

# The Financial System Capacities in China and India\*

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## Abstract

In this paper we examine and compare the formal systems of law and finance in China and India and the alternative institutional arrangements and governing mechanisms in the two countries, and the relation between the development of these systems and their economic growth. China differs from most of the countries studied in the law, institutions, finance, and growth literature: Its legal and financial systems as well as institutions are all underdeveloped, but its economy has been growing at a very fast rate. More importantly, the growth in the Private Sector, where applicable legal and financial mechanisms are arguably poorer than those in the State and Listed sectors, is much faster than that of the other sectors. The system of alternative mechanisms and institutions plays an important role in supporting the growth in the Private Sector, and they are good substitutes for standard corporate governance mechanisms and financing channels. Despite its English common-law origin and British-style judicial system and democratic government, there is enough documented evidence to suggest that the effective level of investor protection and the quality of legal institutions in India are quite weak as well. Once again, this has evidently not prohibited growth. We find that to a large extent Indian firms conduct business outside the formal legal system and do not rely on formal financing channels from markets and banks for most of their financing needs. Instead, firms across the board, and in particular, small and medium firms, use non-legal methods based on reputation, trust and relationships to settle disputes and enforce contracts, and rely on alternative financing channels such as trade credits to finance their growth. The scope, methodologies, and results of our paper paint a more complete picture of the law-finance-growth nexus and how businesses and investors respond to the limitations of legal system and formal financial system than existing studies.

**Keywords:** India, law and finance, institutions, growth, banks, markets, SME sector.

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## I. Introduction

Understanding mechanisms that contribute to sustainable long-term economic growth has long been one of the central missions for economists. In recent years, several related strands of literature in law, finance, and economic growth have significantly advanced our knowledge of growth mechanisms. First, 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.’ A second strand of literature suggests that the development of a financial system that includes stock markets and financial intermediation contributes to a country’s overall economic growth (e.g., McKinnon (1973)). Recently, researchers have strengthened this view with supporting empirical evidence at the country level (e.g. King and Levine (1993); Levine and Zervos (1998)), as well as at the industry and firm levels (e.g. Rajan and Zingales (1998); Jayaratne and Strahan (1996)). The third strand provides evidence linking law, finance, and growth at the country, industry, and firm levels (e.g., Demirgüç-Kunt and Maksimovic (1998); Levine (1999); Beck and Levine (2002)).<sup>1</sup>

While the existing literature has advanced our understanding of the nexus between legal and financial mechanisms in many parts of the world, the knowledge comes with certain limitations. Most existing studies use cross-country datasets and, in the process, accord each country in the sample an equal weight. We might expect that, compared to large and diverse countries (e.g., India), small homogeneous countries (e.g., Singapore) would have more effective formal legal and financial institutions, because they can be tailored to the needs of the domestic economy at relatively low costs. Further, many cross-country studies treat each country in the sample as a monolithic unit, obscuring possibly considerable variations between financing and legal practices between sectors (such as large and small firms). In addition, most of the existing studies examine one or two dimensions of the legal and financial systems of the sample countries, and typically focus on formal legal mechanisms (courts) and formal financing channels (stock markets and banks), to the exclusion of all other financing and dispute resolution options.

We, therefore, take a closer look at the financial systems of the two largest and fastest

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<sup>1</sup> There are notable alternative approaches to the law and finance literature. For example, Rajan and Zingales (2003a; 2003b) suggest that development of formal financial system may trigger political economy costs, causing a disconnection between the level of financial market activity and economic development. Acemoglu and Johnson (2005) find that “contracting institutions,” or laws protecting contracts between individual parties, do not affect long-term growth.

growing emerging economies of the world – China and India – to better understand their very impressive growth experience in the presence of legal systems and institutions that would frequently be considered inadequate by developed country standards. The two financial systems differ widely in their nature and evolution. Transiting from a socialist system to a market-based system, China had no formal commercial legal system and associated institutions in place when its economy began to take off in the 1980s. India, on the other hand, has a long history of modern legal institutions and financial markets, and has inherited a set of rich institutions.

We examine three sectors of the Chinese economy: 1) the *State Sector* includes all companies such that the government has ultimate control (state-owned enterprises, or SOEs); 2) the *Listed Sector* includes all firms that are listed on an exchange and are publicly traded; and, 3) the *Private Sector* includes all the other firms with various types of private and local government ownership.<sup>2</sup> We find that the law-finance-growth nexus established by the existing literature works well for the State and Listed sectors: With poor legal protection of minority and outside investors, (standard) external markets are weak, and the growth of these firms is slow or negative. However, the size, growth, and importance of these two sectors in the economy are dominated by those of the Private Sector. In spite of relatively poorer applicable legal protection and standard financing channels, the Private Sector has been growing much faster than the others and has been contributing to most of the economy's growth. Our conclusion for the imbalance among the three sectors in China is that there exist effective, alternative financing channels and corporate governance mechanisms, such as those based on reputation and relationships, to support the growth of the Private Sector.

Using measures from the existing literature, we first find that China's law and institutions, including investor protection systems, corporate governance, accounting standards, and quality of government, are significantly less developed than most of the countries in the LLSV (1997a, 1998) and Levine (2002) samples. China's financial system is dominated by a large but underdeveloped banking system that is mainly controlled by the four largest state-owned banks. Its newly established Shanghai Stock Exchange (SHSE hereafter) and ShenZhen Stock Exchange (SZSE hereafter) have been growing very fast since their inception in 1990, but

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<sup>2</sup> The Private Sector includes the following types of firms: 1) collectively- and jointly-owned companies, where joint ownership among local government, communities, and institutions is forged; and, 2) privately owned companies (but not publicly listed and traded), where controlling owners can be Chinese citizens, investors (or companies) from Taiwan or Hong Kong, or foreign investors (or companies). See Appendix A.4 for more details.

their scale and importance are still not comparable to other channels of financing, in particular the banking sector, for the entire economy.

We next examine separately financing channels, corporate governance, and the growth of firms in each of the three sectors. The State Sector has been shrinking with the ongoing privatization process, which includes firms going public. Our empirical results on the Listed Sector are based on a sample of more than 1,100 firms listed and traded on SHSE and SZSE. First, we find that the equity ownership is concentrated within the State for firms converted from the State Sector, and founders' families for nonstate firms (e.g., Claessens, Djankov, and Lang, 2000, 2002). Second, the standard corporate governance mechanisms are weak and ineffective in the Listed Sector. Finally, when we examine listed firms' dividend policies and valuations and compare them to those in the LLSV (2000b, 2002) sample firms, we find that both the dividend ratio and firm value of Chinese firms are low compared to similar firms operating in countries with stronger investor protection, consistent with LLSV predictions.

More interesting results are found for the Private Sector. First, the two most important financing channels for these firms during their start-up and subsequent periods are financial intermediaries, including state-owned banks and private credit agencies, and founders' friends and families. Firms have outstanding loans from multiple financial intermediaries, with most of the loans secured by fixed assets or third party guarantees. During a firm's growth period, funds from "ethnic Chinese" investors (from Hong Kong, Taiwan, and other countries) and trade credits from business partners are also important sources. When asked about the prospect of going public, founders and executives list "access to large scale of funding" and "reputation increase" as the most important benefits, and "disclosure of valuable information to competitors and outsiders" and "large amount of fees paid" as the most critical disadvantages of going public.

Secondly, despite the almost nonexistence of formal governance mechanisms, alternative mechanisms have been remarkably effective in the Private Sector. Perhaps the most important of these is the role of reputation and relationships (Greif, 1989, 1993). Without a dominant religion, the most important force shaping China's social values and institutions is the widely held set of beliefs related to Confucius; these beliefs define family and social orders and trust, and are different from western beliefs on the rule of law. Another important mechanism that drives good management and corporate governance is competition. Given the environment of low

survivorship during early stages of a firm's development, firms have a strong incentive to gain a comparative advantage. The third important mechanism is the role of local governments. Within the regions that witnessed the most successful economic growth and improvement in living standards, properly motivated government officials support and participate in the growth of Private Sector firms.

India provides a very different setting. With its English common-law origin, legal protection of investors by the law in India is one of the strongest in the world. For example, India had a perfect score on the Creditor Rights index (4 out of 4),<sup>3</sup> and has a score of 5 out of 6 on the Anti-Director Rights index, the highest among more than 100 countries studied in Djankov, La Porta, Lopez-de-Silanes, and Shleifer (hereafter DLLS (2007)). Moreover, India has had a British-style judicial system and a democratic government for a long time. However, all of our evidence, including aggregate evidence and firm-level evidence from both the Prowess sample and our surveys of the SME sector, uniformly suggests a very different reality. Based on several widely used aggregate measures, the *effective* level of investor protection and the quality of legal institutions in India is far below the average for English-origin countries, though slightly higher than the French-origin countries and other emerging economies.<sup>4</sup> The reasons for the wide gap between investor protection on paper and in practice include a slow and inefficient legal system and corruption within government in India. Our empirical tests using firm-level evidence from the Prowess sample confirm poor investor protection and legal institutions in India. We find that Indian firms have much lower dividend payout and valuation (as measured by market-to-book ratios) than similar firms operating in countries with strong investor protection, but are closer to the firms in countries with weak protection judging by the findings in LLSV (2000b, 2002). We also find that equity ownership is highly concentrated within the founder's family and/or the controlling shareholder, more so than even firms in other Asian countries (e.g., Claessens, Djankov, and Lang (2000); Claessens, Djankov, Fan, and Lang (2002)). Further, smaller firms in India exhibit symptoms of a low investor protection regime (e.g., ownership concentration, dividend ratio, and valuation) more than the large firms. Consistent with these findings, our surveys indicate that the small firms, regardless of age and industry, rely little on the legal system. Over 80% of the respondent firms in our survey preferred not to seek legal recourse in any situation, including customer defaults, breaches of contract, or commercial disputes.

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<sup>3</sup> This score was revised from 4/4 in LLSV (1998), based on the Company's Act (1956), to 2/4 in Djankov, McLiesh and Shleifer (hereafter DMS (2007)), based on the Sick Industrial Companies Act (1985).

<sup>4</sup> Other studies also document this. For example, DLLS (2007) construct the anti-self-dealing index (control of corporate insiders) for more than 100 countries. India's score of 0.55 (out of 1) is lower than the average (0.67) of English common-law countries.

On the other hand, non-legal sanctions in various forms, such as loss of reputation or future business opportunities or even fear of personal safety, are far more effective deterrents against contract violations and non-payment of dues than legal recourses, and are employed widely. Thus our firm-level evidence for India indicates that strong legal protection is not a necessary condition for conducting business as long as there exist effective, non-legal ‘institutional’ substitutes.

Second, we find that formal financing channels based on stock markets and banks are not essential for corporate operations and investments as long as alternative financing sources pick up the financing slack. Our methodology, whereby we examine the entire corporate financing system in India, enables us to examine the relations between formal and alternative financing channels, including substitutions and complementarities between them that have been missed by much of the existing literature with its focus on formal finance. Our aggregate evidence suggests that the size of the formal financial sector in India, measured by market capitalization and volume of bank credit, is small in relation to the size and needs of the economy. Consistent with this finding, the Prowess sample indicates that Indian firms obtain only about 26% of their total financing needs from formal sources per year. Further, this proportion is far lower for smaller firms, consistent with evidence from other countries (e.g. Berger and Udell (1995, 1998) for evidence on small U.S. firms). Our survey evidence accentuates this pattern. Small firms rely mostly on alternative financing sources, such as funds from friends, families, and business partners, and trade credits, often without a formal contract, to finance their investments, operations, and growth. Ordered Probit regressions show that the proportion of alternative finance in total finance increases as the hurdle for formal finance (as measured by the requirements and contingency conditions for bank and institutional credit) rises, clearly indicating that alternative finance substitutes for formal finance when the latter is inaccessible.<sup>5</sup> Consistent with aggregate evidence, close to a third (34%) of the survey respondents find bank finance costly and hard to get. However, we also find evidence that the reliance on alternative financing sources persists for years beyond the start-up phase, suggesting that such sources remain the cheaper way of financing even as the firms mature and formal finance becomes more accessible.

Third, we find that the predictions of the literature linking law, finance, and firm growth do not necessarily hold. As noted above, in spite of poor investor protection in practice, the Indian

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<sup>5</sup> The pattern that smaller Indian firms in India depend more on alternative finance, and on trade credits in particular, for their financing needs, is very consistent across the entire firm-size distribution. The Prowess sample and our survey findings both reflect the same pattern. For firms at the lower end of the distribution, trade credit provides the greater part of their financing need. The finding indicates that these firms substitute, not just one form of financing for another, but inter-firm financing for the financial system altogether.

economy has grown faster than most others since the early 1990's. Further, firm-level evidence indicates that during 1996-2005 (a sufficiently long period for which reliable data is available) the average Indian firm grew at an impressive 10.9% compound annual rate. Moreover, as in China, within India too the SME firms grow faster, though they depend little on formal legal channels and use far less formal finance than their larger counterparts. During 1996-2005, Indian SME firms recorded statistically significantly higher growth rates in sales as well as assets than the larger firms. This finding holds after controlling for all relevant factors (such as age, industry and assets size in initial years) and correcting for possible survivorship biases due to higher death rates among the smaller firms. It also appears to hold for other sample periods and sizes.

