

The Financial System Capacities of China and India*

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Abstract

The extraordinary performance of China and India’s economies raises questions about the traditional measures of the size and depth of financial systems. While banks and markets have played a limited role in providing funds for corporate sectors and supporting economic growth in these two countries, non-state, non-listed firms, relying mostly on internal and alternative financing channels, have been growing faster than the state and listed sectors and contributing much of the growth. The alternative financing channels, excluded in the traditional measures of financial systems, operate outside legal institutions and are backed by alternative mechanisms such as reputation, relationships, and trust. We define the capacity of a financial system to be the total funding available for all corporate sectors in an economy. Our findings from China and India demonstrate that alternative finance can significantly expand the financial system capacity and promote growth at the firm level and economy wide.

Keywords: China, India, financial system capacity, banks, markets, alternative finance.

JEL Classifications: O5; K0; G0.

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The extraordinary performance of China and India's economies raises questions about the traditional measures of the size and depth of financial systems. While banks and markets have played a limited role in providing funds for corporate sectors and supporting economic growth in these two countries, non-state, non-listed firms, relying mostly on internal and alternative financing channels, have been growing faster than the state and listed sectors and contributing much of the growth. The alternative financing channels, excluded in the traditional measures of financial systems, operate outside legal institutions and are backed by alternative mechanisms such as reputation, relationships, and trust. We define the capacity of a financial system to be the total funding available for all corporate sectors in an economy. Our findings from China and India demonstrate that alternative finance can significantly expand the financial system capacity and promote growth at the firm level and economy wide.

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I. Introduction

There has been a long tradition in economics linking the development of a country's financial system, including stock markets and a financial intermediation sector, to the country's overall economic growth.¹ Throughout the development of the 'finance and growth' literature however, skeptics have challenged the causal relation between the financial system and economic growth, noting that the development of stock markets and financial intermediation sector often lags economic development (e.g., Robinson (1952); Lucas (1988)). With better micro-level data, researchers have strengthened this view with evidence at the industry and firm levels, that the access to market and bank finance has a positive and *causal* impact on firm growth (e.g., Jayaratne and Strahan (1996); Rajan and Zingales (1998)). In addition, since well-functioning financial markets and banks often rely on a sound legal system to protect investors and enforce contracts, other influential studies have linked economic growth to the strength of legal protection of investors and effectiveness of legal and other related institutions.²

The phenomenal economic growth in China and India during the past two decades sheds new light on the debate regarding the law-finance-growth nexus. For example, Allen, Qian, and Qian (hereafter AQQ (2005)) and Allen, Chakrabarti, De, Qian, and Qian (hereafter ACDQQ (2007)) find that China and India present significant counterexamples to the existing literature. First, the two economies have been among the fastest-growing in the world, despite operating in an underdeveloped legal system (China) or a sophisticated legal system on paper that is of limited use in practice (India). Second, their financial markets and the intermediation sector, the focus of most of the 'finance and growth' literature, are undersized or underutilized, inefficient, and have played an insignificant role

¹ For earlier work see, e.g., Goldsmith (1969); McKinnon (1973); country-level studies linking financial systems and economic growth include King and Levine (1993) and Levine and Zervos (1998).

² For example, the 'law and finance' literature (pioneered by La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1997, 1998); LLSV hereafter) finds that countries of English common-law (French civil-law) origins provide the strongest (weakest) legal protection to both shareholders and creditors, and that stronger legal protection of investors is associated with more efficient institutions and better financial and economic 'outcomes.'

in funding the respective corporate sectors and supporting overall growth. The lag between economic development and financial development is so pronounced (especially in China) that many scholars deem it a puzzle as to how these countries have achieved their impressive economic performance without even a well-functioning financial system (e.g., Bekaert, Harvey, and Lundblad; (2007).

The starting premise of this paper is that, in order to explain the ‘finance and growth’ relation in China and India and perhaps in many other developed and emerging economies, we need to significantly revise the traditional measures of the size, depth, and efficiency of a financial system. We define the *capacity* of a financial system to be the total amount of funds available (in a given period) for all corporate sectors. It has three components: *internal* finance, *bank and market* finance, and *alternative* finance. Internal finance is generated by a firm’s operations and constitutes a large fraction of all the financing raised by large and mature manufacturing firms in most countries. Banks and markets are external financing sources for firms, and financing through these institutions is typically backed by formal contracts that can presumably be enforced through the judicial system. Financing from all the other (non-bank, non-markets) *external* sources in the economy is defined as alternative finance, which is often backed by non-legal mechanisms such as reputation, relationships, and trust. Alternative finance takes on many forms in different countries, but essentially represents financing channels through networks or coalitions of firms’ founders/owners and employees, customers and other business partners, and other organizations (including local government) or individuals. For example, trade credits among firms and customers, an important channel of financing for small and medium firms in both developed and developing countries, are classified as alternative finance. With China and India as case studies, we demonstrate that alternative financing channels, overlooked by most of the existing literature on law and finance, can significantly expand the financial system capacity and promote economic growth at firm-level and economy-wide.

Unlike most of the existing studies that use cross-country data sets and examine one or two

dimensions of the sample countries' financial systems with the focus on bank and market finance, we examine and compare all aspects of finance in the two largest emerging economies in the world. At the end of 2007, these two countries have the largest populations in the world and together account for 40% of the world population and around 20% of the world GDP in Purchasing Power Parity terms (PPP; see Table 1). During the period 1990-2007 and with the IMF data, China's GDP growth rate (10.3%) and per capita GDP growth rate (9.3%) are ranked first among the world's large countries, while the same growth figures of India are ranked the third and fifth highest in the world. These two countries also present distinctly different cases in terms of their financial systems and institutions. Transiting from a socialist to a market-based system, China's entire financial system comprised of one bank with no formal commercial legal system and supportive institutions in place when its economy began to take off in the 1980s. India, on the other hand, has had a long history of modern legal and government institutions due to its English common-law origin, and its financial markets were among the best of the developing world at its Independence in 1947. Given the increasingly important role of these countries in the world economy, a careful within country study and comparisons of the two financial systems are warranted.

We first review aggregate evidence on the financial systems of China and India, and compare them to a large cross-country sample studied in prior work on other large emerging economies. Consistent with prior findings, we find that the size of banks (total amount of private credit) plus the stock market (market capitalization and value traded) relative to their economies (GDP) is smaller than that of developed countries and many emerging economies. Not surprisingly, both the banks and markets are relatively more developed in India than in China. We also find that in both countries, banks have played a much more important role in providing financing to corporate sectors than financial markets (the corporate bond market is much smaller than the stock market in both countries). However, the stock markets have been growing rapidly in recent years with increasingly

higher volatilities, and will play much more important roles in the economies in the near future.

In order to serve as the efficient financing channels for corporate sectors, bank loans and publicly issued equity require formal contracts and the backing of an effective judicial system along with other institutions. In this regard, we find that the judicial system and institutions in both China and India are ineffective in practice, with corruption within government and legal institutions often cited as one of the main culprits. Consistent with the law and finance view, weak investor protection and poor institutions can potentially increase the costs of using bank and market finance and thus explain its insignificant role in corporate sectors of China and India. However, neither the law and finance or the finance and growth literature can explain why high growth rates of the overall economy can be achieved in such an environment of underdeveloped law, institutions, and standard financial sectors (banks and markets). Our contribution is therefore to point out the important role of alternative financing channels, which can operate outside the legal system and substitute for bank and market finance and expand the capacity of financial systems.

We employ large firm-level (panel) data sets from the two countries to conduct our analysis on firms' financing channels and growth mechanisms. Wherever possible, we try to classify and differentiate all the firms from the two countries into three sectors: 1) the *State Sector* includes all companies such that the central government has ultimate control (state-owned enterprises, or SOEs, in China, and Public Sector Undertakings, or PSUs, in India); 2) the *Listed Sector* includes all firms that are listed on an exchange and are publicly traded; and, 3) all the other firms in the economy with various types of private ownership forms: we term this sector the "Hybrid Sector" in China since it includes firms with local government ownership stakes, while in India an important component of the private sector is the SME (small and medium enterprises) sector. Our main data set for China is compiled by the National Bureau of Statistics (NBS) based on registration and disclosure information and covers more than 500,000 firms with various ownership structures over the period 1998-2005.

For India, we collect a sample of over 2,700 non-financial firms, both large corporations and SMEs, from the Prowess database of the Centre for Monitoring the Indian Economy (CMIE).

Overall, bank and market finance constitutes a small fraction of total financing for all firms in both countries, with the Hybrid Sector in China and most of the SME firms not relying on financial markets at all (by definition). Specifically, consistent with our finding at the aggregate level, the Prowess sample indicates that large Indian firms obtain about 21% of their total financing needs from banks and markets per year, about the same from alternative sources and the rest from internal sources. For the smaller firms in China as well as India, alternative finance such as trade credit is far more important. Our firm-level data set provides only limited information on Chinese firms' financing channels, so we rely on aggregate information (also compiled from the NBS) on the financing channels for total investment in fixed assets. The State and Listed Sectors (many of the listed firms are privatized and converted from the State Sector) rely on bank loans for around 30% of total funding needs, and between 50-60% of funding needs are met by "self-fundraising," which includes internal finance, market finance and alternative finance. Market-based finance constitutes only a small fraction of "self-fundraising" (until recent years), indicating that alternative finance is important for even the State and Listed Sectors. On the other hand, firms in the Hybrid Sector raise about two thirds of their total funding through "self-fundraising," which includes internal finance and alternative finance; these firms also raise 10-18% of total funding needs from bank loans and foreign direct investment (also alternative finance) each.

