726.

Levine, R. and Zervos, S. (1996) 'Stock market development and long-run growth', *The World Bank Economic Review*, 10(2): 323–42.

Levine, R. and Zervos, S. (1998) 'Stock markets, banks and economic growth', *American Economic Review*, 88: 537-58.

Li, K-W. (1994) *Financial Repression and Economic Reform in China*, Connecticut: Praeger Publishers.

Li, K-W. and Liu, T. (2001) 'Financial liberalization and growth in China's economic reform', *World Economy*, 24(5): 673-87.

Liu, T. and Li, K-W. (2001) 'Impact of liberalization of financial resources in China's economic growth: evidence from provinces', *Journal of Asian Economics*, 12: 245-62.

Nyaw, M-K. (1997) 'The development of direct foreign investment in China', in K-W. Li (ed.) *Financing China Trade and Investment*, Connecticut: Praeger Publishers.

Pagano, M. (1993) 'Financial markets and growth: an overview', *European Economic Review*, 37: 613-22.

Park, J. H. and Prime, P. B., (1997) 'Export performance and economic growth in China: a crossprovincial analysis', *Applied Economics*, 29: 1353–63.

People's Daily (2000) 'Corporate bond listing phase in standardization', 1 September.

Qian, Y. (1994) 'Financial system reform in China: lessons from Japan's main bank system', in M. Aoki and H. Patrick (eds.) *The Japanese Main Bank System: Its Relevance for Developing and Transforming Economies*, New York: Oxford University Press (Chapter 16).

Qian, Y. (1999a) 'The institutional foundations of China's market transition', paper prepared for the Annual World Bank Conference on Development Economics, Washington DC.

Qian, Y. (1999b) 'The Process of China's market transition (1978-98): the evolutionary, historical, and comparative perspectives', paper prepared for the *Journal of Institutional and Theoretical Economics Symposium*, Wallerfangen/Saar, Germany.

Qian, Y. and Roland, G. (1996) 'The soft budget constraint in China', *Japan and the World Economy*, 8: 207-223.

Qian, Y. and Xu, C. (1993) 'Why China's economic feforms differ: the M-form hierarchy and entry/expansion of the non-state sector', *Economics of Transition*, 1(2): 135-70.

Sachs, J. and Woo, W. T. (1997) 'Understanding China's economic performance', National Bureau of Economic Research Working Paper 5935, Cambridge MA: NBER.

Saint-Paul, G. (1992) 'Technological choice, financial markets and economic growth', *European Economic Review*, 37: 763-781.

Schumpeter, J. A. (1934) *The Theory of Economic Development*. Cambridge MA: Harvard University Press.

Shirai, S. (2002) 'Banking sector reforms in India and China: does India's experience offer lessons for China's future reform agenda?', Japan Bank for International Cooperation Institute Discussion Paper 2, Tokyo: JBICI.

Stiglitz, J. (1998) 'More instruments and broader goals: moving towards the post–Washington consensus', WIDER Annual Lecture 2, Helsinki: UNU-WIDER. Reprinted in UNU-WIDER (2005) *WIDER Perspectives on Global Development*, Basingstoke: Palgrave Macmillan.

Thiel, M. (2001) *Finance and Economic Growth-A Review of Theory and the Available Evidence*, Brussels: European Commission.

Wachtel, P. (2001 'Growth and finance: what do we know and how do we know it?', *International Finance*, 4: 335–62.

Wachtel, P. (2003) 'How much do we really know about growth and finance?', *Federal Reserve Bank of Atlanta Economic Review* (first quarter): 33-47.

Williamson, O. E. (1996) *The Mechanisms of Governance*, New York: Oxford University Press (pp. 377-79).

World Bank (1993) *The East Asian Miracle: Economic Growth and Public Policy*, New York: Oxford University Press.

World Bank (1997) *World Development Report 1997: The State in a Changing World*, New York: Oxford University Press.

Wu, C. (1989) 'China's reform of the financial and tax system', in C. Kessides et al. (eds) *Financial Reform in Socialist Economies*, Economic Development Institute Seminar Series, Washington DC: World Bank (pp. 64-72).

Xiang, B. (1998) 'Institutional factors influencing China's accounting reforms and standards', *Accounting Horizons*, 12(2): 105-19.

Xie, P. (2004) 'Differences of financial risks among provinces in China', Speech at Financial Innovations and Macroeconomic Risks Symposium (7 March), Beijing.

Yao, Y. (2004) *On Reforms of Chinese SOEs*, China Economic Studies Center Report Series.

Yi, G. (1994) *Money, Banking and Financial Markets in China*, Boulder: Westview Press.