Our results on the differences among the three sectors in China as well as the relatively faster growth of the SME sector in India with relatively poorer formal mechanisms of protecting investor rights challenge the law-and-finance view that it is the legal origin that causes the difference in financial systems, the finance-and-growth view that it is the development of stock markets and a banking system that causes the difference in growth of firms and economies, and the view supporting the law-finance-growth nexus. Moreover, the success of the Private Sector in China also challenges the view that property rights and the lack of government corruption are crucial in determining financial and economic outcomes. Although our results are based on two countries, similar “substitutes” based on reputation and relationships may be behind the success of other economies as well, including developed economies. Thus, a thorough examination of these substitutes has more general implications and can provide valuable guidance for many other countries.

The rest of the paper is organized as follows. Sections II and III present aggregate economy-level evidence on law, finance, and institutions in China and India respectively and other countries and examines the size of formal (external) financing in relation to the level of investor protection and quality of legal institutions. Sections IV and V focus on firm-level evidence in the two countries, but goes farther and analyzes the magnitude and role of alternative financing sources in corporate investments and growth. Using evidence from our firm-level surveys, Section VI and VII present our results – on China and India respectively – that the surveyed firms effectively substitute non-legal mechanisms and alternative financing sources for ineffective legal institutions and inaccessible formal financing sources such as banks. Section VIII presents our conclusions.

## **II. Evidence on China's legal and financial systems and growth in the three sectors**

In this section we first provide an assessment of China's entire economy, and then of the status of its legal and financial systems. We next compare China to the countries studied in the existing literature, namely, the LLSV sample and the Levine sample. Finally, we compare the growth in the State, Listed, and Private sectors of China.

### *2.1 Status of China's economy*

In July 2007, China had an estimated population of 1.32 billion people, the largest of any country. Table 1 underlines China's status as one of the most important countries in the world. China's GDP ranked fourth in the world. However, if we use PPP to recalculate GDPs, China's economy is the second largest behind only the U.S. It may be more useful to compare China's economic growth with other major economies, since China's rapid growth only started in 1979.<sup>6</sup> In terms of PPP-adjusted GDP figures in 2006, China is more than twice the size of India, the second largest emerging economy. In terms of the annual growth rate of PPP-adjusted GDPs during 1990 to 2006, China has been growing much faster than Vietnam, which has the second highest growth rate during the same period. Moreover, China's population growth during the same period was slow, and its per capita PPP-growth rate is also the highest among major economies.

### *2.2 Legal system*

We first examine measures of China's legal system and compare them to the average measures of the 49 countries studied in LLSV (1998). In terms of overall creditor rights (Table 2), China falls in between the English-origin countries that have the highest measures of protection, and French-origin countries that have the poorest protection. China's shareholder protection shows a similar pattern. The overall evidence thus suggests that the majority of LLSV-sample countries have better creditor and shareholder protection than China.

We also compare China's legal system to those of other emerging countries, similar to the growth comparison above. China's corruption index is the fifth worst among the fifteen developing countries. In order to have an effective law enforcement system, a country must have an independent and efficient judicial system with a sufficient supply of qualified legal

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<sup>6</sup> Measured by simple exchange rates, China's GDP in 1980 was US\$180.6 billion while in 1990 it reached US\$368 billion. Also note that the exchange rate between the RMB and US\$ changed from US\$1 = 4.25 yuan to 8.28 yuan in 1992, which introduced a significant downward bias for China's GDP figure in 1992. This is why using PPP-adjusted figures to measure GDP and its growth is more appropriate.



professionals. First, DLLS (2003) compare the efficiency and formalism of the judicial system across 109 countries including China. The results are 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, their results are not very meaningful for China.

On the other hand, the Ministry of Justice of China stated that there were 110,000 lawyers and 9,000 law firms as of 2002, while Orts (2001) estimates that there are 150,000 lawyers in China, roughly the same number of licensed attorneys as in the state of California. Lawyers represent only 10% to 25% of all clients in civil and business cases, and even in criminal prosecutions, lawyers represent defendants in only half of the cases. Among the approximately five million business enterprises in China, only 4% of them currently have regular legal advisers. Moreover, only one-fifth of all lawyers in China have law degrees, and even a lower fraction of judges have formally studied law at a university or college. Needless to say, it will be a long time before China has a strong legal labor force.

Another reason that many new laws are not effectively enforced in China is the intrinsic conflict of interest between "fair play" in practicing law and the monopoly power of the single ruling party, especially in cases in which government officials or their affiliates are involved. Consistent with this argument, La Porta, Lopez-de-Silanes, Pop-Eleches, and Shleifer (LLPS, 2004) find that China ranks among the worst countries in terms of political freedom as well as the protection of property rights. They also find that find a positive correlation between political freedom (constitutional rules) and measures of economic freedom (property rights, procedures of start-up firm) across countries, and that judicial independence accounts for the positive effect of common law legal origin in economic freedom. However, the fact that China scores extremely poorly on both political and economic freedoms and yet enjoyed one of the fastest economic growth rates casts doubt on the importance of political freedom and economic freedom as measured in LLPS.

Finally, we comment on the current status of China's accounting system. The reform started in 1992, with the enactment of regulations governing enterprises with foreign investment. Since then, the Accounting Standards for Business Enterprises of China, together with the 13-industry regulation board, have been trying to move China's accounting practice in the Listed

Sector toward the IAS (International Accounting Standards). However, the most glaring problem in China's accounting system is the lack of independent, professional auditors, similar to the situation for legal professionals. This implies that the proposed IAS-based standards may be counterproductive within China's current infrastructure: With few auditors understanding and enforcing the new standards, and given the lack of an effective judicial system, embezzlement of company assets and other forms of fraud may occur more frequently under IAS-based standards, as compared to an alternative system with a much simpler set of accounting standards (e.g., Xiang 1998).

### *2.3 Financial System*

We first examine China's financial system at the aggregate level, including both its financial markets and banking system. We then examine its stock exchanges in more detail and briefly discuss its venture capital markets. Finally, we examine problems in the banking sector.

In Table 3 we compare China's financial system to those of the LLSV-sample countries (LLSV, 1997a, 1998), using measures from Levine (2002). We first compare the size of a country's equity markets and banks relative to that country's GDP. China's stock markets, which have been growing very rapidly since 1990, are smaller than those of most of the other sample countries, both in terms of market capitalization and the total value traded as a fraction of GDP. Notice that "total value traded" is a better measure than "market capitalization" because the latter includes nontradable shares, while the former measures the fraction of total market capitalization traded in the markets, or the "floating supply" of the market.

We compare the development of the entire financial system ("Financial development"), including both banks and markets. Given all other countries' measures are based on private bank credit only, if we only include China's private bank credit, we find that China's overall financial market size ("Finance activity" and "Finance size") is smaller than the LLSV-sample average level, and each legal-origin group average. In terms of the efficiency of the financial system, China's measure is below all sub-samples of LLSV countries. Based on the above evidence, we can conclude that China's financial system is dominated by a large but inefficient banking sector.

#### *Financial markets*

China's Shanghai Stock Exchange, including non-tradable shares, rank fourteenth among the largest stock exchanges in the world at the end of 2006. In addition, the Hong Kong Stock Exchange (HKSE hereafter), where selected firms from Mainland China can now be listed and traded, is ranked sixth in the world.

As fast as the growth of China's stock markets has been, these markets are not efficient in that prices and investor behavior do not reflect fundamental values of listed firms. In Table 4, "Concentration" measures the fraction of total turnover of the market in 2006 that is due to the trading and turnover of companies within the largest market capitalization quintile. Large-cap stocks in China are not frequently traded and the concentration ratio, 31%, is much lower than in any other major stock exchange in the world except for NYSE. On the other hand, medium- and small-cap stocks are traded extremely frequently in China, as shown by the high "Turnover Velocity," defined as the total turnover for the year expressed as a percentage of total market cap. China's velocity of 153% is even higher than that of NYSE (but lower than NASDAQ),<sup>7</sup>.

Consistent with our findings, Morck, Yeung, and Yu (2000) find that stock prices are more synchronous in emerging countries, including China, than in developed countries. They contribute this phenomenon to poor minority investor protection and imperfect regulation of markets in emerging markets. One example is the restriction on short-sales. Bris, Goetzmann, and Zhu (2003) find that limiting short-sales contributes to the high co-movement of stock prices, but does not tend to increase the probability of a market crash, as commonly feared by governments in emerging countries.

The inefficiencies in the Chinese stock markets can be attributed to poor and ineffective regulation. Based on a study of securities laws with the focus on the public issuance of new equity in 49 countries (China not included), La Porta, Lopez-de-Silanes, and Shleifer (LLS hereafter, 2003) find that private enforcement of laws through disclosure and liability rules is superior to strong regulation by the government in promoting stock market development. Given China's poor disclosure rules, accounting standards, and judicial systems, the LLS (2003) result can be used to explain the status of China's stock markets. To improve the quality of government regulation, Glaeser, Johnson, and Shleifer (2001) argue that regulators must be properly motivated. The concentration and turnover velocity of China's markets (Table 4) were actually

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<sup>7</sup> The actual turnover velocity of Nasdaq should be half of the reported figure, 319.5%. This is because unlike NYSE and most other exchanges around the world, Nasdaq dealers report both the buy and sell trades separately, which leads to double counting in the calculation of velocity. See Atkins and Dyl (1997) for more details.

even higher in the late 1990s, and the improvement is in part due to advances in the quality of regulation.

Finally, we briefly discuss China's venture capital markets, which should be regarded as part of the financial markets rather than the intermediation sector (e.g., Allen and Gale 2000a). It is often argued that one of the reasons the U.S. has been so successful in developing new industries in recent years is the existence of a strong venture capital sector (e.g., Kortum and Lerner, 2000). Consistent with our previous findings, China's venture capital industry, since its inception in the 1980s, is underdeveloped and its role in supporting the growth of young firms is very limited. Moreover, based on interviews conducted with 36 venture capitalists in 24 venture companies, Bruton and Ahlstrom (2002) find that the limited formal rules and regulations are often ineffective, while alternative mechanisms based on reputation and relationship are the norm in all stages and phases of the industry.

In summary, the overall evidence on the comparison of China and other countries' external markets is consistent with LLSV (1997a, 1998) predictions: With an underdeveloped legal system, the fact that China has small external markets comes as no surprise. Figure 2 compares China's legal system and external financial markets to those of LLSV countries. The horizontal axis measures overall investor protection in each country, while the vertical axis measures the (relative) size and efficiency of that country's external markets.<sup>8</sup> Countries with English common-law systems (French civil-law systems) lie in the top-right region (bottom-left region) of the graph, while China is placed close to the bottom-left corner of the graph.

### ***Banking sector***

China's banking sector is dominated by four large and inefficient state-owned banks. LLS (2002) show that the government owns 99.45% of the 10 largest commercial banks in China in 1995 (100% in 1970); this ownership level is one of the highest in their sample of 92 countries. Moreover, the LLS result on the negative relation between government ownership of banks and the growth of a country's economy seems to apply to China's State Sector and the status quo of its banking sector. However, high government ownership has not slowed down the

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<sup>8</sup> Following LLSV, the score on the horizontal axis is the sum of (overall) creditor rights, shareholder rights, rule of law, and government corruption. The score of the vertical axis indicates the distance of a country's overall external markets score (external cap/GNP, domestic firms/Pop, IPOs/Pop, Debt/GNP, and Log GNP) to the mean of all countries, with a positive (negative) figure indicating that this country's overall score is higher (lower) than the mean.

growth of the Private Sector.

The most glaring problem for China's banking sector is the amount of nonperforming loans (NPLs hereafter) within the four largest state-owned banks. A large fraction of these bad loans resulted from poor lending decisions made for SOEs, some of which were due to political or other noneconomic reasons. The additional problem is that data availability on NPLs is limited, which can be viewed as a strategic disclosure decision of the government. However, this lack of disclosure of NPLs only fuels speculations that the problem must be severe. For example, Lardy (1998) argues that if international standards were used, the existing NPLs within the state-owned banks as of the mid-1990s would make these banks' total net worth negative.

Tables 5-A and 5-B compare NPLs and banking system profitability in China and six other major Asian economies in recent years. Information on China's NPLs first became available in 1998, but the figures in 1998 and 1999 in Table 5-A probably significantly underestimate the actual size. During the period of 2000 to 2002, China has the largest amount of NPLs among the seven Asian economies, either as a fraction of total new loans made by all banks or as a fraction of GDP in a given year. This comparison includes the period during which Asian countries recovered from the 1997 financial crisis, and the period during which the Japanese banking system was disturbed by the prolonged NPL problem. Moreover, the profitability of China's banking system, measured by the return to equity or assets, is also among the lowest in the same group of economies (Table 5-B).