While evidence on firms' financing patterns from China and India shows the dominance of alternative finance over bank and market finance, it raises a serious issue that must be addressed. The prevailing view is that, despite providing the financial 'slack,' alternative finance is inferior to bank and market finance as it entails higher (nominal) cost, and all else equal, should yield lower net returns. To evaluate this hypothesis directly is difficult, because many firms use both types of

finance, and it is very difficult to compare investment returns from different sources for the same firm. Another compounding factor is that while a large number of firms (e.g., SMEs in India and Hybrid Sector firms in China) do not use much bank finance, the reason behind their choice is unclear. Is it because these firms are unable to secure bank credit (e.g., credit rationing, low credit quality) even though they prefer bank credit to alternative finance, or does this financing pattern reflect an interior optimal choice rather than a corner solution? Alternative finance may actually be the preferred form of finance over bank finance because the effective (as opposed to nominal) cost of alternative finance (average over a long period of time) may be lower due to some of its special beneficial features, such as renegotiation flexibility and the advantage of an extended network with the providers of capital. In addition, according to Allen and Qian (2008), legal mechanisms by their nature are more rigid and any fundamental change must be approved by the electorate (of a democracy), while alternative mechanisms, operating outside the legal system, can adapt to changes more quickly. Therefore, alternative mechanisms are perhaps more suitable for dynamic economies (India, China), dynamic corporate sectors (SME's in India and Hybrid Sector in China) and dynamic industries (information services).

We take an indirect approach to examine these opposite hypotheses. If bank and market finance is indeed the preferred choice for most or all firms, then firms that have access to banks and markets should grow faster and have better performance than those without the access. Moreover, corporate sectors with extensive access to banks and markets will become the dominant force in the economy. However, the relative size of corporate sectors in China and India shows that firms that do not rely on banks and markets have been contributing much of the output in the economy, inconsistent with the hypothesis. For example, as of 2004, the industrial output produced by and the number of employees in the Hybrid Sector are twice those of the State and Listed Sectors combined in China, with the annual growth rate in output of the Hybrid Sector almost three times that of the

State and Listed Sectors.

Second, we also conduct regression analysis to investigate if and how the choice of alternative versus bank and market finance impacts corporate growth and profitability. We find that use of alternative finance has no impact on corporate growth rate either in China or India. Further, the use of bank and market finance does not appear to improve corporate profitability. On the other hand, we find indirect evidence that use of bank and market finance may actually be deleterious. We find that larger firms, older firms, widely-held firms, and state-owned firms in China use less alternative finance. Except for widely-held firms, the other types of firms are also less profitable. Further, older firms and state-owned firms grow at a slower pace. The results for Indian firms are qualitatively similar. On the whole, our evidence indicates that alternative finance, while adding significantly to the capacity of the financial system of China and India, and possibly many other emerging economies, may not involve unfavorable costs compared to bank and market finance.

The rest of the paper is organized as follows. Section II presents some aggregate evidence on law, finance, and institutions in China and India and other countries, focusing on various measures of the size and depth of a financial system. Section III uses firm-level evidence from the NBS database (China) and Prowess database (India) to examine the corporate financing patterns in the two countries. Section IV investigates the relationship between financing patterns and firm performance in the two countries, and discusses the results of our tests. Section V presents our conclusions.

II. Law, Finance, and Growth in China and India: Aggregate Evidence

Using information from the IMF, Panel A Table 1 presents and compares GDPs based on simple exchange rates and purchasing power parity (PPP), growth rate in GDP, and GDP per capita in constant prices during 1990-2007 for the top twenty countries. As discussed earlier, China is leading the chart in terms of GDP and per capita GDP growth rates, while India's growth rates are the

third (GDP) and fifth highest (per capita GDP) in the world during the period 1990-2007. At the end of 2007, China's PPP-adjusted GDP is the second largest and India's PPP-adjusted GDP is the third largest in the world. If current growth rates persist, China's economy (PPP-adjusted) will overtake the U.S. to become the largest economy in the world in five to eight years. As shown in Panel B, however, the World Bank adjusted its PPP-based estimates of GDP for large emerging countries, and in particular, China and India, downward in 2008; a third source, the CIA, produces PPP-figures that are in between those from the IMF and the World Bank (see, e.g., Heston (2008), for explanations on the discrepancies and potential measurement errors in different figures). It should be noted that even with the World Bank figures, China and India's GDPs rank the second and fifth highest in the world as of 2007. With 40% of the world's population and the status as the two largest emerging markets in the world, China and India are expected to play an increasingly important role in the global economy.

II.1 Law, Institutions, and Business Environment

As stated earlier, bank and market finance requires the backing of the legal system and associated institutions, and hence before we examine the financial systems of the two countries it is worthwhile to review the legal, institutional and business environment. Table 2 compares China and India's scores along several dimensions of law and institutions with those of different country groups based on legal origin (LLSV (1997a, 1998) and others) and fifteen other large emerging economies. These fifteen economies are the subset of the emerging economies included in Panel A of Table 1 for which most of the required information is available (the same countries are also included in Table 3 below). Notice that each of the emerging economies is also included in one of the LLSV country groups according to its legal origin (indicated by the letters E, G, and F in the bracket after country name).

Given China's transition from a socialist economy to a market-based economy did not begin till the early 1980s and the development of legal institutions typically takes an extended period of time, it is perhaps not surprising to expect weak legal protection of investors and poor institutions in the country. For example, its anti-director rights index of 1/6 is one of the lowest in the world. On the other hand, the most striking fact about India's legal system is the difference between superior investor protection *under law* as opposed to inferior protection *in practice*. As discussed earlier, with the English common-law system, India has strong protection of investors on paper. For example, the scores on both creditor rights (4 on a 0-4 scale in LLSV (1998) based on the Company's Act of 1956, downgraded to 2 in DMS (2007) based on the Sick Industrial Companies Act of 1985) and shareholder rights (5 on a 0-6 scale in DLLS (2007)) are the highest of any country in the world.

To compare law enforcement and the quality of institutions, we employ five sets of widely used measures in Table 2 as compared to those used in the original work of LLSV (1998). First, corruption is a major systemic problem in many developing countries. Based on Transparency International's Corruption Perception Index, both China and India have a score of 3.3 on a 0-10 scale in 2006 (a higher score means *less* corruption), distinctly lower than the average for each country group in Table 2 and even lower than the average for the other emerging economies (3.60). To assess the efficiency and effectiveness of the legal system for contract enforcement, we use two measures. First, by the legal formalism index (DLLS (2003)), a measure of the level of intervention in the country's judicial process on a 0-7 scale whereby a lower score is more desirable, China's score of 3.4 and India's score of 3.51 are lower than only the average French-origin country among all country groups; but they are lower than the average for the other emerging economies (4.00).³ The legality index (Berkowitz, Pistor, and Richard (2003)), a composite measure of the effectiveness of a

³ The legal formalism index is based on how two specific types of disputes, the eviction of a tenant and collection of a bounced check, are resolved in a country's judicial system. Since both types of disputes are rare events in China, as the real estate market (including the rental market) and the use of personal checks are underdeveloped and limited to a few large cities, the formalism index is not very meaningful for China. See AQQ (2005) for more evidence on problems with legal enforcement in China.

country's legal institutions, represents the weighted average of five different estimates of the quality of legal institutions and government in the country. The index ranges from 0 to 21, with a higher score indicating a more effective legal system. India's score (11.35) is appreciably lower than the average for each country group. However, India's score is marginally higher than the average for the other emerging economies (10.59).

We also compare two measures of the quality of the accounting systems (information for China is not available). The disclosure requirements index (LLS (2006)) measures the extent to which listed firms have to disclose their ownership structure, business operations, and corporate governance mechanisms to the legal authorities and the public. India's score of 0.92 is higher than each country group as well as all other emerging economies, suggesting that Indian firms must disclose a large amount of information under law. However, this does not imply the quality of disclosure is good. In terms of the degree of earnings management (Leuz, Nanda, and Wysocki (2003)), whereby a higher score means more earnings management, India's score is much higher than the average for the country groups as well as the average for the other emerging economies, indicating that evaluating Indian companies based on publicly available reports is difficult.

To summarize, despite significant differences in the history and paths of developing legal institutions and government, legal protection has been weak in practice in both China and India, with corruption the common culprit in both countries.

II.2 Standard Financial Sectors: Financial Markets and Banks

The four most important financing sources for all firms in China, in terms of fixed asset investments, are: (Domestic) bank loans, firms' self-fundraising, state budget, and foreign direct investment. By far the two most important sources of financing channels are self-fundraising and bank loans. Consistent with previous evidence on China's banking sector, bank loans, including

loans from the nonstate banks, provide a large amount of funds to firms, and constitute a large fraction of firms' total financing needs. For example, firms in the State Sector rely on bank loans to raise more than 25% of their total financing needs. A similar pattern holds for jointly- and collectively-owned companies, both of which belong to the Private Sector. Our survey evidence below (Section 5) also indicates that bank loans are important financing sources for the Private Sector, especially during the firms' start-up period. Self-fundraising includes proceeds from capital raised from local governments (beyond the state budget), communities, other investors, internal financing channels such as retained earnings, and all other funds raised domestically by the firms. Since the data source used, the China Statistical Yearbook (2000-02), does not provide the breakdowns of "self-fundraising," we only have the total figures in subsequent tables and graphs.

The size of total self-fundraising of all firms grew at an average annual rate of 14% over the period of 1994 to 2002. At the end of 2002, total self-fundraising (for fixed asset investment) reached US\$275.5 billion, compared to a total of US\$106.6 billion for domestic bank loans for the same year. It is important to point out that equity and bond issuance, which are included in self-fundraising, apply only to the Listed Sector, and account for a small fraction of this category. Moreover, self-fundraising is the most important source of financing for many types of firms. For example, individually owned firms (Private Sector), not surprisingly, rely mostly on self-fundraising (about 90% of total financing). Interestingly, even for state- or quasi-state-owned companies, self-fundraising is also important in that it captures somewhere between 45% and 65% of total financing.

State budget and foreign (direct) investment are the other two important financing sources. As was the case for all socialist countries, China used to rely on a central planning system to allocate the state budget to most of the companies in the country. But the state budget now only contributes 10% of state-owned companies' total funding. On the other hand, foreign investment is comparable to the state budget, both in terms of aggregate size and in terms of the relative importance in firms'

financing. This evidence confirms that China has evolved from a centrally planned, closed economy toward an open market economy.

Table 3 compares China and India's capital markets and financial institutions (as of 2005), along several important dimensions, with those of the LLSV country groups and the same fifteen emerging economies (as of 2005) included in Table 2. The figures reported in the table use definitions in Levine (2002), but are computed with 2005 numbers for all countries from the World Bank Financial Database.