In recent years the Chinese government has taken active measures to resolve this problem. First, four state-owned asset management companies were formed with the goal of assuming these NPLs and liquidating them. Information from these companies' auction data shows that the cash recovery on the bad loans ranges from 8% to 60%. Second, state-owned banks have improved their loan structure by increasing loans made to individual lenders while being more active in risk management and monitoring of loans made to SOEs. For example, the ratio of consumer lending to total loans made for the four state-owned banks increased from 1% in 1998 to 10% in 2002.

Third, there has been a boom in the entry and growth of non-state financial intermediaries, and this trend is expected to continue with more foreign banks entering the domestic credit markets as a result of China's entrance into the WTO. In 1997, total new loans

made by the four largest state-owned banks accounted for more than 75% of all new loans, while new loans made by “shareholding” banks accounted for less than 7%. In 2001, the share of new loans made by state-owned banks dropped to 49% while the fraction of new loans made by shareholding banks rose to 23.5%. All the above facts taken together can explain why NPLs have been falling in recent years, as reflected in Table 5-A.

#### *2.4 Growth in the State, Listed, and Private sectors*

Table 6-A compares the growth of industrial output produced in the State and Listed sectors vs. that of the Private Sector from 1996 to 2002. The Private Sector dominates the State and Listed sectors in terms of both the size of the output, and the growth trend: Total output in 1999 is US\$1200 billion for the Private Sector, while it is around US\$400 billion in the State and Listed sectors combined; 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 (Panel A). In addition, the growth rates for investment in fixed assets of these sectors are comparable (Panel B), which implies 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; the above trend of the Private Sector replacing the State Sector will continue in the near future.

Table 6-B presents the number of nonagricultural employees in the three sectors. 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 hereafter), also a subset of Private Sector firms, are by far the most important employer for workers from the rural areas. 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. These patterns are particularly important for China, given its vast population and potential problem of unemployment. Botero, Djankov, La Porta, Lopez-de-Silanes, and Shleifer (BDLLS, 2003) compare labor laws and social security systems across 85 countries including China, and

find that French legal origin, socialist, and poor countries have higher levels of labor regulation than English common-law and rich countries. Their evidence on China excludes the labor force in the rural areas. Given the importance of TVEs in terms of employment, this limits the application of their results to China.

### **III. Law, Finance, and Growth in India: Aggregate Evidence**

At independence from the British in 1947, India inherited one of the world's poorest economies. The manufacturing sector accounted for only one tenth of the national product. However, the economy also had arguably the best formal financial markets in the developing world, with four functioning stock exchanges (one of them, BSE, the oldest in Asia) and clearly defined rules governing listing, trading and settlements; a well-developed equity culture if only among the urban rich; an old and established banking system with clear lending norms and recovery procedures; and better corporate laws than most other erstwhile colonies. The Company's Act of 1956, as well as other corporate laws and laws protecting the investors' rights, were built on this foundation.

After independence, a decades-long turn towards socialism put in place a regime and culture of licensing, protection, and widespread red-tape breeding corruption. In 1990-91 India faced a severe balance of payments crisis ushering in an era of reforms comprising deregulation, liberalization of the external sector, and partial privatization of some of the state sector enterprises. For about three decades after independence, India grew at an average rate of 3.5% (infamously labeled "the Hindu rate of growth") and then accelerated to an average of about 5.6% since the 1980's. Table 1 presents information on GDP based on simple exchange rates, GDP based on purchasing power parity (PPP), growth rate in GDP and GDP per capita in constant prices during 1990-2006 for the top twenty countries in *each* category. India's annual GDP growth rate (in constant prices) of 6.1% during 1990-2006 was the fourth highest in the world. In 2006, India's PPP-adjusted GDP was also the fourth highest in the world.

In 2004, 52% of India's GDP was generated in the services sector, while manufacturing and agriculture accounted for 26% and 22% respectively. In terms of employment, however, agriculture accounted for about two-thirds of the total labor force (almost half billion), indicating both poor

productivity and widespread underemployment in the sector. Over 90% of the labor force works in the “unorganized sector.”<sup>9</sup>

### III.1 Law, Institutions, and Business Environment

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*. Table 2 compares 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 sixteen other large emerging economies. These sixteen economies are the subset of the emerging economies included in 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, with the exception of China, 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).

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. Note from Table 2 that, even with a revised score of 2 on creditor’s rights, India ranks higher than the average for all the country groups (1.8) as well as the average for the emerging economies (1.69) in DMS (2007).

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 and is of particular importance for India. Studies by the World Bank (e.g. World Development Report (2005)) have found that corruption was the number one constraint for firms in South Asia and that the two most corrupt public institutions identified by the respondents in India (as well as in most countries in South Asia) were the police and the judiciary. Based on Transparency International’s Corruption Perception Index, India had 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

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<sup>9</sup> According to the official definition, the unorganized sector comprises: 1) all the enterprises except units registered under Section 2m(i) and 2m(ii) of the Factories Act, 1948, and Bidi and Cigar Workers (condition of employment) Act, 1966; and 2) all enterprises except those run by the government (central, state and local bodies) or Public Sector Enterprises.



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 (DLS (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, India's index, 3.51, is lower than only the average French-origin country among all country groups. However, it is lower than the average for the other emerging economies (4.00). The legality index (Berkowitz, Pistor, and Richard (2003)), a composite measure of the effectiveness of a 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. Again, 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. 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. The index ranges from 0 to 1, with a higher score indicating more disclosure. Note that 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 (19.1) is much higher than the average for the country groups (16.00) as well as the average for the other emerging economies (16.61). Clearly, evaluating Indian companies based on publicly available reports is difficult.

As for the business environment in India, a recent World Bank survey found that, among the top ten obstacles to Indian businesses, the three which the surveyed firms considered to be a "major" or "very severe" obstacle and which also exceeded the corresponding world averages are corruption (the most important problem), availability of electricity, and labor regulations. Threat of nationalization or direct government intervention in business is no longer a major issue in India. With rampant tax evasion, the shadow economy in India is significant. It is estimated to be about 23% of GDP.<sup>10</sup>

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<sup>10</sup> This figure is 22.4% according to Schneider and Enste (2000), and 23.1% by Schneider (2002) (World Bank). Popular perception, however, would put it significantly larger, particularly given that the corresponding average figure for OECD countries is about 12%.

Since the beginning of liberalization in 1991, two major improvements have taken place in the area of creditor rights protection – the establishment of the quasi-legal Debt Recovery Tribunals that have reduced delinquency and consequently lending rates (Visaria (2005)) and the passing of the Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest (SARFAESI) Act in 2002 and the subsequent Enforcement of Security Interest and Recovery of Debts Laws (Amendment) Act in 2004. These laws have paved the way for the establishment of Asset Reconstruction Companies and allow banks and financial institutions to act decisively against defaulting borrowers.

To summarize, despite strong protection provided by the law, legal protection is considerably weakened in practice by corruption within the government and an ineffective legal system. While the need for judicial and legal reforms has long been recognized, little legislative action has actually taken place so far (Debroy (2000)). Currently, the government is trying to emulate the success of China by following the Special Economic Zone approach rather than overhauling the entire legal system.

### **III.2 Formal Financial Sector: Capital Markets and Banks**

Table 3 compares India's capital markets and financial institutions (as of 2005), along several important dimensions, with those of the LLSV country groups and the same sixteen emerging economies (as of 2005) included in Table 2.<sup>11</sup> Despite the long history of India's stock exchanges, and the presence of a large number of listed firms (over 10,000), the size and role of the capital markets in allocating resources have been limited in India, as in many other emerging economies. The equity markets were not an important source of funding for the non-state sector until recently. The ratio of India's market capitalization to GDP rose from about 3.5% in the early 1980's to about 34% in 2003, but then rose sharply to 60% by the end of 2005. However, as shown in Table 3, even at this level the ratio for India is still lower than each of the LLSV country groups, and considerably lower than the average for all the country groups (1.02). It is also lower than the average of the other emerging economies (0.65). 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.<sup>12</sup> The value traded/GDP ratio for India (0.56) is lower than each LLSV country group and significantly lower than the average for all the

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<sup>11</sup> 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.

<sup>12</sup> 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).

groups (1.17). It is also marginally lower than the emerging economies average (0.62). Finally, the corporate bond market in India is meager, and is viewed as a source of concern by all observers of India's capital markets.

Table 3 also indicates that India's banking system has not been effective in providing capital either. The bank credit/GDP ratio for India (0.37) is far below the corresponding figure for every single LLSV country group. Though the average ratio for the other emerging economies (0.32) is marginally lower than India, the leading economies in South-east Asia, such as Malaysia and Thailand, have much higher ratios. However, the efficiency of the Indian banking sector, measured by the ratio of overhead costs over bank assets, has been superior to most other countries.

"Structure activity" and "structure size" reported in Table 3 indicate whether a financial system is dominated by the capital markets or banks. India's activity and size figures are far lower than the average of English-origin countries, though higher than the average for all LLSV country groups combined, suggesting that India has a more market-dominated system. However, this is mainly due to the small amount of bank credit (relative to GDP) rather than the size of the stock markets. In terms of the relative efficiency of markets vs. banks (measured by "structure efficiency"), India's banks are more efficient than the markets (largely due to their low overhead costs). Further, the relative efficiency of the banks over markets is stronger in India than in the average of LLSV country groups. Finally, in terms of the development of the financial system, including both banks and markets, India's overall financial market size (measured by "finance activity" and "finance size") is much smaller than the average of LLSV country groups. Based on the evidence, we can conclude that 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 efficient (low overhead cost) but significantly under-utilized (in terms of providing credit) banking sector.

However, the situation has changed considerably in recent years. Since the middle of 2003 through the end of the third quarter of 2007, Indian stock prices appreciated rapidly, with the popular Sensex index of the BSE rising from about 3,000 to over 16,000 in a period of four years. In fact, as shown in Figure 1, the rise of the Indian equity market in this period allowed investors to earn a higher return ("buy and hold return") from investing in the Sensex Index than from the S&P 500 Index and other major indices in the U.K. and Japan, and marginally lower than the SSE Index in China, during 1992-2006. Many credit the continuing reforms and more or less steady growth as well as increasing foreign direct and portfolio investment in the country for the recent explosion in

share prices.<sup>13</sup> At the end of 2006, the BSE was the sixteenth largest stock market in the world in terms of market capitalization, while the National Stock Exchange (NSE) ranked seventeenth. However, trading in BSE is one of the most concentrated among the largest exchanges in the world, with the top 5% (in terms of market capitalization) of the listed companies accounting for over 75% of all trades.

Over the decades, India's banking sector has grown steadily in size (in terms of total deposits) at an average annual growth rate of 18%. There are about 100 commercial banks in operation with 30 of them state owned, 30 private sector banks and the rest 40 foreign banks. Still dominated by state-owned banks (they account for over 80% of deposits and assets), the years since liberalization have seen the emergence of new private sector banks as well as the entry of several new foreign banks. This has resulted in a much lower concentration ratio in India than in other emerging economies (Demirgüç-Kunt and Levine (2001)). Competition has clearly increased with the Herfindahl index (a measure of concentration) for advances and assets dropping by over 28% and about 20% respectively between 1991- 2001 (Koeva (2003)). Within a decade of its formation, a private bank, the ICICI Bank has become the second largest in India. Compared to most Asian countries the Indian banking system has done better in managing its non - performing loans (NPL) problem. The "healthy" status of the Indian banking system is in part due to stringent requirements for commercial loans. In terms of profitability, Indian banks have also performed well compared to the banking sector in other Asian economies.

### **III.3 Formal Financial Sector *vis-à-vis* Investor Protection**

As noted above, India's financial markets and institutions, relative to the size of its economy, are much smaller than those in many other countries. Figure 2 plots the size of the external markets (stock markets and banks) in India, different country groups by legal origin, and the sixteen 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<sup>14</sup>, and the vertical axis indicates the

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<sup>13</sup> According to the Reserve Bank of India's *Handbook of Indian Statistics*, both foreign direct investment and portfolio investment (mostly in stocks) have been growing fast during the past 15 years, with portfolio investment accounting for two thirds of the total investment. The cumulative foreign investment inflows equaled 12% of GDP in 2005, as compared to only 0.03% in 1990.

<sup>14</sup> 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

(relative) size of that country's formal financial sector (stock market capitalization and bank credit) as of 2005 from Table 3. 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 formal financial markets than in the average English-origin country. Compared to the average French-origin country, India offers somewhat more investor protection but less scope for formal finance. Interestingly, though the legal environment in India offers marginally more investor protection than the average emerging economy, the formal financial markets are very comparable in size.

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 formal financial markets, 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.

We close this section by emphasizing three facts about the Indian society and economy. First, a large and diverse country, India has had recent success in overall economic growth. Second, despite strong investor protection purportedly provided by the law, actual protection is weak in India owing to the inefficiency of legal institutions and corruption. Third, despite the development and growth of India's formal financial system (banking sector and capital markets), its size and role in resource allocation and provision of external financing is small relative to the economy. At this point, the implications of the aggregate evidence on law and finance in India appear to be aligned with LLSV predictions. However, in the rest of the paper we present evidence that Indian firms effectively manage to use non-legal mechanisms and alternative financing sources to overcome an inefficient legal system and a limited formal financial sector, and succeed in achieving impressive growth rates.

#### **IV. Firms' financing sources in China: Aggregate evidence and cross-country comparisons**

In this section we compare, at the aggregate level, how firms raise funds in China and in LLSV-sample countries with the emphasis on emerging economies. It is then worthwhile to study what other channels of financing are playing the role of substituting for external capital

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from 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.

markets and standard, textbook financing channels.

#### *4.1 China's most important financing channels*

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.

With the knowledge on the four financing channels at the aggregate level, we now focus on different types of firms' financing decisions. The results are presented in Figures 3-A, 3-B, and 3-C. In all of these figures, each of the four connected lines represents the importance of a particular financing channel over the time period 1994 to 2002, measured by the percentage of firms' total financing coming from this channel.

First, Figure 3-A (3-B) illustrates how firms in the Listed Sector (State Sector) finance their investment (for fixed assets). While the Listed Sector has been growing fast, SOEs are on a downward trend as privatization of these firms is still in progress. Around 30% of publicly traded companies' funding comes from bank loans, and this ratio has been very stable despite the fast growth of the stock markets (Figure 2-A). Around 45% of the Listed Sector's total funding comes from self-fundraising, including internal financing and proceeds from equity and bond issuance. Moreover, equity and bond sales, which rely on the use of external markets, only constitute a small fraction of total funds raised, compared to internal financing and other forms of fundraising. Combined with the fact that self-fundraising is also the most important source of financing for the State Sector (Figure 2-B), we can conclude that alternative channels of financing are important even for the State and Listed Sectors.

Next, we consider how firms in the Private Sector raise funds (Figure 3-C). Self-fundraising here includes all forms of internal finance, capital raised from family and friends of the founders and managers, and funds raised in the form of private equity and loans. Clearly, this category is by far the most important source of financing, accounting for close to 60% of total funds raised. Moreover, since firms in this sector operate in an environment with poorer legal and financial mechanisms and regulations than those firms in the State and Listed Sectors, all financing sources probably work differently from how they work in the State and Listed Sectors, and those in developed countries. In Section 5 below, we present detailed evidence on how different types of self-fundraising help Private Sector firms at various stages.

#### 4.2. Evidence on the Listed Sector

In this section, we focus on publicly traded companies and examine their financing and investment decisions. As stated in the Introduction, we want to draw general conclusions on whether there are fundamental differences between the Chinese firms and firms studied in previous papers (LLS, 1999; LLSV, 1997a, 2000b, 2002). Before doing so, we first look at the unique ownership structure and corporate governance mechanisms in Chinese firms.

#### *4.2.1 Types of stocks, ownership structure, and corporate governance*

Listed firms in China issue both tradable and nontradable shares (Table 7-A). The nontradable shares are either held by the state/government or by other legal entities (i.e., other listed or nonlisted firms or organizations). Among the tradable shares, Class A and B shares are listed and traded in either the SHSE or SZSE, while Class A (B) shares are issued to Chinese investors (foreign investors including those from Taiwan and Hong Kong). Finally, Class H shares can be listed and traded on the HKSE and are issued by selected “Red Chip” Chinese companies.

Table 7-B demonstrates that nontradable shares constitute a majority of all shares and most of these shares are held by the state, while the majority of tradable shares are A shares. Table 7-C provides some evidence on the relation between ownership and control of the Board of Directors. Information provided here is based on a survey of corporate governance practices among 257 companies listed on the SHSE conducted in 2000 by the Research Center of SHSE. Consistent with Tables 7-A and 7-B and the “one-share, one-vote” scheme adopted by firms in the Listed Sector, state and legal person shareholders appoint most of the board members, while the other directors are appointed by the government.

The standard corporate governance mechanisms are limited and weak in the Listed Sector (e.g., Schipani and Liu, 2002). First, listed firms in China have a two-tier board structure: The Board of Directors and the Board of Supervisors. The supervisors of a listed firm, ranking above the directors, are usually either officials chosen from government branches or executives from the parent companies, while the Board of Directors is controlled by the firm’s parent companies. Not all directors are elected by the shareholders, and the rest are nominated and appointed by the firm’s parent companies and the nomination process is usually kept secret (Table 7-C). Incentive pay is rarely explicitly specified in the directors’ compensation packages, while the consumption of perks, such as company cars, is prevalent.



The external governance mechanisms are also weak. First, the existing ownership structure, characterized by cross-holdings of shares among listed companies and institutions, makes hostile takeovers virtually impossible. Secondly, institutional investors do not have a strong influence on management or on the stock market, as they are a very recent addition to the set of financial institutions in China. Moreover, ineffective bankruptcy implementation makes the threat and penalty for bad firm performance noncredible. The World Bank's cross-country information on the efficiency of bankruptcy procedures, which is based on surveys of lawyers and bankruptcy judges around the world, indicates that China's "goals of insolvency" index is equal to the median of the sample of 108 countries.

Finally, the government plays the dual roles of regulator and blockholder of many listed firms. The China Securities Regulation Committee (CSRC) is the counterpart of the SEC in the U.S., and its main role is to monitor and regulate stock exchanges and listed companies, while the government exercises shareholder control rights in listed firms mainly through state-owned asset management companies, which hold large fractions of the state shares. However, since the top officials of these asset management companies are elected by the government, it is doubtful that they diligently pursue their fiduciary role as control shareholders. Moreover, the government's dual roles can lead to conflicting goals in dealing with listed firms, which in turn weakens the effectiveness of both of its roles.

#### *4.2.2 Evidence on ownership, financing, dividend and valuation*

In this section, we examine and compare various characteristics of listed firms in China with those of other countries. Our results on China's Listed Sector are based on a sample (panel data) of more than 1,100 listed firms that we collect from SHSE, SZSE, and the "Asia Emerging Market Database" of the Taiwan Economic Journal, for the period 1992 to 2000. Table 8-A presents the summary statistics for a "snapshot" of the sample firms at the end of 2000. From Panel A, the average market cap is US\$ 448 million (median is US\$ 355 million), and the average leverage ratio, measured by the ratio of long-term debt and common equity, is 32% (median is 9%). In short, these are large firms operating in virtually all industries. Panel B compares listed firms converted from the State Sector to those nonstate firms. First, 80% of the sample of listed firms used to be state-owned (921 out of 1163 firms). Second, the two groups of firms are similar in terms of most of the financial ratios except for leverage: Firms that used to be state-owned have much higher leverage than the other group, partially due to the large amount of

bank loans accumulated in these firms prior to their IPO.

Table 8-B compares the ownership structure of these firms to those from the LLS (1999) sample, which includes over 1,000 listed companies from 33 countries. The main result of LLS (1999) is that countries that protect minority shareholders poorly (strongly) tend to have more concentrated (dispersed) ownership, as shown in the first two panels of Table 8-B. The ownership structure of listed firms in China, shown in Panel C of Table 8-B, is consistent with the prediction of Burkart, Panunzi, and Shleifer (2003), and closer to that of other Asian firms documented in Claessens, Djankov and Lang (2000) than to the LLS (1999) results. The dominant owner of 60% of our sample firms is the (central) government, while for 13.6% of firms, the dominant owner is founders' families. We also find that for 24.17% (1.83%) of firms, the dominant shareholder is a financial company (another listed firm). Since we do not have ownership data for this financial company (listed firm), we do not know whether this company (listed firm) is widely held or not. But given the fact that state ownership is prevalent in listed firms and banks, it is reasonable to assume that they are not widely held. Finally, only 0.44% of all firms are widely held so that no shareholder owns more than 10% of stocks.

Table 8-C provides some evidence on financing sources at the firm level. The ratios for all the countries (except for China) in the table are taken from LLSV (1997a).<sup>15</sup> The evidence in Table 8-C is consistent with previous evidence at the aggregate level: In terms of total equity, the listed Chinese companies do not rely on external markets as much as their counterparts in LLSV countries, but they do rely more heavily on debt, and in particular bank debt, than firms in LLSV-sample countries.

Finally, we examine dividend policies and valuations of listed firms in China, and compare these to firms studied by LLSV (2000b, 2002). Making the most out of the available data,<sup>16</sup> we perform three different sets of empirical tests and find similar results. First, LLSV (2000b) find that firms in countries with poorer protection of outside shareholders tend to have lower dividend

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<sup>15</sup> In LLSV (1997a), a ratio (e.g., market cap/sales) for a country is obtained by first finding the median of this ratio across firms within various industries, and then by taking the average of the medians across industries. A similar procedure is taken to find the ratios for China using our data set of listed firms. Finally, we take the average (median) ratios across groups of countries according to their legal origins, and compare them to those of China.

<sup>16</sup> The data sets that we employ include: 1) accounting and financial information for 1,100+ listed firms from China (1990-2000); and, 2) LLSV (2000b, 2002) results are based on information for over 4,100 firms from 33 countries (1989-1994), while detailed firm-level data for LLSV-sample firms are not available to us; however, we do have their cross-sectional summary statistics by country, as well as the regression results across countries.

ratios due to more severe agency problems. Using the dividend-to-earnings ratio as a proxy for dividend policy, we find that on average Chinese firms tend to underpay dividends to their shareholders compared to firms in countries studied in LLSV (2000b). Second, LLSV (2002) find that firms in countries with poorer protection of outside shareholders tend to have a lower Tobin's Q, measured by the market-to-book asset ratios. When we examine the Tobin's Q of listed firms in China, we cannot reject the hypothesis that on average their Tobin's Q is lower compared to countries with better shareholder protection (LLSV, 2002).

Overall, because investor protection is weak (and the agency problem is severe) in the Listed Sector in China, both the dividend ratio and Tobin's Q are low compared to similar firms operating in countries with stronger investor protection. These results confirm that LLSV predictions work well for China's Listed Sector, which includes many firms converted from the State Sector, and is also consistent with evidence presented in Figure 2.

## **V. Law, Finance and Growth in the Indian Corporate Sectors: Firm-level Evidence**

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 4 presents comparisons of state and non-state sectors during the period 1990-2003. In terms of contribution to GDP, the size of the state-sector (excluding government spending) during 1990-2003 has been around one fifth of the non-state sectors (including unorganized sectors but excluding agriculture).<sup>17</sup> In terms of capital base, (organized) non-state sectors have been growing

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<sup>17</sup> 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.

faster than the state sector. During 1990-2003, paid-up capital in the state sector grew at an annual rate of 3.37%, with its share in the economy-wide total corporate paid-up capital declining from 73% to 28%.<sup>18</sup> By contrast, paid-up capital in non-state corporations has been growing at an annual rate of 21.5%.

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.).<sup>19</sup> 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 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 the patterns of ownership, financing, and growth of public 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 companies are not available from organized sources.

## V.1 Sample Description

Our sample includes both listed and unlisted companies. However, only listed companies are required to disclose their ownership patterns (Clause 35 of Listing Agreement, Securities and Exchanges Board of India). We examine the ownership distribution (wherever available) and financing patterns for the firms in our sample, and relate the patterns to legal protection of investors in India. We also examine whether these patterns are different from firms in other countries studied in previous papers (LLS (1999); LLSV (1997a, 2000b, 2002)). 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.

As Table 5 indicates, our sample includes 2,753 non-financial firms over the period 2000 - 2004 from the CMIE *Prowess* database. The firms in our sample fall into four categories:

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<sup>18</sup> Paid-up capital for a company is the number of shares outstanding multiplies the face value of the shares; it does not include reserves and surpluses.

<sup>19</sup> The 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.

1. Large Enterprises in the manufacturing sector (LE-M): 1,374 firms;
2. Small and Medium Enterprises in the manufacturing sector (SME-M): 655 firms;
3. Large Enterprises in the services sector (LE-S): 387 firms;
4. Small and Medium Enterprises (SMEs) in the services sector (SME-S): 337 firms.

Since investigation of financial patterns and financial constraints is the main objective of our study, we decided to exclude financial firms from our sample. Further, to qualify for inclusion in either of the two SME categories of our sample, a firm had to satisfy the definition of SME in *each* year of the sample period. Similarly, the firms in our two Large Enterprises categories had fixed assets larger than the SME ceiling in each year. Our sample includes all firms in the *Prowess* database which satisfy the above inclusion criteria. For each group of firms, data on ownership patterns, financials and market variables are collected. Due to missing data items, our samples for specific variables reported could be smaller. Table 5 provides some descriptive statistics of the sample firms in 2004. We break down firms in the SME sector and large enterprises, as well as between manufacturing and services sectors.