We first compare the *size* of a country's equity markets and banks relative to that country's GDP. In terms of total market capitalization, China's stock market, 32% of its GDP, is much smaller than most of the LLSV sample countries with an average of 102% of GDP and lower than the average of other emerging economies (65% of GDP).⁴ The situation is very similar in terms of how active stocks are traded in the market, or total value traded in a given year over GDP. The value traded/GDP ratio for China (0.26) is lower than each LLSV country group and significantly lower than the average for all the groups (1.17), and also lower than the emerging economies average (0.62). By contrast, China's banking system is much more important in terms of size relative to its stock markets, with its ratio of total bank credit to GDP (over 1.1) higher than even the German-origin countries (with a weighted average of 1.06). However, when we consider bank credit issued (or loans made) to the Hybrid Sector only, China's ratio drops sharply to 0.31, suggesting that most of the bank credit is issued to companies in the State and Listed Sectors.

Despite the long history of India's banks and stock exchanges, like China the size and role of banks and the capital markets in allocating resources have also been limited in India, although these measures are better than those of China. For example, the ratio of India's market capitalization to

⁴ In order to measure the actual size of the market, the "floating supply" of the market is a better measure than "market capitalization," because the latter includes non-tradable shares while the former measures the fraction of total market capitalization that is traded in the markets. In this regard, the size of China's stock market (11% of GDP) is much smaller than those of LLSV countries (with a weighted average of 27% of GDP).

GDP is 60%, while total value traded over GDP is 56%.⁵ In addition, the corporate bond markets in China and India are meager, and are viewed as a source of concern by all observers of these countries' capital markets. India's bank credit/GDP ratio (0.37) is not much higher than that of China; however, the efficiency of the Indian banking sector, measured by the ratio of overhead costs over bank assets (as well as banking system profitability, not shown in the table), has been superior to most other countries.⁶

“Structure activity” and “structure size” reported in Table 3 indicate whether a financial system is dominated by the capital markets or banks. Both China and India's activity and size figures are far lower than the average of English-origin countries where the financial system is dominated by markets, suggesting that these two countries have a relatively more bank-dominated system (with India's markets relatively larger relative to banks than their counterparts of China). Finally, in terms of the development of the financial system, including both banks and markets, China and India's overall financial market size (measured by “finance activity” and “finance size”) is much smaller than the average of LLSV country groups (with India being the larger of the two). Based on the evidence, we can conclude that both China and India's stock markets as well the banking sector are small relative to the size of its economy, and the financial system is dominated by an inefficient (China) or an efficient but significantly under-utilized (India) banking sector.

The situation with respect to stock markets has changed considerably in recent years, with both the Chinese and Indian stock markets rising rapidly. In fact, as shown in Figure 1, the rise of the Chinese and Indian equity markets during the period of December 1992 to September 2007 allowed investors to earn a much higher return (“buy and hold return”) than from investing in all other major

⁵ We estimate that 45% of the total market capitalization of listed firms is actively traded in India, based on our own calculation of free float adjustment factor of about 1,000 large firms listed on the Bombay Stock Exchange (BSE).

⁶ According to the World Bank Financial Database, China's banking system has very efficient (low) cost structure, but this is misleading in terms of the overall efficiency of the banking sector. As shown in AQQ (2007), China's banking sector has been plagued by the problems of non-performing loans, most of which have come from bank loans made from state-owned banks to SOEs.

stock indexes around the world. However, the markets in China and India, with their own problems and affected by the global turmoil, started a downward spiral beginning at the end of 2007 that makes the sharp drop in developed markets around the world looks like a small dip. While the overall ‘buy-and-hold’ return of the Indian (BSE) index remains the highest among the group of indices for the whole period (1992-2007), the Chinese index (SSE) essentially has the same performance as the S&P 500. Since China’s economy was growing at much higher rates than the U.S. during 1992-2007 (10.3% per annum for China vs. 3.0% for the U.S. in real terms), the performance of the Chinese index relative to that of the U.S. suggests that listed firms are among the low-quality firms in China.

At the end of 2007, the Shanghai Stock Exchange is ranked the sixth largest market in the world in term of market capitalization, while the Shenzhen Stock Exchange is ranked the twentieth largest; China’s total market capitalization is around \$4.48 trillion (excluding Hong Kong), the second largest country in the world behind only the U.S.; the Hong Kong Stock Exchange, where selected firms from Mainland China have been listed and traded, is ranked the seventh largest in the world. At the same time, the Bombay Stock Exchange is ranked the tenth largest while the National Stock Exchange is ranked the twelfth largest in the world in terms of market capitalization; India’s total market capitalization is the fifth largest in the world (behind the U.S., China, Japan, and the U.K.; all figures are from <http://www.world-exchanges.org>, the web site of the international organization of stock exchanges). However, these markets, in particular, the stock markets in China, are characterized by speculative and insider trading and far from developed markets that can allocate resources efficiently.

II.3 Banks, Markets, and Investor Protection

Figure 2 plots the size of the external markets (stock markets and banks) in China, India, different country groups by legal origin, and the fifteen emerging economies versus the level of

effective investor protection and quality of legal institutions in the same countries. The horizontal axis measures overall investor protection in each country, given by an aggregate based on the of scores on creditor rights, shareholder rights, corruption index, legal formalism index, and legality index reported in Table 2 above, and the vertical axis indicates the (relative) size of that country's standard financial sectors (stock market capitalization and bank credit) as of 2005 from Table 3.⁷ Note that the average English common-law origin country plots in the top-right region of the graph. India lies in the bottom-right region of the graph, far below and to the left of the English-country average, suggesting less effective legal protection and far smaller standard financial sectors than in the average English-origin country. China is placed further to the bottom-right of India, suggesting even worse legal protection and smaller standard financial sectors. The scatter plots in Figure 2 also suggest a strong and positive connection between the level of investor protection in a country and the size of its financial markets and banking sector, consistent with LLSV (1997a, 1998). However, the figure does not incorporate *non-legal* mechanisms to ensure protection, such as threat of loss of reputation or business, and *alternative* financing sources, including trade credits and family and friends financing, which would allow for a range of other possible outcomes.

To summarize, the legal system and associated institutions in both China and India are ineffective in practice. According to the law and finance view, weak investor protection and poor institutions can potentially increase the costs of using bank and market finance and thus explain its insignificant role in corporate sectors of China and India. However, neither the law and finance or the finance and growth literature can explain why high growth rates of the overall economy can be achieved in such an environment of underdeveloped law, institutions, and standard financial sectors. Our contribution is therefore to point out the important role of alternative financing channels, which

⁷ Each individual score is re-scaled on a 0 -10 scale and all the scores are totaled. The total number is then further rescaled on a 0 - 10 scale. For China, the score on the legality index was not available; we use the Rule of Law score from the International Country Risk Guide instead. The solid horizontal and vertical lines represent the simple (un-weighted) sample means of all the data points shown in the graph.

can operate outside the legal system and substitute for bank and market finance and expand the capacity of financial systems.

III. Corporate Financing Patterns in China and India: Firm-level Evidence

III.1 State and non-state sectors in China

Table 4, panel A, compares the growth rate of industrial output produced in the State and Listed sectors vis-a-vis the Private sector from 1995 to 2002. The Private sector dominates the State and Listed sectors in terms of both the size of the output, and the growth trend. The Private sector grew at an annual rate of 14.3% between 1996 and 2002, while the combined State and Listed sectors grew at 5.4% during the same period. During this period, the growth rates of investment in fixed assets of these sectors were comparable, implying that the Private sector is more productive than the State and Listed sectors. Finally, there has been a fundamental change among the State, Listed, and Private sectors in terms of their contribution to the entire economy: The State Sector contributed 76% of China's total industrial output in 1980, but in 1996 it only contributed 28.5%. In 1980, individually owned firms, which are a subset of Private Sector firms, were negligible, but in 1996 they contributed 15.5% of total industrial output.

As Table 4, panel A indicates, the Private Sector is a much more important source for employment opportunities than the other two sectors. Over the period from 1995 to 2002, the Private Sector employed an average of over 70% of all nonagricultural workers, while the Township Village Enterprises (TVEs), also a subset of Private Sector firms. Moreover, the number of employees working in the Private Sector grew at a rate 1.5% per year over this seven-year period, while the labor force in the State and Listed sectors retracted at a high 5.7% annual rate. These patterns are particularly important for China, given its vast population and potential problems of unemployment.

III.2 State and non-state sectors in India

The organized sector of the Indian economy consists of the state and the non-state (private) sectors. The state sector comprises Public Sector Undertakings (PSUs), in which the government has majority (at least 50%) ownership and effective control. Almost all the PSUs are “public companies” as defined by the Indian Company’s Act of 1956 (a company that has a minimum paid-up capital of Indian rupees 500,000, or US\$11,100, and more than 50 shareholders). The non-state sector includes over 76,000 public companies and numerous smaller ‘private’ companies (with less than 50 shareholders). Over 10,000 of the “public” companies are listed on one or more of the stock exchanges, though a small fraction of them actually trade. Finally, there is an unorganized sector that consists of smaller businesses that do not belong to any of the above categories. Verifiable data about the unorganized sector is scarce. The figures and analysis we present in this paper cover only the organized sector.

Table 4B compares the growth rates state and non-state sectors in India during the period 1996-2003. In terms of contribution to GDP, the size of the state-sector (excluding government spending) in 2002-03 was around one fifth of the non-state sectors (including unorganized sectors but excluding agriculture).⁸

Firms in the SME sector constitute an important segment of the Indian economy, contributing to over 40% of the value added in manufacturing (according to O. S. Kanwar, the President of FICCI, a national chamber of commerce in India.).⁹ The official definition of an SME is different for manufacturing and services sectors. Under the “Micro, Small and Medium Enterprises Development Act 2006” of the Government of India, a manufacturing firm that has investments in fixed assets of

⁸ Among non-state sectors, firms operating in the services industries (e.g., commerce and hotels, community and business services) had surpassed traditional manufacturing industries in terms of number of units and size of investments.