## V.2 Financing Patterns

Table 6 provides evidence on the sources of funds for our sample of firms during the 4-year period of 2001-2004. For the four categories of firms in our sample (LE-M, SME-M, LE-S, SME-S), Table 6 indicates the average proportion of funds obtained from different sources, namely,

- *internal sources*: net income after dividends + depreciation + provisions or funds set aside but not spent,
- *formal sources of external financing*: 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.<sup>20</sup>

Table 6 first indicates that large Indian firms obtain only 26% of their total funding from formal sources (capital markets and financial institutions); for 20% of their funding needs they rely on alternative sources of external financing, and the rest comes from internal sources. For the SMEs, the formal sources are even less important, providing for as little as 8% of the total needs. Though

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<sup>20</sup> 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.

private and public equity together appears to account for almost 30% of funds for the SME's, based on our investigations, including our surveys of the Indian SME sector (reported in the next section), we find that the greater part, if not most of it, is private equity from friends, family, and business associates. Given that, as much as 85% of their funding needs are met by alternative sources, with the remaining 7% coming from internal sources. These figures underline the limited relevance for India of the implications of the law and finance literature with its focus on formal financing sources. Our methodology whereby we analyze the entire corporate financing system in India enables us to note the relative importance of formal *vis-à-vis* alternative financing channels and examine substitutions and complementarities between them.

To investigate further the dependence of small firms on alternative sources of financing, especially trade credits, we test two sets of panel regression models, one with trade credits and the other with all alternative financing sources together, as dependent variables for the 2,753 firms in our sample during 2001-2004. The results indicate that, as firm size decreases (as measured by the size of plant and machinery, the standard used in official classification of small and large companies), financing with trade credit increases as a proportion of the total outstanding obligations of a firm. In all regression models, with and without controlling for firm characteristics such as industry (services or manufacturing) and firm age, the result remains significant at the 5% level. The results for *combined* alternative sources of financing are quite similar.

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, 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).<sup>21</sup> Other recent studies have also found evidence of “under-lending” by Indian banks to the corporate sector.<sup>22</sup> It is a system-wide feature, indicating that

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<sup>21</sup> 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.

<sup>22</sup> 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)

companies cannot receive adequate credit, not just from a single bank but from the banking system in general.<sup>23</sup>

For further analysis of funding patterns between manufacturing and service sectors, the most important source of funds is internal sources for large firms in both sectors, accounting for nearly 67% and 47% of all funds respectively. The next most important source of funds is different for large manufacturing and large service firms. Trade credit accounts for about 13% of all funds for large manufacturing firms, while debt raised from capital markets accounts for over 19% for large service firms. However, the average for market debt across manufacturing and service firms is almost 12%, making it the second most important source of funding for large firms.

As noted above, the financing pattern for SMEs is strikingly different. Trade credit is, by far, the most important source of finance, accounting for over 29% of all funds for SMEs in the services sector and 42% for SMEs in the manufacturing sector.<sup>24</sup> Across all SMEs the proportion is almost 36%. The second most important source is private and public equity, accounting for almost 30% for all SME's; the greater part, if not most, of it is private equity from friends, family, and business associates. Internal sources constitute a relatively unimportant funding source for SMEs. They account for about 7% on average for all SME firms as opposed to about 54% for the average large firm. Finally, debt raised from the market accounts for a very small portion of total funding, about 3%, for SMEs. As mentioned above, the corresponding figure for large enterprises is about 12%. Interestingly, loans from banks and financial institutions account for a small proportion of funds for both large enterprises (7%) and SMEs (5%).

Panel A of Table 7 compares external financing sources at the firm level for India and the country groups studied in LLSV (1997a). To facilitate comparison, the data for the other country groups are taken from *Worldscope* database for the same period (2000-2004) as our India sample, and the same approach used by LLSV to compute country financial performance indicators is followed.<sup>25</sup> Note that in the table only the figures for large Indian enterprises should be compared

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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.

<sup>23</sup> 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)).

<sup>24</sup> The definition of trade credits from Prowess database is "...liabilities due in the next twelve months for purchase of goods/services and expenses; bills payable/acceptances are also included." This is consistent with how trade credit is defined in the usual context.

<sup>25</sup> In LLSV (1997a), a ratio (e.g., market cap/sales) for a given country is the median ratio in 1994 for all the firms from that country in their sample. The average ratio for a country group based on legal origin is the arithmetic

with the other country groups, as the *Worldscope* firms in our country group samples are larger in size than small Indian firms. The table indicates that the large Indian firms rely less on equity financing than LLSV firms. The ratio of market capitalization to sales (0.25) is lower than not only the average for all country groups together (0.81) but also each single group including the civil law countries. The ratio of market capitalization to cash flow for India (2.54), though higher than the average for all countries (1.05), is considerably lower than the English-origin countries average (15.30). This finding makes sense, given that investor protection in India is poor in practice, making external capital from formal sources difficult to raise.<sup>26</sup> However, the picture on financing through (long-term) debt is mixed. The debt/sales ratio for large Indian firms (0.27) is lower than English-origin countries (0.38) but higher than French-origin countries (0.11), while the pattern is exactly the opposite with the debt/cash flow ratio (1.68 for India, 0.99 for English-origin countries, and 2.15 for French-origin countries). LLSV (1997a) also find that investor protection does not explain firm-level debt financing patterns across countries, and attribute it to intervention of the government and other non-market forces in bank credit in some countries.

As Table 7 indicates, among the Indian firms the large enterprises rely less on equity financing than the firms in the SME sector, judging by market cap to sales ratio (0.25 for large firms versus 0.49 for SME's), though the market cap to cash flow ratios are very similar for the two groups. This finding is consistent with what we have seen from Table 6 before. Equity financing for the SMEs includes non-market equity, including contributions by the founder's friends and family. Further, the SME's appear to use little debt financing. The debt/sales and debt/cash flow ratios are, respectively, 0.06 and 0 for the SME's. This finding is also consistent with what we have seen from our analysis in Table 6.

### V.3 Dividend Policy and Firm Valuation

Next, we examine the dividend policy and valuations of firms in India, and compare the results to those studied by LLSV (2000b, 2002).<sup>27</sup> LLSV (2000b) find that firms in countries with poor protection of outside shareholders tend to have low dividend payout ratios attributable to severe

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average of the country ratios. LLSV use *Worldscope* data. For all countries other than India and for all country groups, we use their method but re-compute the figures with *Worldscope* 2001-2004 data. For India, we follow their approach and take the median ratio for all the firms in our *Prowess* sample from the same period (2001-2004).

<sup>26</sup> All the differences are statistically significant. The null hypotheses that, a) the samples of Indian large, Indian SME's, and different country groups come from the same distribution, and b) the numbers are the same are strongly rejected (p-value < 0.0001).

<sup>27</sup> LLSV (2002) examine Tobin's Q of 539 firms in 27 wealthy economies and India is excluded. LLSV (2000) examine dividend policies of over 4,000 companies in 33 countries, but only one Indian firm is included in the sample.



agency problems, while LLSV (2002) find that firms in countries with poor shareholder protection tend to have low valuation, as measured by the Tobin's Q (market-to-book assets) ratio.

From Panel B of Table 7, the median dividend/earnings as well as dividend/sales figures for large Indian firms are 0.07 and 0 respectively. The figures indicate much lower levels of dividend payment than not only the average of combined LLSV country groups (0.13 and 0.01 respectively) but also the average for most individual country groups, including the French civil-law origin countries. The corresponding figures for Indian SMEs are as low as 0 and 0 respectively. Actually, in the last year of our sample period, 2004, over 60% of all Indian firms and over 80% of SME's did not pay dividends. Clearly, the dividend policies of Indian firms are consistent with a low investor protection regime, while the figures for the Indian SME's are consistent with lower protection. A similar conclusion emerges from the firm valuation figures reported in the table. Tobin's Q ratio for large Indian firms (0.94) falls not only below the corresponding figure for all country groups combined (1.04), it is in fact lower than every single country group in the table, and the ratio for Indian SME's is still smaller (0.85).

#### V.4 Ownership Structure

Of the total 2,753 firms in our sample of Prowess firms, ownership data was available for 1,388 firms during the period 2000-2004. Table 8 compares the ownership structure of the 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), the Claessens et al., (2000) sample of listed Asian firms (excluding Japan) and the AQQ (2005) sample of over 1,100 listed firms from China.

Panel D of the table indicates that the controlling interests in about 78% of the Indian firms reside with a particular individual or family.<sup>28</sup> 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 as well as China. Interestingly, within India, the proportion of family- or individual-owned firms increases as firm size declines. The proportion is 73% for the largest non-financial firms in India included in BSE 500 index (based on a total of 317 non-financial large firms in the index), 77% for all large firms, and

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<sup>28</sup> 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.

80% for all SME's. Further, less than 2% of the Indian firms are widely held, i.e., no shareholder owns more than 10% of equity. The proportion of widely-held firms in India is the second *lowest* (after China where government ownership is the norm) in the table. This pattern holds for India full sample as well as for all partitions of the sample.

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.

## **V.5 Growth Patterns**

We have noted in Section II above that investor protection *in practice* is poor in India. Our results in this section, based on the comparison between large Indian enterprises and Indian SME's with the other country groups, indicate that several important characteristics of Indian firms (including low levels of financing from formal sources, low dividend policy and valuation, and concentrated ownership) 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 formal 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, as firm size declines, we find much less formal financing, more concentrated ownership, and considerably lower dividend-payout and valuation (Tobin's Q) ratios among Indian firms. While Indian businesses in general exhibit signs of belonging to a low investor protection regime, the signs are stronger for smaller 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. Specifically, the small Indian firms would grow at a considerably slower rate than the large enterprises.

It is difficult, if not impossible, to find comprehensive economy-wide secondary data to determine the growth rate of Indian firms in general, or to compare the growth rates of Indian SMEs and large firms, over a sufficiently long period. Therefore, we consider all the SMEs and all the

large firms in manufacturing and services sectors covered by the *Prowess* database beginning in 1996 and track their sales and total assets for the next ten years subject to data availability. We were able to track sales for 1,239 SME's and 1,126 large enterprises, or a total of 2,365 firms; we were also successful in tracking assets for 1,392 SME's and 1,175 large enterprises, or a total of 2,567 firms. Table 9 provides evidence on the compound annual growth rates (CAGRs) in sales as well as assets of the two groups of Indian firms, and of all firms in the two groups combined, during the period 1996-2005. Panel A presents univariate comparisons of the growth rates between manufacturing SMEs and large manufacturing firms, service sector SMEs and large service firms, as well as between all SMEs and all large firms. The *F* statistic and the *p*-values for difference in mean CAGR between the relevant sub-samples are reported.

The average Indian firm across the two groups recorded an impressive CAGR in sales of 10.9% during this period. Further, it is evident from Panel A that in aggregate as well as in each of the industry groups, SMEs grew significantly faster than the large enterprises. The ten-year sales CAGR is about 13.1% for SME's and 8.2% for large firms in the manufacturing sector – a difference that is statistically significant at the 1% level. For the services sector, the growth rate is again higher for the SMEs – 13% as opposed to 9.25% for large firms – once again significant at the 1% level. Overall, the average SME firm grew at a CAGR of 13.1% compared to a CAGR of 8.5% for the average large enterprise, the difference again statistically significant at the 1% level. The total assets growth figures reported in Panel A mirror the growth patterns in sales.

To summarize, in spite of the symptoms of poor investor protection, the average Indian firm seems to have grown at an impressive rate. Further, compared to large firms, the average SME firm has actually grown significantly faster in terms of sales as well as total assets. We have subjected this finding to various robustness checks, and it has withstood all of them. Panel B of Table 9 presents results from four cross-sectional regression models with the CAGR in sales of the firms in our sample during 1996-2005 as the dependent variable. After controlling for firm age, industrial classification (manufacturing or services industries), and assets turnover (sales/total assets) in the base year (1996), we observe a negative and statistically significant relationship (at the 5% level) between size and growth rate. The regression models using CAGR of assets as the dependent variable yield very similar results (not reported).

We have also compared the annual growth rates in sales as well as assets of all large enterprises and all SME's during each year of the ten-year period 1996-2005. The difference in the average annual growth rate by this method between the two classes of firms is even stronger and

more significant in favor of SME's. We have also examined whether possible survivorship biases (due to higher annual death rate of SME's) could explain this finding. We do find that the annual death rate is higher on an average among the SME's than among the large enterprises. However, the difference is not large enough to account for the large difference in respective growth rates (results available upon request). Finally, we have run the same tests on samples of firms from the period 2000-2004. The shorter observation period leads to fewer missing data problems and, consequently, larger samples (we are able to track sales growth for 3,171 firms and assets growth for 3,360 firms). The results remain qualitatively similar, including the dominance of SME firms over large enterprises in terms of growth in sales as well as assets.

Summing up, our empirical results conclusively demonstrate that smaller Indian firms have grown significantly faster than their larger counterparts. This finding is robust to industry difference, age difference, choice of sample period and size, and choice of the growth estimation method (simple versus compound average), and appears to hold after correcting for possible survivorship biases.

## **V.6 Discussion**

Our empirical analysis in this section has shown that the average Indian firm shares several characteristics of a firm from a country with poor investor protection, including concentrated ownership, low dividend payout, and low valuation. It is probably not surprising that formal external sources, including capital markets and financial institutions, provide a relatively small fraction of funding needs. Remarkably, however, alternative financing methods, including trade credit, appear to pick up the slack, and the average Indian firm grows at an impressive rate. Perhaps even more remarkably, all of the above findings hold in a more extreme form for the smaller Indian firms. SMEs are more closely-held and report considerably lower dividend-payout and valuation ratios. On the whole, they exhibit even stronger signs of belonging to a low investor protection regime. They also generate proportionally less financing from internal sources, and appear to face credit constraints (indicated by their heavy dependence on trade credit). Yet they record higher growth rates than the larger firms.

Clearly, a closer analysis of the legal, operational, and financial environment of the Indian SME sector is important for a more comprehensive understanding of the determinants of firm financing. However, many businesses in the SME sector are not even organized as joint-stock companies and do not, effectively, come under specific regulatory agencies that require periodic reporting of financial results. As a result, the secondary data sources (including the *Prowess*

database) have limited coverage of this segment.<sup>29</sup> To overcome this difficulty, we conducted a direct survey of the legal, business, and financial strategies used by the SME firms in India. We present results from our analysis of the survey data next.

## **V.7 Evidence from the World Bank's Business Environment Survey Data.**

In this section we supplement the above analysis using evidence of the World Bank's Investment Climate Survey data. These surveys cover a very large number of firms across different size-groups in various countries and covers issues on which it is difficult to get secondary data. We show the basic information and regression analysis based on this data from China and India in Table 15.

## **VI. Survey Evidence on the Chinese Private Sector**

In this section we study how firms in the Private Sector raise funds, their various growth paths, and the alternative mechanisms employed by owners that can substitute for formal corporate governance mechanisms. Due to data limitations, much of this evidence is by necessity anecdotal or by survey.<sup>30</sup> Some of our evidence coincides with the anecdotal evidence in Naughton (1995), while McMillan and Naughton (1992) also make similar arguments regarding the role of alternative mechanisms in supporting the growth of nonstate firms in China. Unlike their work, we also provide firm-level survey evidence. We first present anecdotal evidence on firms in two highly successful regions in Section 6.1, then present evidence based on a survey of 17 firms in Jiangsu and Zhejiang provinces in Section 6.2. Finally, Section 6.3 provides discussions of our evidence.

### *6.1 Anecdotal evidence in two successful regions*

#### *WenZhou*

Wenzhou, a city in the Zhejiang province, is the home of some of the earliest and most successful firms of the Private Sector. Entrepreneurs in the region are known for their keen business sense and innovation, as well as sharp management skills (e.g., McMillan and Woodruff, 2002). They usually start their family-run businesses in townships with a similar

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<sup>29</sup> For instance, though SME firms vastly outnumber large firms in India, they constituted only 15% of the number of firms covered in the Prowess database in 2005.

<sup>30</sup> All firms including Private Sector firms must disclose accounting and financial information to the local Bureau of Commerce and Industry, and most of the reports are audited. However, these data are then aggregated into the Statistical Yearbook without any firm-level publications.

product emphasis, in order to have easy access to the necessary technology, human capital, and potential clients and partners. Thus we observe specialization by regions (e.g., Town A produces shoes, Town B radio parts, etc.). This specialization can be a result of the attempt of firms to signal to potential customers that they are competitive by locating the firm in a region filled with other firms producing and selling similar products. During recent years, certain developed areas have shifted product emphasis from labor-intensive products such as clothes to more high-tech products such as computer parts.

The failure rate for start-ups in most industries is high. New product strategies often start with mimicking successful or popular products. Patent laws are difficult to implement, and often disputes are settled among the entrepreneurs themselves, similar to the evidence found in Vietnam by McMillan and Woodruff (1999b). To better overcome this problem, some entrepreneurs expend effort and money to ensure that the key parts of their new products are difficult to disassemble and copy. Another product strategy for many entrepreneurs is that they often aim at “exporting” their products to other regions, including foreign countries, instead of selling them locally.

#### *KunShan*

Kunshan County, which is in Jiangsu province and is close to Shanghai, is famous for attracting foreign direct investment, especially from Taiwanese investors. Some of the most effective government policies have included setting up special development zones with favorable land and tax policies. In 1997, Kunshan set up a high-tech development zone, in which enterprises, in the ownership form of joint ventures, cooperatives, and ventures solely owned by foreign investors, can take full advantage of a tax waiver and tax reduction for initial periods. Firms whose high-tech products are export-oriented can enjoy even more tax advantages. There is also a center in a special zone established by the local government; this center acts as the liaison between the local government, entrepreneurs, and foreign investors, and as the regulator as well as service provider for enterprises operating in the zone. Enterprises in the zone are required to report their operating and financial information to, and are regulated by the center, but they understand that the center will almost never interfere with their internal decisions. The center’s officials are mainly from the local government. The high-tech development zone has grown very fast since its inception in 1997.

During the early stage of the above special zone, investors from Taiwan were willing to

commit their capital to these start-ups and refinance them when necessary. The reason that many investors are from Taiwan is no coincidence: Many people in Kunshan have relatives in Taiwan and through them investors obtained information on the investment opportunities. The Taiwanese investors also came to understand that although there were almost no formal investor protections, local government officials have an incentive to cooperate with the development of the special zone and try to create an economic boom in the local economy. This is the case because a booming economy can greatly enhance the chance of an official being promoted, in addition to participating in profit-sharing. During the early stage of development, Taiwanese investors did not stay in the area as they often do now. As a result, there was virtually no monitoring of the entrepreneurs, and there was complete separation of ownership and control.

## 6.2 Survey evidence

In designing our survey, we follow Graham and Harvey (2001, survey of US CFOs), Johnson, McMillan, and Woodruff (2002, survey of Eastern Europe countries), and McMillan and Woodruff (1999a, 1999b surveys on Vietnam). (The survey questions and the tabulation of answers are available at <http://www2.bc.edu/~qianju/research.html>.) Among the 17 firms that we surveyed and which provided us detailed answers to our questions, one firm is from suburban Shanghai, three are from Jiangsu province, and the remaining thirteen are from Zhejiang province. These firms operate in a wide range of industries. The average age of the firm is over 11 years, and they employ an average of over 1,600 employees. The average size of (book) assets is US\$55 million, with average return on assets being 10%. Finally, on average firms are highly levered, with the average (private and bank) debt to (private) equity ratio reaching 2.1.

Figure 5-A provides more background information for the survey firms. There are significant variations in the past performance and the expected future performance (top two histograms) of firms. In terms of ownership structure (second panel of histograms), both at start-up and at the present time, the two dominant forms are “founder and family,” and “shareholding,” which resembles a private equity structure. Around 35% of the founders of our sample firms worked in TVEs prior to starting up their own firms (bottom histogram), while 23% (18%) of the founders worked in SOEs (government agencies). The experience from the State Sector or other Private Sector firms is valuable for the entrepreneurs, as they not only gained knowledge on how to run a private firm, but also learned how to deal with government officials.

### ***Financing channels***

Figure 5-B presents evidence of the financing channels of the firms. First, it is not surprising that during the start-up stage, funds from founders' family and friends are an important source of financing (top-left histogram). Moreover, funds from friends, in the form of private loans and equity, are also very important during the firm's subsequent growth period (top-right histogram). In some cases there are no formal written contracts between the friends/investors and the entrepreneurs, implying that reputation- and relationship-based implicit contractual agreements have worked effectively. Second, internal financing, in the form of retained earnings, is also important (not reported in Figure 5-B): Survey firms retained an average of 55% to 65% of their net income for reinvestment during the initial two to three years of existence.

Third, funding from financial intermediaries is one of the most important sources for the surveyed firms. In terms of start-up financing, over 40% of firms surveyed regard "banks" as either a "very important" (25-50% of total funding needs) or an "extremely important" (more than 50% of total funding needs) financing source. The four largest state-owned banks are ranked the highest in terms of providing funds, while other state-owned banks are ranked second. However, it is not clear that state-owned banks provide the cheapest start-up financing channel for all Private Sector firms. The caveat is that almost all the surveyed firms that received start-up financing from state-owned banks had already established close relationships with those banks before their inception as shown in Figure 4-A. In fact, not a single firm rates banks as very important or extremely important during their growth period. Financing from private credit agencies (PCAs), instead of banks, is the most important channel during a firm's growth period. These nonstate lenders usually charge very high interest rates and/or require a large amount of collateral on loans, and can force liquidation should the entrepreneurs default; the associated loan contracts resemble junk bonds to a certain degree.

On average, each surveyed firm currently has a loan relationship with 4.3 banks or other financial intermediaries, with the maximum (minimum) being 12 (1). Collateral value counts for 82.6% of the loan value on average with a maximum (minimum) of 120% (20%). Fixed assets are the most popular form of collateral, with third-party guarantees being the second-most popular form. These facts imply that financial institutions, state or private, seem to understand the risk of start-up firms and try to "price" this risk in their loan contracts. In a few cases the



local government provides the third-party guarantee, indicating an active role played by government officials in supporting the growth of firms.

During a firm's growth period (Figure 5-B), there are a few other channels that are important sources of financing, in particular, investment from "ethnic Chinese" (investors from Hong Kong, Taiwan, and overseas Chinese), mostly in the form of private loans and equity. This financing source, as compared to investment from non-Chinese foreign direct investment (FDI), relies on the relationship between the investors and the entrepreneurs. Other sources include trade credits among business partners, state and local budgets, and FDIs, while investment from venture capitalists (VC) is not widely used during either the start-up stage or the growth period. When asked about which financing channels are least costly (bottom histogram in Figure 5-B), while most of the surveyed firms point to short- and long-term bank loans, almost 60% of firms indicate trade credits among business partners (e.g., McMillan and Woodruff, 1999a).

For start-up firms, securing land and other fixed assets is important for their survival. While not reported in the figures, more than half of the surveyed firms purchase the long-term "operation-rights" of the land (20-50 years) from the government, which has the ultimate control. With operation rights, a firm has more control over the land than under a "land rental" contract. For example, firms can rent the land to another party once obtaining the operation rights from the government. Land rental contracts have shorter terms on average (5-10 years). In terms of fixed assets, 16 out of the 17 firms purchased and own all of their fixed assets. Among them, nine firms purchased their fixed assets from the State Sector, and seven out of the nine firms considered the price they paid to be the same as the market value of the assets. One firm's executive indicated that for the rental portion of fixed assets from SOE, there are no formal contracts between the firm and the SOE.

Finally, when asked about the prospects of going public, founders and executives list "access to large scale funding" and "reputation increase" as the most important benefits, and the "disclosure of valuable information to competitors and outsiders" and "large amount of fees paid" to the government, investment banks, and consulting firms as the most critical disadvantages of going public.

### ***Corporate governance***

Figure 5-C provides some information on governance mechanisms. First, over 60% (30%) of firms believe that if their own firm were not run efficiently and were to find itself in

financial distress, it is “possible” (“very likely”) its assets would be purchased by another firm or investor; no one answered it is “not possible” for this to occur. Not reported in the figure, we also asked firms about product market competition: 40% of surveyed firms believe that if their firm were not operating efficiently, within three to six months 20% of its market share would be taken away, while 80% of firms’ founders/executives believe the entire market share of the firm would be taken away in two years. When asked about what type of losses concern them the most if the firm were to fail (top-right histogram in Figure 5-C), every firm’s founders/executives (100%) said reputation loss is a major concern, while only 60% of them said economic losses are of major concern.

The success of a firm in the Private Sector depends crucially on the support from local government. Over 40% of survey firms state the local government “supports” the growth of the firm without demanding profit sharing, while for some other firms, the government is either a partial owner or demands profit sharing without investing in the firm (bottom histogram in Figure 4-C). The supportive attitude of the local government toward firms in the Private Sector is remarkable considering the fact that the Chinese government is widely regarded as corrupt and disrespectful of property rights (e.g., LLPS, 2004).