⁹The importance of small and medium firms is hardly unique to India – high-growth economies are typically marked by a vibrant SME sector. Using a sample of 76 countries (India not included), Beck et al. (2005) find a strong association between the importance of SMEs and GDP per capita growth. However, they are not able to establish that SMEs exert a causal impact on growth or poverty reduction.

plant and machinery below Rs. 100 million (US\$ 2.22 million) qualifies as an SME; for firms in the services sector, the ceiling is Rs. 50 million (US\$ 1.11 million) in fixed assets.

In the remainder of this section, we analyze financing and ownership patterns of public Indian companies in manufacturing and services. While public companies under the Indian Company's Act of 1956 are required to make their financial statements publicly available, verifiable financial data for private Indian companies are not available from organized sources.

III.3 China and India samples

The dataset on Chinese firms is compiled by the National Bureau of Statistics (NBS) in China. It covers firms financial and ownership information for 507,013 manufacturing during 1998 to 2005. Approximately 22% of them are firms with total assets larger than US\$ 5 million. There is no identifier to separate listed firms from private firms. On average, each firm has 4.6 years of observations. We exclude observations if the firm identifier is duplicated; ownership percentages total exceeds one; total assets, total liabilities, or total sales are negative; growth rate in sales or assets exceeds 100 in a year; profit ratio (total profit/total assets) exceeds 10 or less than -1; leverage (long term liabilities /total assets) exceeds 3. In the final sample of Chinese firms, we have 505,372 firms.

Our dataset on India firms includes 9,753 non-financial firms over the period 1996 - 2005 from the CMIE *Prowess* database. Our final sample of 3,047 firms includes both listed and unlisted companies (but no private companies as defined by the Indian Companies Act of 1956). However, only listed companies are required to disclose their ownership patterns (Clause 35 of Listing Agreement, Securities and Exchanges Board of India). A caveat is in order here. Shares of a large majority of listed firms in India trade very infrequently, if at all. Consequently, market variables based on share price (such as market capitalization or Tobin's Q) may be less informative than accounting information.

Since investigation of financial patterns and financial constraints is the main objective of our study, we decided to exclude financial firms from our sample. Table 5, panels A and B, provide descriptive statistics of different size measures, including assets, sales, profits, and age, for our Chinese and Indian samples respectively. We break down the firms in each panel in top 50%, bottom 50%, and bottom 25% brackets. Note that, for each measure of size and in each bracket, except for total profits in the bottom 50% and bottom 25% quartiles, the average for Indian firms is considerably higher than for the corresponding Chinese firms. This is primarily due to the fact that the NBS database covers a far wider proportion of the smaller Chinese firms than the Prowess sample which includes only public firms large enough to be classified as public under the Indian Companies Act¹⁰.

III.4 Corporate financing patterns in China and India

Sources of funds data for our China sample are not available. The detailed breakdown of assets and liabilities of the sample firms were available for only two years: 2004 and 2005. However, the limited information that we have abundantly makes clear the importance of trade credit, and of alternative financing, in corporate financing in China. From table 6, panel A, trade credit accounts for a significant fraction of the total corporate financing (29% for all firms). Further, this proportion is higher for smaller firms (31% and 32% for firms in the bottom half and bottom quartile of the sample by size).

Table 6, panel B, provides evidence on the sources of funds for the India sample of firms during the 10-year period 1996 – 2005. For the four classes of firms in our sample (all, top 50%, bottom 50%, and bottom quartile), the table indicates the average proportion of funds obtained from different sources, namely,

¹⁰ In 2002-03, Central Statistical Organization (CSO) of the Indian government listed about 590,000 registered firms. However, CSO does not collect much firm-level financial information.

- Bank and market finance: equity and debt raised from capital markets and debt/bank loans from financial institutions;
- Alternative sources of external financing: equity and debt raised from *private* sources including group companies and promoters or founders, trade credits, and other liabilities.¹¹
- trade credit only

The table indicates that during 1996 – 2005 Indian firms on an average obtained only 23% of their total funding from capital markets and financial institutions. They relied on alternative sources for 16% of their funding needs. The rest, almost 61%, came from internal sources. For the smaller firms, banks and markets are even less important. They provided for as little as 14% of the total funding needs for firms in the bottom 50% bracket, and were in fact a negative source for firms in the bottom quartile. For the latter group, on the other hand, alternative finance provided as much as 53% of the funding needs. These figures underline the limited relevance for India of the implications of the law and finance literature with its focus on bank and market finance. Our methodology whereby we analyze the entire corporate financing system in India enables us to note the relative importance of bank and market finance *vis-à-vis* alternative financing channels and examine substitutions and complementarities between them.

Interestingly, the importance of trade credit as a funding source for firms in the below-median and the bottom-quartile brackets by asset size is very high and almost identical in China and India, accounting for over 30% of total financing. The considerably greater importance of trade credits as a source of funds for smaller firms in India *vis-à-vis* their larger counterparts stands in sharp contrast to the findings in developed countries. For example, Petersen and Rajan (1997) find that the ratios of accounts payable and accounts receivables to sales are significantly higher for large firms than for small businesses in the U.S. Given that trade credits are usually more costly than institutional credits,

¹¹ The numbers in the table are *flow* variables. For a given category of firms, the numbers reported in the table are obtained by first calculating the total *new* funds from each funding source during 2001 – 2004, expressed as percentage of the total funds from all sources during the same period.

this may be interpreted as evidence that small Indian firms face bank credit constraints (following the same line of reasoning as Petersen and Rajan (1994)). Lower levels of bank debt for small companies support this interpretation. Overall, the results shown in Table 6 are largely consistent with the findings in the *Reserve Bank of India* (2005).¹² Other recent studies have also found evidence of “under-lending” by Indian banks to the corporate sector.¹³ It is a system-wide feature, indicating that companies cannot receive adequate credit, not just from a single bank but from the banking system in general.¹⁴

III.5 Corporate ownership structures in China and India

Table 7 compares the ownership structure of the Chinese and Indian firms in our sample to that of the LLS (1999) sample of over 1,000 publicly listed and traded firms from 27 countries (India *not* included) and the Claessens et al., (2000) sample of listed Asian firms (excluding Japan). From Table 7, panel C, the proportion of widely-held¹⁵ firms in the full China sample is 28%. However, for smaller firms the proportion is higher (35%). From panel D, the proportion is only 1.5% for the full India sample, and as low as 1% for the bottom quartile. The proportions are lower than any of the country groups included in the table.

Panel D of the table indicates that the controlling interests in about 21% of the firms of the

¹² Using financial reports of around 2,000 *public* companies from 1990-91 to 2002-03, the *Reserve Bank of India* (2005) finds that internal sources accounted for about 40% of total funds on average. Besides, smaller firms depend much more heavily on trade credit for their funding needs.

¹³ Under-lending is present when the marginal rupee lent to a borrower yields a higher marginal product than its interest cost. Banerjee and Duflo (2003) find that, even after six years of liberalization, bank credit was scarce while interest rates, though high by world standards, appeared to be below equilibrium levels. Banerjee et al. (2004) estimate that, for profitable firms (mean profit Rs. 36,700) in India, an increase of Rs. 1,000 in lending (average loan size Rs. 86,800; not fixing other financing sources) causes an increase in annual profit of Rs. 756.13. This finding indicates that companies may enhance profits by borrowing more from the banks.

¹⁴ In other countries too, SME firms often face problems in accessing institutional finance. In the U.S., small firms also have difficulties in obtaining bank loans, but part of the funding slack has been provided by private equity (including angel financing and venture capital) and privately placed and public bonds (e.g., Berger and Udell (1995, 1998)).

¹⁵ We use the same definition as LLSV that no single shareholder owns more than 10% of the shares in a widely-held firm.

full China sample reside with a particular individual or family.¹⁶ The number is as high as 78% for the full India sample. Our findings on ownership structure of Indian firms are similar to those of other Asian countries (e.g., Claessens, Djankov and Lang (2000); Claessens, Djankov, Fan, and Lang (2002); and AQQ (2005)). In fact, India has a higher proportion of family/individual held firms than *all* country groups reported in the table. Further, within India, the proportion of family- or individual-owned firms increases as firm size declines, going up to 85% for the bottom quartile. LLSV (1998) and LLS (1999) find that countries that protect minority shareholders poorly (strongly) tend to have more concentrated (dispersed) ownership. In view of India's weak law enforcement and institutions (e.g., as indicated by the revised poor creditor rights score in DMS (2007)), the observed ownership structure is by and large consistent with their finding.

III.6 Determinants of alternative financing in India and China

To investigate the dependence of Chinese and Indian firms in our samples on alternative sources of financing, especially trade credits, we test two regression models, one with the China sample and the other with the India sample. The results of both tests are reported in Table 8.

The test on the China sample is a cross-sectional regression with trade credit/total liabilities as the dependent variable. Due to data limitations (trade credit data being available only for 2004 and 2005), we run a cross-sectional regression with the dependent variable in 2005 and the independent variables in 2004 (allowing for a one-year time-lag for the independent variables to impact the dependent variable). The results indicate that larger firms, older firms, widely-held firms, and state-owned firms use less trade credit. The coefficients are all significant at 1% level. The results make sense, because these companies should have more access to banks and markets. More profitable

¹⁶ Since we do not have detailed information on the identities of all of the largest shareholders of these firms (e.g., whether they belong to the same family or a *group* of a few unrelated block-holders), our figure (77%) may be biased. However, we are certain that the largest block of equity of these firms is *not* held by an organization, the government, or a large number of dispersed shareholders.

companies also use less alternative financing, evidently because they have more internal funds. On the other hand, export-driven firms that are likely to be growth-oriented use more trade credit.

The test on the India sample is a panel regression for the years 2001 – 2005, because the ownership data are available only for those years. The dependent variable is the proportion of alternative finance in total finance. The results are reported in the second column of Table 8. Though the coefficients of the variables indicating widely-held firms, state-owned firms, and profitability all have the right sign (negative), they are statistically insignificant. The coefficient for firm age is negative and significant, indicating that older firms use less alternative finance.