### 6.3 Discussion

In this section we discuss mechanisms supporting the growth of the Private Sector. We believe the most important reason for the growth is the work of alternative financing and governance mechanisms. Perhaps the most important mechanism is reputation and relationships. Greif (1989, 1993) argues that certain traders’ organizations in the eleventh century were able to overcome problems of asymmetric information and the lack of legal and contract enforcement mechanisms, because they had developed institutions based on reputation, implicit contractual relations, and coalitions. Certain aspects of the growth of these institutions resemble what works in China’s Private Sector today, in terms of how firms raise funds and contract with investors and business partners. In addition, Greif (1994) and Stulz and Williamson (2003) point out the importance of cultural and religious beliefs on the development of institutions, legal origin, and investor protection. Gomes (2000) demonstrates that a managerial reputation effect can replace formal governance in an IPO firm, consistent with the evidence from the Chinese venture capital industry (e.g., Bruton and Ahlstrom, 2002).

The above factors are of particular relevance and importance to China's institutional development. Without a dominant religion, one can argue that the most important force shaping China's social values and institutions is the set of beliefs first developed and formalized by *Kong Zi* (Confucius). This set of beliefs clearly defines family and social orders, and are very different from western beliefs on how legal codes should be formulated and how individuals and businesses negotiate (e.g., Pye, 1982; Chow, 2002). Using the World Values Survey conducted in the early 1990s, LLSV (1997b) find that China has one of the highest levels of social trust among a group of 40 developed and developing countries. We interpret high social trust in China as being influenced by Confucian beliefs. Interestingly, the same survey, used in LLSV (1997b), finds that Chinese citizens have a low tendency to participate in civil activities. However, our evidence shows that with effective alternative mechanisms in place, citizens in the developed regions of China have a strong incentive to participate in business/economic activities.

The second most important mechanism is competition in product and input markets, which has worked well in both developed and developing countries (e.g., McMillan, 1995, 1997; Allen and Gale, 2000b). What we see from the success of Private Sector firms in WenZhou and other surveyed firms suggests that it is only those firms that have the strongest comparative advantage in an industry (of the area) that survive and thrive. DLLS (2002) examine entry barriers across 85 countries including China. Entry barriers are a relevant factor for the growth of China's Private Sector, as lower entry barriers foster competition. DLLS find that countries with heavier (lighter) regulation of entry have higher government corruption (more democratic and limited governments) and larger unofficial economies.

With much lower barriers to entry compared to other countries with similar (low) per capita GDP, China is once again an "outlier" in the DLLS sample. The outlier status is even stronger considering that China is one of the least democratic countries, and such countries tend to have high barriers to entry. Based on our survey evidence, we conclude that there exist non-standard methods to remove entry barriers in China: First, 16 out of the 17 firms applied for a license (required) before the business started, with 50% of them indicating that it takes two weeks to one month to go through the procedure and 37.5% say it takes one to two months. The main problem for the application for a license seems to be dealing with government bureaucracy. To ease this problem, most of the firms' founders/executives ask the friends of government officials to negotiate on their behalf, or the firms can offer profit sharing to government officials.

But these methods are consistent with our results that alternative mechanisms based on reputation and relationships provide the most important support for the growth of the Private Sector.

There are other effective corporate governance mechanisms. First, Burkart, Panunzi, and Shleifer (2003) link the degree of separation of ownership and control to different legal environments, and show that family-run firms will emerge as the dominant form of ownership structure in countries with weak minority shareholder protection, whereas professionally managed firms must be the optimal form in countries with strong investor protection. Our survey evidence on the Private Sector and empirical results on the Listed Sector, along with evidence in Claessens, Djankov and Lang (2000) and Claessens, Fanand, Djankov, and Lang (2002), suggests that family firms are a norm in China and other Asian countries, and these firms have performed well. Second, Allen and Gale (2000a) show that if cooperation among different suppliers of inputs is necessary and all suppliers benefit from the firm doing well, then a good equilibrium with no external governance is possible, as internal, mutual monitoring can ensure the optimal outcome. We have shown trade credits are an important form of financing for firms during their growth period. Third, the common goal of sharing high prospective profits can align interests of local and foreign investors with entrepreneurs and managers to overcome numerous obstacles and achieve their common goal. Under this common goal in a multiperiod setting, implicit contractual agreements and reputation can act as enforcement mechanisms to ensure that all parties fulfill their roles to make the firm successful. Profit sharing also makes it incentive compatible for officials at various levels to support the growth of the firm.

Finally, there is a strand of literature studying transitional economies, such as Russia, China, Vietnam, and Eastern European countries, from Socialist systems to market systems. It is important to point out why China differs from other transitional economies. First, with the exception of Russia, China's economy is much larger and more diversified than other transitional economies. With a small and homogenous economy, a country can adjust its legal and financial systems to the strengths of its economy much easier than a large country can. The recent economic struggle in Russia illustrates this point (e.g., Shleifer and Treisman, 2000). The success of China's Private Sector demonstrates that alternative mechanisms can work wonders even in large and diversified economies.

Second, it is probably easier for other countries to adopt drastic reform measures in the

short run. China, under the influence of Confucius' views, is different in that people hold the belief that fundamental changes in society should be gradual and should be fully implemented only after they are proven correct. This view, however, does not prevent regional experiments conducted at a smaller scale. Accordingly, China adopted a gradual, "dual track" path in its economic reform, where the continued enforcement of the existing planning system goes alongside with the fast-paced development of financial markets, as compared to the "big bang" approach taken by some other countries (e.g., Lau, Qian, and Roland, 2000).

Third, the role played by the government during the reform process is very different in China than in most other transition economies, and in particular, Russia (e.g., Blanchard and Shleifer, 2001). In a broader context, LLSV (1999) find that governments in countries with French or socialist origins have lower quality (in terms of supporting economic growth) than those with English common laws and richer countries. However, China is a counterexample to LLSV's argument on government: While the Chinese Communist Party largely remains autocratic, government officials, especially those in the most developed areas (e.g., Jiangsu and Zhejiang provinces), played an active supporting role in promoting the growth of the Private Sector. This is different from the "grabbing hand" role played by government officials in other countries (Frye and Shleifer, 1997). The reason for this supporting role is threefold. First, as Li (1998) points out, starting in the early 1980s, the central government of China implemented a mandatory retirement age for almost all bureaucrats at various levels, which made the officials younger and more familiar with capitalist ideas. In Russia, officials from the old regime were entrenched and able to extract rents from the new economy without any contribution. Next, during early stages of China's reform, TVEs, in which local governments are partial owners, provided the most important source of growth in the Private Sector. The enormous success of TVEs and the promotion of the associated officials provided examples and incentives to other officials to follow suit. Finally, as discussed above, profit sharing with firms in a multiperiod setting also makes it incentive compatible for officials at various levels to support the growth of the firm.

## **VII. Law and Finance in the Indian Small and Medium Sector: Survey Evidence**

### **VII.1 Survey Design and Administration**

Our survey design focused on three broad areas: corporate financing and investments,

ownership structure and corporate governance, law, institutions, and business environment. Based on a review of survey-based papers in the law and finance literature (e.g., DLLS (2003), McMillan and Woodruff (1999a, b), Johnson et al. (2002) and AQQ (2005)), we developed the survey questionnaire with special attention to the important issues in the semi-formal environment in which Indian SMEs operate, while trying to avoid biases induced by the questionnaire and maximize the response rate. The final version of the survey included 36 questions (most with subparts) in four sections. The survey instrument and tabulated survey results (including the response rate for each question) are available at <http://www.isb.edu/faculty/rajeshchakrabarti/india-survey.zip>.

We did not follow the mailed questionnaire method to administer the survey. The targets of our survey are mostly small private firms that are typically reluctant to reveal in writing their key financial and business information. Further, the nature of our questions dealing with sensitive business information required us to ensure that the responses came from the owners or top executives of the surveyed units. Consequently, we deployed graduate students, as field investigators under the supervision of researchers from the Center of Analytical Finance at the Indian School of Business, Hyderabad, to administer the questionnaire to each of the respondents in face-to-face interviews. Our final sample consists of 136 SME units in and around New Delhi in North India and 76 SME units in and around the South Indian city of Hyderabad.<sup>31</sup> The sample spans several industries including engineering, chemicals, packaging and software. The firms range in age from start-ups (less than one year old) to about 85-year old companies, with a more or less continuous distribution of firms started in the 1958 to 2005 period. Table 17 presents descriptive statistics for the firms in our survey.

## **VII.2 Ownership Structure and Corporate Governance**

Our survey sheds light on the organization, ownership pattern and corporate governance mechanisms in Indian firms. In about 85% of the SMEs surveyed, the largest share block belonged to the founder and his family (all firms in our sample had male founders). This number is slightly higher than 78% observed for the large sample of SME firms in section V above (see Table 8). About 70% of the businesses had *unlimited* liability. When asked how the owner planned to protect

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<sup>31</sup> The firms were selected from several industrial parks in the New Delhi and Hyderabad areas that provided industrially diversified clusters of firms. The clusters include the Mayapuri Industrial Area, Naraina Industrial Area, WHS Kirtinagar cluster in Delhi and Patanchera and Jeedimetla Industrial Development Areas (IDAs), the Katedan Industrial Estate and the Bharat Heavy Electricals Ltd. (BHEL) Ancillary Industrial Estate at Ramachandrapuram in Hyderabad. Interviews were conducted with the owners or top level executives of the firms in the sample. On average an interview took about 45 minutes to complete. However, given the diversity of the business practices among the surveyed firms, a number of questions in the survey did not generate 100% response.

personal assets in case of business failure, 96% of the respondents preferred negotiating with debtors for an extension; 14% of these respondents also planned to file for personal bankruptcy.

There appears to be little separation between ownership and control in the typical SME environment, with the owner keeping a close watch over day-to-day functioning even with a hired CEO. About 50% of the units that had non-owner CEOs (or equivalent) indicated that the CEOs enjoyed “no discretion” or “little discretion” in their business decisions, and had to consult the owners for most decisions. When asked about the possibility of an outsider buying up a firm’s assets in case of bad management, 57% thought it was “very likely”.

### **VII.3 Legal Environment**

#### ***Reliance on Law***

In order to analyze methodically the responses to various survey questions probing different aspects of legal and financing mechanisms, we construct several indices based on the survey responses largely in line with the methodology of Johnson *et al.* (2002). The distribution of responses to individual survey questions may be obtained from the web site mentioned above.

To capture the various dimensions of a firm’s dependence on the available legal recourses, we construct a “Reliance on Law” (ROL) index. The index combines the responses to three questions in our survey enquiring about the respondent firm’s preferred action if they face defaults, breaches of contract and dispute settlements. To form this additive index, we assigned a value of 1 wherever the firm chose to settle matters through courts or other legal mechanisms; and a value of 0 for any other recourse. The survey provided various options to choose from, ranging from negotiations with the counterparties to involving intermediaries to legal recourse. Thus, the value of the ROL index can range between 0 and 3. Figure 6 shows the relative frequency distribution of the survey firms across the possible values of the index. For over 80% of surveyed firms the value of the index is zero. Further, the relative frequency declines monotonically in the value of the index.

We also analyze whether the reliance on law varies across key firm characteristics, including sales, number of employees, assets size, and age, and results are presented in Table 18. For each characteristic, the respondent firms are sorted into three size groups. The results of *F*-tests reported in the table indicate that, for all firm characteristics, the average value of the index is the same across different groups. Further, regardless of the particular firm characteristic, the median value of the index is always zero. The evidence demonstrates clearly that SMEs in India rely little on the formal legal system. Informal channels of dispute resolution evidently play a far more important role for the SME firms.

The same finding comes through in responses to other questions in the survey as well. About

50% of the firms surveyed do *not* have a regular legal adviser. Of the other half that does, less than 50% of these firms have “legal advisors” with a law degree or a license to practice law. When pressed for a reason, 63% of respondents who did not have legal advisors claimed they did not need lawyers as they knew all their business partners and could deal with them fairly. Clearly, the formal legal system takes a back seat while reputation, trust and informal personal relationships are the driving factors in screening counter-parties to do business with.<sup>32</sup>

### ***Legal and Non-legal Deterrence***

The inverse of reliance on law that determines whether a firm seeks legal recourse to redress a breach of contract and other disputes is concern for legal deterrence that may prevent it from perpetrating similar breaches itself. Our survey findings indicate that legal sanctions are far less important to the SMEs than the demands and responsibilities of the informal networks within which they exist and function. For instance, in the case of default on a payment, the primary concern is loss of reputation (2.48 on 1-3 scale), followed closely by loss of property (2.45). In the case of a breach of contract also, loss of future business opportunities ranks the highest (2.58), followed by loss of reputation (2.46). Significantly, in both types of violation, the fear of legal consequences (adverse court sentence or jail term) is the *least* important concern (1.54 for default, 1.44 for breach of contract). Even threat to personal safety ranks higher than legal consequences (1.65 and 1.57 respectively). Clearly, violation of the “unwritten rules” of the informal networks in which these businesses operate can result in more serious penalties, including lost opportunities and physical harm, than legal consequences. Reputation and trust are pivotal for survival and growth in this environment.