IV. Corporate Growth, Profitability, and Financing in China and India: Firm-level Evidence

IV. 1 Growth and financing pattern in China and India

We have noted in Section II above that investor protection *in practice* is poor in India. Our results in this section III indicate that several important characteristics of Chinese and Indian firms (including low levels of financing from banks and markets and concentrated ownership, the latter especially in India) are indeed consistent with the predictions of the law and finance literature (as in LLSV (1997a, 1998, 2000b, 2002); LLS (1999)) for a *low* investor protection country). However, we have also noted that Indian firms depend relatively little on bank and market financing, and this limits the relevance of the implications law and finance literature for them. We now examine whether the firm-level predictions of law, finance, and growth literature (e.g., Demirgüç-Kunt and Maksimovic (1998); Levine (1999); Beck and Levine (2002)) apply to Indian firms. If they do, one would not expect to see Indian firms grow at a healthy pace.

Further, we have noted much less bank and market financing and more concentrated ownership among smaller Indian firms than larger firms. While Indian businesses in general exhibit signs of belonging to a low investor protection regime, the signs are stronger for smaller firms. We

have also noted greater use of trade credit by smaller Chinese firms. Given the indications of weaker investor protection in the small firms sector, one would expect to see considerable difference in the growth patterns of large and small firms in China and India. Specifically, the small firms in the two economies would grow at a considerably slower rate than the large enterprises.

The above predictions are not supported by the results presented in Table 9. The table presents the average annual growth rates in assets of the firms in China and India samples. The results are presented for the full sample as well as top 50%, bottom 50%, and bottom 25% of the firms. The figures are based on firm*year observations during the respective sample periods: 1998 – 2005 ((China) and 1996 – 2005 (India). Two strong conclusions emerge from the reported results: First, the average Chinese as well as the Indian firm achieved an impressive annual growth rate during the sample period; 18% and 20.2% respectively. Second, there was no appreciable difference between the above-median and below-median firms in either China or India. The F-statistic for mean difference (not reported in the table) is insignificant in each case.

We also wanted to investigate the possible impact of the choice of financing sources by firms on their growth rate. If bank and market finance is indeed the preferred choice for most or all firms, then firms with access to banks and markets should grow faster and have better performance than those without access to banks and markets. Again, this conjecture is not supported by our test results. Table 10 reports the results of our regression tests whereby annual corporate growth rates are regressed on financing choice: trade credit and alternative finance. The two tests on the China sample are cross-sectional regressions with annual growth rates in sales and assets as the dependent variables, and the ratio of trade credit to total liabilities as an independent variable. As before, due to data limitations (trade credit data being available only for 2004 and 2005), we run cross-sectional regressions with the independent variables in 2004, and the dependent variables in 2005 (allowing for a one-year time-lag for the independent variables to impact the dependent variable). The two tests on

the India sample are cross-sectional regressions with the CAGR in sales and assets during 1996-2005 as the dependent variables. The proportion of alternative finance in total finance is an independent variable and is averaged over the period 1996 – 2005.

As the table indicates, the coefficient of the financing choice variable is not significant in any of the four regression models. The results indicate that use of trade credit and alternative finance does not hurt a firm despite their higher costs. Further, from our tests reported before, we found that larger firms, older firms, widely-held firms, and state-owned firms in China use less alternative finance. From table 10, except for the widely-held firms, the other types of firms also grow at a slower pace. Older firms in India also grow at a slower pace.

IV.2 Profitability and financing pattern in China and India

Table 11 presents the summary statistics of the average rate of profit, as measured by profit/total assets, of the firms in China and India samples. The results are presented for the full sample as well as top 50%, bottom 50%, and bottom 25% of the firms. The figures are based on firm*year observations during the respective sample periods: 1998 – 2005 ((China) and 1996 – 2005 (India). Two clear patterns emerge from the reported results: First, the average Chinese firm in each of the four classes has been more profitable than the corresponding Indian firm. The profit rate was 13% on an average for the full Chinese sample and -1% for the Indian sample. Second, there was no appreciable difference between the above-median and below-median firms in either China or India. The F-statistic for difference in mean as well as median (not reported in the table) is insignificant in each case.

Does financing choice impact corporate profitability? Specifically, does alternative finance, result in lower profit for the corporation, controlling for all relevant firm characteristics? It is a very

important question. Alternative finance is usually supposed to be costlier than bank and market finance. Given that, a plausible conjecture is that profit/assets will increase in the use of bank and market finance, with its lower costs, and decrease in alternative finance, after controlling for all relevant variables. However, the underlying premise of the conjecture is not unquestionable. In the case of trade credit, typically the largest component of alternative finance, the high costs are determined on the basis of discounts foregone. Thus, if the terms are 10-2-30, foregoing the discounts is equivalent to borrowing at an annual rate of 44.6 percent. However, by stretching the payment period beyond the due date, this rate can be significantly lowered (see Petersen and Rajan, 1994). Gianetti, Bukart, and Ellingson (2007) also find that early payment discounts overstate the cost of trade credit. The debate about the relative costs of the two modes of financing makes it an open question.

To address this question, we decided to formally investigate the possible impact of the choice of financing sources by firms on their profitability. Table 12 reports the results of our regression tests whereby annual profit/total assets figures are regressed on financing choice: trade credit and alternative finance. The test on the China sample is cross-sectional regression with the annual profit/total asset as the dependent variable, and trade credit/total liabilities as an independent variable. As before, due to data limitations, we run cross-sectional regression with the independent variables in 2004, and the dependent variable in 2005 (allowing for a one-year time-lag for the independent variables to impact the dependent variable). The coefficient for the trade credit ratio (trade credit/total liabilities) is negative and significant, suggesting that alternative finance lowers profitability. However, that implication may not be warranted, as the test on the Indian sample indicates.

The corresponding test on the India sample is a panel regression with profit/assets during 1996-2005 as the dependent variables. We include both bank and market finance/total finance

and alternative finance/total finance among the independent variables. Note that, because total finance has a third component, namely internal finance, the relationship between the two variables is indeterminate. However, as the table indicates, both coefficients are negative and significant.

From our tests before, we found that larger firms, older firms, widely-held firms, and state-owned firms in China use less alternative finance. From table 12, except for widely-held firms, the other types of firms are also less profitable. The state-owned firms in India are significantly less profitable than non-state firms.

V. Concluding Observations

The extraordinary performance of the economies in China and India raises questions about the traditional measures of the size, depth, and efficiency of financial systems. In this paper we have advanced the notion that, in order to understand the ‘finance and growth’ relation in China and India and perhaps in many other developed and emerging economies, we need to significantly revise the traditional measures. The capacity of a financial system should be viewed as the total funding available for all corporate sectors in an economy, including banks and markets as well as alternative sources. The latter financing channels, excluded in the traditional measures of financial systems, operate outside legal institutions and are backed by non-legal mechanisms such as reputation, relationships, and trust. While banks and markets have played a limited role in providing funds for corporate sectors and supporting economic growth in China and India, non-state, non-listed firms, relying mostly on internal and alternative financing channels, have been growing faster than the state and listed sectors and contributing much of the growth.

Our empirical evidence indicates that alternative finance, while adding significantly to the capacity of the financial system of China and India, and possibly many other emerging economies as

well, may not, contrary to popular notions, entail unfavorable costs compared to bank/market finance. We find that use of alternative finance has no impact on corporate growth rate either in China or India. Further, use of bank/market finance is not any more beneficial for corporate profitability than alternative finance. On the other hand, we find indirect evidence that use of bank and market finance may actually be deleterious. We find that larger firms, older firms, widely-held firms, and state-owned firms in China use less alternative finance. Except for widely-held firms, the other types of firms are also less profitable. Further, older firms and state-owned firms grow at a slower pace. The results for Indian firms are qualitatively similar.

Alternative finance may actually be the preferred form of finance over bank and market finance because the effective (as opposed to nominal) cost of alternative finance (average over a long period of time) may be lower due to some of its special beneficial features, such as renegotiation flexibility and the advantage of a finance network with the providers of capital. Given all other things equal, legal mechanisms by their nature are more rigid and slower to work. Hence, alternative mechanisms are perhaps more suitable for dynamic economies (India, China), dynamic corporate sectors (SME's in India and Hybrid Sector in China) and dynamic industries (information services). The law and finance literature has identified an important determinant of bank and market finance, namely quality of legal protection. Perhaps growth, dynamism, culture, and network are other possible candidates. New and imaginative research is necessary to understand these complex but important issues.

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Table 1 The Largest 20 Economies in the World: GDP and Growth

Panel A IMF World Economic Outlook Database 2008

Rank	GDP in 2007 (simple exchange rates)		GDP in 2007 (PPP)		GDP growth: 1990-2007 (constant prices)		Per capita GDP growth: 1990-2007* (constant prices)	
	Country /Region	US\$ billion	Country /Region	Int'l \$ billion	Country /Region	Annual growth	Country /Region	Annual growth
1	U. S.	13,794	U. S.	13,543	China	10.3%	China	9.3%
2	Japan	4,346	China	11,606	Vietnam	7.6%	Vietnam	6.0%
3	Germany	3,259	India	4,727	India	6.3%	Korea	4.7%
4	China	3,249	Japan	4,346	Malaysia	6.2%	Taiwan	4.5%
5	U. K.	2,756	Germany	2,714	Chile	5.6%	India	4.4%
6	France	2,515	U. K.	2,271	Korea	5.5%	Chile	4.2%
7	Italy	2,068	France	2,040	Taiwan	5.3%	Poland	3.9%
8	Spain	1,415	Brazil	2,014	Bangladesh	5.2%	Sri Lanka	3.8%
9	Canada	1,406	Russia	1,909	Sri Lanka	5.0%	Malaysia	3.7%
10	Brazil	1,295	Italy	1,888	Yemen, R.	5.0%	Thailand	3.6%
11	Russia	1,224	Spain	1,310	Thailand	4.6%	Bangladesh	3.1%
12	India	1,090	Korea	1,250	Pakistan	4.6%	Indonesia	3.0%
13	Korea	950	Mexico	1,250	Egypt	4.5%	Peru	2.9%
14	Australia	890	Canada	1,217	Iran	4.5%	Iran	2.9%
15	Mexico	886	Indonesia	1,054	Peru	4.4%	Argentina	2.8%
16	Netherlands	755	Taiwan	750	Indonesia	4.4%	Egypt	2.3%
17	Turkey	482	Australia	731	Turkey	4.0%	Turkey	2.3%
18	Belgium	443	Turkey	723	Argentina	4.0%	Pakistan	2.3%
19	Sweden	432	Argentina	691	Poland	3.9%	Spain	2.2%
20	Switzerland	414	S. Africa	664	Philippines	3.8%	Australia	2.2%

Panel B PPP-adjusted GDPs in 2007 from Different Sources

Rank	IMF		World Bank		CIA (US)	
	Country	GDP(PPP) \$ billion	Country	GDP(PPP) \$ billion	Country	GDP(PPP) \$ billion
1	U. S.	13,543	U. S.	12,376	U. S.	13,860
2	China	116,06	China	5,333	China	7,043
3	India	4,727	Japan	3,870	Japan	4,305
4	Japan	4,346	Germany	2,514	India	2,965
5	Germany	2,714	India	2,341	Germany	2,833
6	U. K.	2,270	U. K.	1,901	U. K.	2,147
7	France	2,040	France	1,862	Russian	2,076
8	Brazil	2,014	Russian	1,697	France	2,067
9	Russian	1,909	Italy	1,626	Brazil	1,838
10	Italy	1,888	Brazil	1,585	Italy	1,800
11	Spain	1,310	Spain	1,183	Spain	1,362
12	S. Korea	1,250	Mexico	1,175	Mexico	1,353
13	Mexico	1,250	Canada	1,133	Canada	1,274
14	Canada	1,217	S. Korea	1,027	S. Korea	1,206
15	Indonesia	1,054	Iran	734	Iran	852
16	Taiwan	750	Indonesia	707	Indonesia	845
17	Australia	731	Australia	671	Australia	766
18	Turkey	723	Taiwan	590	Taiwan	690
19	Argentina	691	Netherlands	566	Turkey	667
20	S. Africa	664	Turkey	561	Netherlands	638

Notes: Countries with population less than 20 million or GDP less than US\$ 20 billion are excluded from the rankings. In Panel B, information on GDPs is from IMF World Economic Outlook Database 2008, World Bank World Development Indicator 2008, and CIA World Fact Book 2008.

Table 2 Comparing legal systems and institutions

This table compares legal systems and institutions related to investor protection in India, LLSV country-groups (sorted by legal origins) and other large emerging economies. All the emerging economies included in this table are from Table 1 for which information was available. Notation (E), (F), or (G) against a country indicates that the said country belongs to English, French, or German legal origin groups. Creditor rights scores are from DMS (2007) and Anti-director rights scores are from DLLS (2007). Corruption Perception Index values, from Transparency International (2006), are based on the surveys of firms on whether corruption is prevalent when conducting business in each country and ranges from 0 to 10, with 0 meaning most corrupt and 10 meaning least corrupt. Legal Formalism Index, from DLLS (2003), measures substantive and procedural statutory intervention in judicial cases at lower-level civil trial courts; the index ranges from 0 to 7, where a higher score means greater formalism or a higher level of intervention in the judicial process. Legality Index, from Berkowitz, Pistor, and Richard (2003), uses five legality proxies (each range from 0 to ten) from LLSV(1997, 1998) and principal components analysis to aggregate the individual legality proxies into a single legality Index; the index ranges from 0 to 21 with a higher score meaning a better legal environment. Disclosure Requirement index, from LLS (2006), equals the arithmetic mean of scores (zero or one; one means disclosure required) on six dimensions of disclosure requirements: (1) Prospect; (2) Compensation; (3) Shareholders; (4) Inside Ownership; (5) Contracts Irregular; (6) and Transactions; the overall Index ranges from zero to one, with zero meaning no disclosure requirement for anything, and one meaning disclosure of everything. Earnings Management index, from Leuz, Nanda, and Wysocki (2003), is the average rank across four measures of earnings management; a higher score implies *more* earnings management.

	Creditor Rights	Anti-Director Rights	Corruption Perception Index	Legal Formalism Index	Legality Index	Disclosure Requirement	Earnings Management Score
<i>Panel A China, India, and LLSV Country Groups</i>							
China	2	1	3.3	3.4	N/a	N/a	N/a
India (E)	2	5	3.3	3.51	11.35	0.92	19.1
English-origin Ave.	2.28	4.19	5.33	3.02	15.56	0.78	11.69
French-origin Ave.	1.31	2.91	4.39	4.38	13.11	0.45	19.27
German-origin Ave.	2.33	3.04	5.58	3.57	15.53	0.60	23.60
Nordic-origin Ave.	1.75	3.80	9.34	3.32	16.42	0.56	10.15
Sample Ave.	1.8 ^a	3.37 ^b	5.24	3.58 ^c	14.98	0.60 ^d	16.00
<i>Panel B Other Large Emerging Markets (EMs)</i>							
Argentina (F)	1	2	2.9	5.49	10.31	0.5	N/a
Brazil (F)	1	5	3.3	3.83	11.43	0.25	N/a
Egypt (F)	2	3	3.3	3.6	10.14	0.5	N/a
Indonesia (F)	2	4	2.4	3.88	8.37	0.5	18.3
Korea (South)(G)	3	4.5	5.1	3.33	12.24	0.75	26.8
Malaysia (E)	3	5	5	3.21	13.82	0.92	14.8
Mexico (F)	0	3	3.3	4.82	10.79	0.58	N/a
Pakistan (E)	1	4	2.2	3.74	8.27	0.58	17.8
Peru (F)	0	3.5	3.3	5.42	9.13	0.33	N/a
Philippines (F)	1	4	2.5	5	7.91	0.83	8.8
S. Africa (E)	3	5	4.6	3.68	11.95	0.83	5.6
Sri Lanka (E)	2	4	3.1	3.89	9.68	0.75	N/a
Taiwan (G)	2	3	5.9	3.04	14.26	0.75	22.5
Thailand (E)	2	4	3.6	4.25	10.7	0.92	18.3
Turkey (F)	2	3	3.8	3.49	9.88	0.5	N/a
Average of EMs	1.69	3.63	3.60	4.00	10.59	0.63	16.61

Notes: ^a: DMS (2007) average; ^b: DLLS (2007) average; ^c: DLLS (2003) average; ^d: LLS (2006) average.

Table 3.1 Comparing financial systems: Banks and Markets

This table compares various aspects of financial markets and banking sector of the Indian financial system with those of other emerging countries and LLSV country groups (sorted by legal origins). All the measures are taken from Levine (2002) or calculated from the World Bank Financial Database using the definitions in Levine (2002). We use 2005 figures for all countries.

Measures	Size of Banks and Markets				Structure Indices: Markets vs. banks**				Financial Development*** (banking and market sectors)		
	Bank credit/ GDP	Bank Over- head cost/ Bank assets	Value traded /GDP	Market cap. /GDP	Structure Activity	Structure Size	Structure Efficiency	Structure Regulatory	Finance Activity	Finance Size	Finance Efficiency
<i>Panel A China, India, and LLSV Country Groups</i>											
China	0.31^a	0.01	0.26	0.32	-0.16	0.03	-5.87	16	-2.51	-2.31	3.19
India	0.37	0.02	0.56	0.60	0.43	0.49	-4.44	10	-1.57	-1.51	3.30
English origin*	0.66	0.04	1.53	1.31	0.87	0.76	-3.05	2.26	-0.21	-0.14	3.71
French origin*	0.77	0.04	0.60	0.66	-0.43	-0.05	-4.02	8.50	-1.45	-1.08	2.50
German origin*	1.06	0.02	1.05	0.82	-0.16	-0.37	-4.01	9.65	-0.08	-0.27	3.90
Nordic origin*	1.05	0.02	0.99	0.85	-0.07	-0.20	-3.86	7.74	-0.08	-0.21	3.71
Sample Ave.	0.78	0.03	1.17	1.02	0.28	0.28	-3.55	8.53	-0.50	-0.50	3.48
<i>Panel B Other Large Emerging Markets (EMs)</i>											
Argentina (F)	0.10	0.08	0.09	0.30	-0.12	1.07	-4.95	7	-4.70	-3.51	0.13
Brazil (F)	0.29	0.08	0.19	0.51	-0.40	0.56	-4.20	10	-2.88	-1.91	0.93
Egypt (F)	0.45	0.02	0.28	0.66	-0.45	0.39	-5.13	13	-2.06	-1.22	2.61
Indonesia (F)	0.22	0.03	0.15	0.27	-0.40	0.22	-5.48	Na	-3.45	-2.83	1.63
Korea (G)	Na	0.02	1.53	0.73	Na	Na	-3.73	Na	Na	Na	4.57
Malaysia (E)	1.03	0.01	0.38	1.44	-0.99	0.33	-5.22	10	-0.93	0.39	3.30
Mexico (F)	0.15	Na	0.07	0.27	-0.75	0.61	Na	12	-4.60	-3.24	Na
Pakistan (E)	0.27	0.02	1.27	0.34	1.56	0.24	-3.58	10	-1.08	-2.40	4.06
Peru (F)	0.18	0.07	0.03	0.36	-1.93	0.70	-6.35	8	-5.39	-2.75	-0.98
Philippines (F)	0.26	0.06	0.07	0.35	-1.32	0.29	-5.51	7	-3.98	-2.37	0.21
S. Africa (E)	0.80	0.05	0.84	2.14	0.04	0.98	-3.12	8	-0.40	0.54	2.76
Sri Lanka (E)	0.30	0.04	0.05	0.20	-1.81	-0.40	-6.22	7	-4.24	-2.82	0.16
Taiwan (G)	Na	0.02	1.79	1.35	Na	Na	-3.62	12	Na	Na	4.78
Thailand (E)	0.73	0.02	0.51	0.68	-0.37	-0.07	-4.72	9	-0.99	-0.70	3.36
Turkey (F)	0.21	0.06	0.55	0.36	0.96	0.52	-3.40	12	-2.14	-2.57	2.21
Ave. for EMs	0.32	0.04	0.62	0.65	-0.32	0.53	-4.19	7.97	-3.00	-2.15	2.55

Notes: * = the numerical results for countries of each legal origin group is calculated based on a value- (GDP of each country) weighted approach;

** : Structure indices measure whether a country's financial system is market- or bank-dominated; the higher the measure, the more the system is dominated by markets. Specifically, "structure activity" is equal to $\log(\text{value traded}/\text{bank credit})$ and measures size of bank credit relative to trading volume of markets; "structure size" is equal to $\log(\text{market cap}/\text{bank credit})$ and measures the size of markets relative to banks; "structure efficiency" is equal to $\log(\text{market cap ratio}/\text{overhead cost ratio})$ and measures the relative efficiency of markets vs. banks; finally, "structure regulatory" is the sum of the four categories in regulatory restriction, or the degree to which commercial banks are allowed to engage in security, firm operation, insurance, and real estate: 1- unrestricted; 2- permit to conduct through subsidiary; 3-full range not permitted in subsidiaries; and 4-strictly prohibited.

*** : Financial development variables measure the entire financial system (banking and market sectors combined), and the higher the measure, the larger or more efficient the financial system is. Specifically, "finance activity" is equal to $\log(\text{total value traded ratio}/\text{private credit ratio})$, "finance size" is equal to $\log(\text{market cap ratio}/\text{bank private credit ratio})$, and "finance efficiency" is equal to $\log(\text{total value traded ratio}/\text{bank overhead cost})$.

Table 3.2 Time-series comparison of financial systems; China and India**Panel A China**

Measures	Size of Banks and Markets				Structure Indices: Markets vs. banks**		
	Bank credit*/GDP	Bank Over-head cost/Bank assets	Value traded /GDP	Market cap. /GDP	Structure Activity	Structure Size	Structure Efficiency
1996	0.67	0.01	0.30	0.09	-0.35	-0.87	-6.75
1997	0.75	0.01	0.39	0.17	-0.28	-0.64	-6.02
1998	0.81	0.01	0.28	0.22	-0.46	-0.57	-5.78
1999	0.82	0.02	0.35	0.26	-0.37	-0.50	-5.54
2000	0.80	0.01	0.60	0.38	-0.12	-0.32	-5.21
2001	0.73	0.01	0.34	0.42	-0.33	-0.24	-5.15
2002	0.76	0.01	0.23	0.34	-0.52	-0.35	-5.43
2003	0.78	0.01	0.29	0.35	-0.43	-0.35	-5.48
2004	0.73	0.01	0.39	0.35	-0.27	-0.32	-5.42
2005	0.69	0.01	0.26	0.32	-0.42	-0.33	-5.67

Panel B India

Measures	Size of Banks and Markets				Structure Indices: Markets vs. banks**		
	Bank credit/GDP	Bank Over-head cost/Bank assets	Value traded /GDP	Market cap. /GDP	Structure Activity	Structure Size	Structure Efficiency
1996	0.22	0.03	0.25	0.33	0.13	0.40	-5.02
1997	0.22	0.03	0.39	0.31	0.54	0.31	-4.59
1998	0.23	0.03	0.36	0.28	0.45	0.22	-4.57
1999	0.23	0.03	0.62	0.32	0.97	0.32	-4.11
2000	0.26	0.03	1.11	0.36	1.43	0.32	-3.55
2001	0.28	0.02	0.52	0.27	0.63	-0.02	-4.39
2002	0.30	0.02	0.39	0.24	0.26	-0.22	-4.73
2003	0.31	0.02	0.47	0.34	0.43	0.11	-4.54
2004	0.33	0.02	0.55	0.48	0.51	0.39	-4.41
2005	0.37	0.02	0.56	0.60	0.43	0.49	-4.44

Source: World Bank, China Statistical yearbook

* = China's bank credit includes loans to all sector and in all terms. There is no source to separate private vs. public credits. Medium-term and long-term loans account for almost half of the total loans.

Table 4 Corporate sectors in China and India

Panel A: State, listed and private sectors in China

The State and Listed sectors includes state-owned and publicly traded companies such that the government holds controlling shares. The Private Sector consists of firms with all other types of ownership structures. Data source for this table is the Chinese Statistical Yearbook 2000, 2001, 2002, and 2003. For each sector, we calculate the weighted-average growth rate across the selected ownership types.

Year	Annual growth rate of Industrial Output		Number of Employees(million)*	
	State & Listed Sectors	Private Sector	State & Listed Sectors	Private Sector*
1996	15.9	17.4	116	233
1997	-0.6	18.9	115	233
1998	-6.5	10.2	94	235
1999	5.8	6.8	89	240
2000	14	24.2	85	233
2001	4.6	9.9	81	245
2002	6.5	12.5	77	246
Average Annual rate (95- 02)	5.4	14.3	-5.70%	1.50%

Panel B: State and non-state sectors in India

This panel compares the size of the State and (registered) Non-state sectors in the Indian economy. All (nominal) figures are in US\$ billions (inflation during this period was low and not volatile), with conversions made at average exchange rates during each year.

Year	GDP from State and Non-state Sectors		Employment (Million)	
	State Sector GDP ^{a,b}	GDP from <i>all</i> Non-State Sectors ^{a,c}	Public Sector Undertakings (PSUs)	Registered Non - state corporations (listed and unlisted)
1996-97	37.75	210.4	19.56	8.69
1997-98	41.11	222.72	19.42	8.75
1998-99	43.88	223.54	19.41	8.7
1999-00	43.15	248.86	19.31	8.65
2000-01	43.55	265.68	19.14	8.65
2001-02	51.22	276.5	18.77	8.43
2002-03	64.41	302.94	18.58	8.42
Average Annual rate (95- 02)	9.71%	6.32%	-0.85%	-0.51%

Notes: *: These include all listed and unlisted (but registered) companies;

^a: Output and GDP figures exclude agriculture; ^b: Total (non-agriculture) GDP generated from all non-state sector firms; ^c Includes GDP from non-corporate non-state sector as well; ^d: Paid-up capital for a company is the number of shares outstanding times the face value or par value per share; ^e Employment figures only include registered firms, and excluding SSI firms and non-registered firms.

Source: India-Stat, Central Statistical Organization and the Reserve Bank of India.

Table 5 Descriptive statistics of China and India samples**Panel A** Summary statistics – China

	Total Assets (in Million USD)	Total Sales (in Million USD)	Total Profit (in Million USD)	Age (in Years)
Full sample				
Mean	9.85	7.91	0.42	11
Median	1.56	1.7	0.03	8
Standard deviation	114.34	74.48	15.94	10
Min	0	0	-607.4	0
Max	60375	16250	8525	57
Firm size above median (top 50%)				
Mean	19	14.36	0.78	12
Median	4.38	3.66	0.06	9
Standard deviation	161.18	104.91	22.54	12
Min	1.56	0	-607.4	0
Max	60375	16250	8525	57
Firm size below Median (bottom 50%)				
Mean	0.7	1.45	0.05	10
Median	0.66	1	0.02	7
Standard deviation	0.42	2.58	0.17	9
Min	0	0	-47.25	0
Max	2	1168	38	57
Firm size in the bottom quartile (bottom 25%)				
Mean	0.35	1.05	0.04	9
Median	0.37	0.78	0.01	6
Standard deviation	0.19	2.96	0.16	9
Min	0	0	-47.25	0
Max	1	1168	38	57

Panel B Summary statistics – India

	Total Assets (in Million USD)	Total Sales (in Million USD)	Total Profit (in Million USD)	Age (in Years)
Full sample				
Mean	894.67	1025.76	62.29	29
Median	119.27	119.62	2.6	22
Standard deviation	5415.64	8559.42	556.11	20
Min	0	0	-2688.56	4
Max	179895.31	355520.89	16825.956	180
Firm size above median (top 50%)				
Mean	1743.8	1954.02	125.11	32
Median	416.09	395.04	16.5	25
Standard deviation	7564.02	12025.99	779.38	21
Min	119.27	0	-2688.56	4
Max	179895.31	355520.82	16825.96	180
Firm size below Median (bottom 50%)				
Mean	45.11	96.89	-0.53	26
Median	37.44	35.09	0.42	20
Standard deviation	32.33	422.93	56.8	19
Min	0	0	-1951.11	4
Max	118.98	11848.96	439.2	137
Firm size in the bottom quartile (bottom 25%)				
Mean	18.16	77.36	-1.24	26
Median	17.2	12.71	0.04	19
Standard deviation	10.24	560.56	74.76	19.54
Min	0	0	-1951.11	5
Max	37.44	11848.96	439.2	137

Table 6 Corporate financing patterns: China and India

Panel A China

This panel presents the summary statistics of trade credit usage. The summary pools all firm*year observations during 1998-2005.

Ratio of trade credit / Total liability

	Mean	Median	Standard deviation
Full Sample	0.29	0.20	0.29
Firm size above median	0.27	0.18	0.27
Firm size below median	0.31	0.22	0.30
Firm size in bottom quartile	0.32	0.23	0.31

Panel B India

This panel presents the summary statistics of various financing options used by the firms in the India sample. The summary pools all firm*year observations during 1996-2005.

Ratio of bank&market finance / Total sources of funds

	Mean	Median	Standard deviation
Full Sample	0.23	0.16	24.65
Firm size above median	0.31	0.22	31.94
Firm size below median	0.14	0.10	13.91
Firm size in bottom quartile	-0.08	0.03	8.75

Ratio of alternative finance / Total sources of funds

	Mean	Median	Standard deviation
Full Sample	0.16	0.20	0.10
Firm size above median	0.00	0.18	0.17
Firm size below median	0.32	0.24	0.10
Firm size in bottom quartile	0.53	0.25	0.10

Ratio of trade credit / Total sources of funds

	Mean	Median	Standard deviation
Full Sample	0.11	0.10	0.10
Firm size above median	-0.11	0.09	0.18
Firm size below median	0.33	0.12	0.08
Firm size in bottom quartile	0.32	0.11	0.08

Table 7 Corporate ownership structures: China, India and other country groups

In this table we compare ownership structure of firms in India, China and other countries (LLSV country groups, selected Asian countries including China). The ownership percentages do not add up to hundred due to other variables not reported in this table.

Controlling Shareholder*	Foreign (%)	Widely-held (%)	State (%)	Family/Indiv. (%)
Panel A: LLS (1999) Sample of Large Firms				
High-antidirector average		34.2	15.8	30.4
Low-antidirector average		16	23.7	38.3
Sample average		24	20.2	34.8
Panel B: LLS (1999) Sample of Medium Firms				
High-antidirector average		16.7	10.3	50.9
Low-antidirector average		6	20.9	53.8
Sample average		10.7	16.2	52.5
Panel C: Chinese Firms**				
Full Sample	15	28	18	21
Firm Size above median	18	20	21	23
Firm size below median	12	35	15	20
Firm size in bottom quartile	12	35	17	18
Panel D: Indian Firms***				
Full Sample	9.6	1.5	0.2	78.3
Firm Size above median	12.8	1.5	0.3	76.6
Firm size below median	2.5	1.4	0.1	81.2
Firm size in bottom quartile	1.9	1	0	85

Notes:

*: We list these “controlling shareholders” (% indicate fraction of sample firms having a particular type of controlling shareholder): 1) “Widely-held” firms are defined as no single large shareholder owns more than 10% of shares; 2) “State” firms are those with the controlling shareholder being the state/government; 3) “Family” firms are those with the controlling shareholder being the founder’s family; 4) “Financial” (“Non-financial”) are firms with a widely-held financial (non-financial) corporation as the controlling shareholder. **: Non-Resident Indians (NRIs) are individuals of Indian nationality or Indian origin resident outside India. Overseas Corporate Bodies (OCBs) include overseas companies, partnership firms, societies and other corporate bodies which are owned predominantly (at least 60%) by individuals of Indian nationality or Indian origin resident outside India.

**: Source: NBS, Panel dataset 1998 – 2005. The ratios are computed for firm*years

***: Source: CMIE Prowess panel dataset 2001 – 2005. The ratios are computed for firm*years

Table 8 Determinants of alternative financing: China and India

Dependent Variable	China	India
	Trade credit ratio	Alternative Finance/Total
Independent Variables		
Constant	0.54 (5.19)	2.41 (1.40)
Log(Assets)	-0.02 (-2.39)	0.36 (1.61)
Firm Age	-0.01 (-11.12)	-1.05 (-2.72)
State	-0.12 (-4.94)	0.28 (0.18)
Industry		0.06 (0.10)
Log(Export)	0.01 (3.94)	
Profit/Assets	-0.02 (-4.61)	-0.05 (-0.13)
Widely	-0.14 (-4.33)	-0.39 (-0.36)
# of observations	43874	15235
Adjusted-R ²	0.07	0.09

Note: The coefficients in the brackets are t-statistics. Significant coefficients are in bold.

Note for China:

Cross sectional regression

Dependent Variable: Trade credit /Total liabilities

Dependent Variable is for the year 2005. Independent variables are in 2004.

Note for India:

Panel data regression; years 2001 to 2005

Dependent Variable: Alternative Finance/Total sources of funds = Trade credit + Borrowing from group companies + other borrowings

Independent Variables: State: 0=Private, 1= Government, Assets: in Rs crores, 1996 to 2005, Industry: 0=Services, 1=Manufacturing, Profit: in Rs crores, 1996 to 2005, Age: log(1+age), Widely: 0=not widely held, 1=widely held

Table 9 Corporate growth rate: China and India

The table presents the average annual growth in assets of Chinese and Indian firms in our sample. The figures are based on firm*year observations during the respective sample periods: 1998 – 2005 for China and 1998 – 2004 for India. Source of data: NBS (China) and CMIE Prowess (India)

Panel A China

	Assets growth rate
Full Sample	18%
Firm size above median	17%
Firm size below median	20%
Firm size in bottom quartile	23%

Panel B India

	Assets growth rate
Full Sample	20.2%
Firm size above median	31.3%
Firm size below median	13.2%
Firm size in bottom quartile	11.4%

Table 10: Corporate growth and financing: China and India

Dependent Variable	Growth of Sales - China	Growth of Sales - India	Growth of Assets - China	Growth of Assets - India
Independent Variables				
Constant	0.32 (6.81)	0.66 (23.84)	0.55 (5.94)	0.44 (27.92)
Alternative Finance		-0.00011 (-1.92)		0.000002 (0.09)
Trade Credit Ratio	-0.02 (-1.06)		-0.02 (-1.25)	
Log (Assets)	0.04 (8.64)	0.09 (22.18)	-0.04 (-12.61)	0.12 (57.82)
Firm Age	-0.01 (-18.39)	-0.08 (-10.02)	-0.01 (-12.98)	-0.016 (-4.71)
Log(Export)	-0.03 (-8.10)		0.02 (6.25)	
State	-0.06 (-3.83)	-0.012 (-0.56)	0.05 (5.17)	-0.018 (0.04)
Industry		-0.026 (-2.24)		0.003 (0.58)
Widely	0.56 (4.25)		0.01 (0.48)	
# of observations	32162	2365	32178	2365
Adjusted-R ²	0.03	0.27	0.02	0.66

Note: The coefficients in the brackets are t-statistics. Significant coefficients are in bold.

Note for China:

Cross sectional regression

Dependent Variable: Trade credit /Total liabilities

Dependent Variable is for the year 2005. Independent variables are in 2004.

Note for India:

Cross sectional regression

Dependent Variable: Alternative Finance/Total sources of funds = Trade credit + Borrowing from group companies + other borrowings/ Total sources of funds, Average over 1996 - 2005

Independent Variables: State: 0=Private, 1= Government, Assets: in Rs crores, Industry: 0=Services, 1=Manufacturing,, Age: log(1+age). Independent variables are in 1996.

Table 11 Corporate profitability: China and India

This table presents the summary statistics of the ratio of **profit /total assets**.

Panel A China

	Mean	Median	Standard deviation
Full Sample	0.13	0.07	0.28
Firm size above median	0.08	0.04	0.14
Firm size below median	0.18	0.10	0.36
Firm size in bottom quartile	0.16	0.08	0.29

Panel B India

	Mean	Median	Standard deviation
Full Sample	-0.01	0.02	0.00
Firm size above median	0.02	0.03	0.00
Firm size below median	-0.03	0.01	0.01
Firm size in bottom quartile	-0.05	0.00	0.01

Table 12 Corporate profitability and financing: China and India

Dependent Variable	Profit/total assets	Profit/total assets
Independent Variables		
Constant	0.32 (3.19)	-0.049 (-2.48)
Bank&market/Total		-144E-18 (-3.00)
Alternative/ Total		-646E-18 (-2.01)
Trade Credit Ratio	-0.02 (-4.90)	
Log (Assets)	-0.03 (-7.65)	0.0247 (10.89)
Industry		-0.046 (-3.96)
State	-0.01 (-1.18)	-0.249 (-13.07)
Firm Age	-0.001 (-4.10)	-0.00013 (-0.03)
Log(Export)	0.02 (2.08)	
Widely	0.02 (5.98)	
# of observations	47416	30470
Adjusted-R ²	0.0096	0.0099

Note: The coefficients in the brackets are t-statistics. Significant coefficients are in bold.

Note for China:

Cross sectional regression

Dependent Variable: Trade credit /Total liabilities

Dependent Variable is for the year 2005. Independent variables are in 2004.

Note for India:

Panel data regression; years 1996 - 2005

Dependent Variable: Alternative Finance/Total sources of funds = Trade credit + Borrowing from group companies + other borrowings

Independent Variables: State: 0=Private, 1= Government, Assets: in Rs crores, 1996 to 2005, Industry: 0=Services, 1=Manufacturing, Profit: in Rs crores, 1996 to 2005, Age: log(1+age), Widely: 0=not widely held, 1=widely held

Figure 1 A Comparison of Performance of Stock Indexes (“Buy and Hold” returns during Dec. 1992 and Oct. 2008)

Return on Stock Indexes around the World

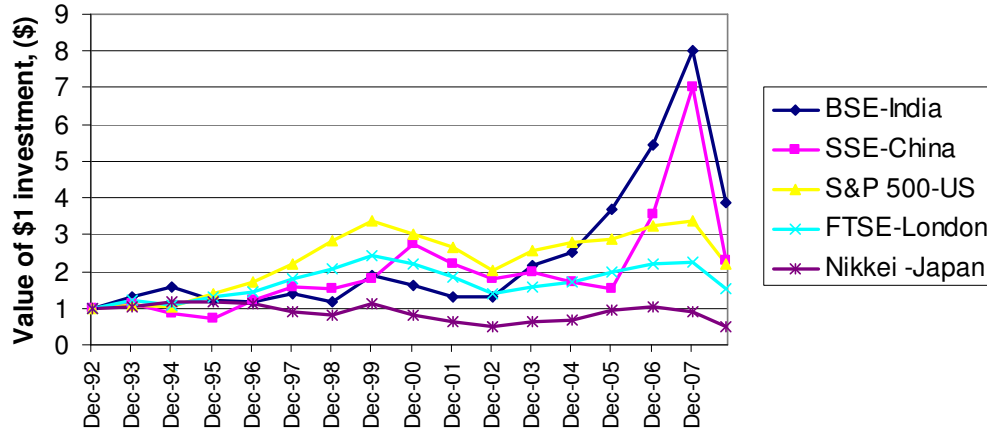


Figure 2 Investor Protection and External Financing – International Comparison

The figure compares India’s legal system and external financial markets to those of LLSV country groups and the other emerging markets (as of 2005) as well as various legal origin country-groups. The score on the horizontal axis measures overall investor protection in a country. It is the sum of creditor rights, anti-director rights, corruption perception index, and legality index *minus* the legal formalism index from Table 2. For China, the score on the legality index was not available. Hence, we have used the Rule of Law score from International Country Risk Guide instead. Each score is re-scaled on a 0 to 10 scale before being included in the final sum. The final sum is then rescaled on a 0 to 10 scale also. The vertical axis measures the (relative) size of that country’s external markets and is given by the sum of the ratios of (private) bank credit and market capitalization to GDP from Table 3. The solid horizontal and vertical lines represent the simple (un-weighted) sample means of all the data points shown in the graph.