To capture these results systematically, we construct a “Legal Deterrence” (LD) index. The index combines the responses to the question probing the respondents’ concern for legal penalty (being sentenced by court) if *their* own firms were in violation of contracts. For each question the respondents rated their concern for legal penalty, on a 1-3 scale (1 = not concerned at all; 2 = somewhat concerned; 3 = very concerned). Thus the value of the LD index for a firm can range between 1 and 3. Panel A of Figure 7 shows the relative frequency distribution of the index. Over half (52%) of the respondents are not concerned at all about the legal consequences of a breach of contract, while less than 10% are very concerned. Thus, while legal deterrence is not altogether absent among the SME firms in our sample, its effectiveness is very limited. Note that, as with

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<sup>32</sup> However, the courts, while not the most popular method of dispute resolution, appear to have their utility as a negotiating tool. When asked what a firm does to ensure payment or repayment (more than one response allowed), about 59% replied that they would go to court while leaving negotiation possibilities open.



reliance on law, the relative frequency declines monotonically in the value of the index.

To analyze this issue further, we compare the effectiveness of legal deterrence with that of non-legal deterrence. We construct a Non-Legal Deterrence (NLD) Index by using the responses to the same question that is used for the LD index. For this index, the ratings for five non-legal concerns (loss of reputation, loss of business in the same geographic area, loss of business in another geographic area, future financing difficulty, and fear of personal safety) on a 1-3 scale (1 = not concerned at all; 2 = somewhat concerned; 3 = very concerned) are considered. We average the ranks of the five concerns. Note that not all respondents ranked all the five concerns. Thus, the value of the NLD index ranges from less than one to 3. Panel B of Figure 4 presents the relative frequency distribution of the index.

We also analyze whether effectiveness of legal deterrence and non-legal deterrence varies across important firm characteristics, including sales, number of employees, assets size, or age. For each characteristic, the respondent firms are put in the same size groups as for the tests involving the ROL index. Table 19 presents the results of our analysis. The results of *F*-tests reported in the table show that, for all firm characteristics, the average value of the LD index is the same across different groups. Further, regardless of the particular firm characteristic, the median value of the index is always 1, the lowest value possible, with the mean ranging between 1 and 2. The evidence demonstrates clearly that the Indian SMEs are little concerned about legal deterrence. On the other hand, the median value of the NLD index is 2 for each firm characteristic, with the mean between 2 and 3. We performed a Wilcoxon-Mann-Whitney test on the LD and NLD indices for all respondents in our sample (181 observations for the LD and 205 for the NLD index). The test decisively rejects the null hypothesis that the mean of the two indices are the same ( $z$  statistic  $-7.22$  and  $p < 0.0001$ ). Clearly, non-legal concerns of the kind mentioned above are far more effective than legal deterrence in preventing defaults and contract violations.

The picture that emerges of the SME sector from our surveys clearly indicates that the sector has little confidence in the legal system. It relies little on the courts in settling disputes and enforcing contracts and is also not much concerned about legal consequences of infractions. Non-legal sanctions, on the other hand, are far more effective. This result appears to hold for all firms regardless of their sales, asset size, age, and employee strength.

#### **VII.4 Financial Environment**

##### ***Financing during Start-up and Growth Phases***

The picture of the legal environment for the SME sector in section VII.3 above is clearly not conducive to formal external finance. Typically, formal finance requires formal contracts, and

effective legal mechanisms to enforce contracts and deter infractions. Consequently, we should expect alternative channels of external finance, based on familiarity and social norms, to dominate the external financing of SMEs in India.

We analyze our survey results to gauge the importance of alternative finance for an SME. As we have noted above, alternative finance includes friends and family financing as well as trade credit. Our survey responses indicate that in most cases such finance is not backed by any formal contract. For each respondent firm, we create a Proportion of Alternative Finance (PAF) index based on its responses to a question about the proportion of different sources of funds in the total funds. The question called for rating the sources on a scale of 1 to 4 (1 = least important or less than 10% of total financing, 4 = extremely important or more than 50% of total financing). We average the ratings of family and friends and trade credit to form the PAF index. The index ranges from 1 to 4, with higher values indicating a greater proportion of alternative finance in total sources of funds. For our analysis, formal finance comprises all other sources of external finance, including banks, private credit agencies and individuals, government funding and venture capital for the start-up phase, short-term and long-term bank credit, loans from specialized lending institutions like SIDBI and SFC as well as private equity/debt from investors within India.<sup>33</sup>

Figure 8 depicts the relative importance in the start-up phase, and the ease of accessing in the growth stage, formal and alternative finance based on our survey findings.<sup>34</sup> It is evident from the figure that funding from alternative sources is far more important in the start-up stage and is considerably more accessible in the growth stage. While 85% of the respondent firms consider friends and family finance extremely important in the start-up phase and 86% in the growth phase, the corresponding numbers are 15% and 17% for bank finance. Of the 199 respondents who answered the query, 22% had no bank/financial institution credit. 48% of the respondents had loans from only one institution (indicating that bank credit could be relationship-driven), 14% had accounts with two banks or intermediaries, while only 2% had loans from three institutions. This picture is consistent with our finding from the Prowess sample that the SME's get as much as 85% of their funding from alternative sources.

### ***Determinants of the Proportion of Alternative Finance***

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<sup>33</sup> The Small Industry Development Bank of India (SIDBI) is a specialized financial institution created by the government of India for financing and promoting growth in the small scale sector. State Finance Corporations (SFCs) are state-level government financial institutions created for financing and promoting growth, often in the small scale sector. We exclude foreign and expatriate funding because of relatively low response rates. The respondents who rate these sources report much lower importance and access than for other sources.

<sup>34</sup> For ease of access, the survey respondents were asked to rate each source on a 1-4 scale (1= little importance (extremely difficult and costly to access); 4 = extremely important (very easy and low cost)).

To understand the obstacles, if any, that SMEs encounter in obtaining formal finance, we define and use two different indices. Our index for requirements for formal finance, the REQ Index, is based on the responses to the survey question asking the respondent firm to enlist the necessary conditions for accessing bank finance. We form an additive index for each firm. The index ranges from 0 to 6, with 6 indicating that the firm listed 6 requirements that were needed to improve their chances of accessing bank finance, 5 indicating that the firm listed 5 such requirements and so on; 0 indicating no requirement.<sup>35</sup> A higher value of this index, therefore, represents greater requirements for formal finance.

Our index for difficulty in accessing formal finance, DIFF Index, is based on the responses to the survey question about the level of difficulty in accessing different *types* of institutional credit: (i) short-term bank loans, (ii) long-term bank loans, and (iii) loans from specialized institutions such as SIDBI and SFC's. The respondent firms were asked to rate the three types independently on a scale of 1 to 4, (1 = very easy, 4 = very difficult). We form an average index from the ratings, the index ranging from 1 to 4 for each firm. A higher value of this index indicates greater difficulty in accessing finance from banks and specialized institutions.<sup>36</sup> Though higher values of both REQ and DIFF variables indicate greater hurdles in obtaining bank finance, they capture different aspects of access to formal finance. The sample correlation coefficient between the two variables is only 0.04.

Do Indian SMEs seek alternative finance as a matter of choice, or because they have restricted access to formal finance? To address this question, we conducted Ordered Probit regressions, with PAF index as the dependent variable and REQ index as one of the independent variables.<sup>37</sup> If alternative finance is obtained as a matter of choice, then we should not expect a significant relationship between the dependent variable and the independent variables. On the other hand, if alternative finance is sought because access to formal finance is restricted, then we should expect a positive relationship between the variables: the harder it is to get formal finance, the greater should be the proportion of alternative finance for the firms in our sample.

Table 18 presents the results of the regressions. In Panel A, the dependent variable is the proportion of alternative finance (as percentage of total funds) in the start-up phase, divided into four

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<sup>35</sup> Our survey questionnaire asked how many of the five factors would facilitate obtaining bank loans: profitability and growth opportunities, size, whether the firm operates in "protected" industries, business connections between the firm and government officials, political or personal connections between firm and government officials. In addition, respondents mentioned other features like "reputation of firm". In all, the maximum number of these factors (specifically asked plus proffered by respondents) was seven.

<sup>36</sup> For example, if the firm rated short-term bank loans as 2, long-term bank loans as 3 and loans from specialized institutions as 4, the index of difficulty in accessing formal finance for this firm is 3:  $[(2+3+4)/3]$ .

<sup>37</sup> Our data on the proportion of alternative finance are categorical rather than continuous, and hence we use Ordered Probit regressions.

categories with a higher value indicating a higher proportion. The independent variables include the REQ index, firm size at start-up (as measured by sales) and the number of employees.<sup>38</sup> The coefficient for the REQ index is positive and significant at 5% in all three models. The results are consistent with the hypothesis that dependence on alternative finance is not a choice for SME firms, but rather the result of limited access to formal financing channels. On the other hand, the level of dependence appears to decline with firm size, proxied by both the volume of sales and the number of employees, suggesting that larger firm size helps in obtaining formal finance even at the start – up phase. Note that this result is consistent with our finding from the Prowess sample that larger firms seek less alternative finance.

In Panel B, we examine whether the SMEs that depend on alternative finance in the start-up phase continue to rely on it in their growth phase too, or whether, as they mature, they can transit successfully to more formal financing channels. On the one hand, as a firm matures (and perhaps becomes larger), it faces a smaller degree of information asymmetry compared to its start-up phase, and accordingly may have easier access to formal financing channels. On the other hand, if the firm builds long-term relationships with the investors that supply alternative finance during the start-up phase, it may continue to find formal financing relatively costly later on as well.

The results shown in Panel B seem to support the “stickiness” or persistence of alternative financing over time (which may explain the very large proportion of alternative finance in total funding in the case of the Prowess firms that we noted before). The dependent variable is the DIFF index for firms in their growth phase (older than five years), divided into 4 categories, with a higher value indicating greater difficulty. Since we consider only firms older than 5 years, this requirement truncates our original sample of 203 to 159. While the difficulty in accessing formal finance during the growth phase is somewhat eased for large firms (coefficient of the number of employees is significant at 10% in models 3 and 4; not significant for log of firm age), the difficulty level is significantly positively related (at 1% level) to dependence on alternative financing (PAF index) during the start-up stage.<sup>39</sup>

Summarizing, stricter requirements for formal finance and greater difficulty in accessing formal finance are associated with high proportions of alternative finance across firm sizes and age,

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<sup>38</sup> For the level of sales (SALES), the survey responses fall in five categories. We group these responses with respect to the median sales into three categories: (1) below median sales, (2) median sales, and (3) above median sales. Thus the SALES variable has three categories from 1 to 3, a higher number indicating a higher level of sales. The employee size (EMP) variable is created analogously.

<sup>39</sup> We have conducted robustness checks by on this result by considering firms older than 10, 15, and 20 years (where the sample size becomes 60). In all models, the PAF index remains positive and significant at the 1% level.

suggesting that SME firms are driven to seek “informal” finance by the relative inaccessibility of formal finance. Also, smaller SMEs – both in terms of sales and employee size – rely more on alternative finance, indicating that access to formal finance is even more restricted for them. However, we also find evidence on the persistence of alternative finance during growth stages.

### **VII.5 Comparison of Survey Findings in New Delhi and Hyderabad Regions**

The SME units in the two regions were surveyed independently. The surveys present a largely similar and consistent picture of SME financing and governance, inspiring confidence in our results. However, there are a few important differences. Average values of both the reliance on law (ROL) and the legal deterrence (LD) indices are statistically significantly higher for the New Delhi area firms. Consistent with this fact, the proportion of alternative finance (PAF) index is also statistically significantly higher for the New Delhi area firms. Further, both friends and family financing (in start-up as well as growth phases) and trade credits appear to be more important for the New Delhi respondents than for those in Hyderabad. On the other hand, bank loans and reinvestment of profits are more common for Hyderabad firms. These findings indicate considerable regional differences in the nature of SME financing and effectiveness of legal mechanisms *within* India. A cross-regional analysis of Indian SMEs would help shed more light in this area.

### **VII.6 Discussion**

Our survey evidence suggests that the fast-growing SME sector in India depends overwhelmingly on non-legal mechanisms based on reputation, trust, and relationships to settle claims and disputes. This is consistent with growth experiences elsewhere in the world (see Greif (1989, 1993), Spagnolo (1999), AQQ (2005)) as well as in the Indian software industry (Banerjee and Duflo (2000)).

Further, the sector relies heavily on non-formal, alternative financing channels, including friends and family as well as trade credit, to fund operations and growth.<sup>40</sup> The results of our probit regression analysis indicate that firms that find formal (or institutional) finance more difficult to access are more likely to obtain a greater proportion of their funding from alternative sources. Also the smaller the firms, the higher the proportion of alternative finance, suggesting that institutional credit is even less accessible to smaller firms. The Indian firm in general, and the SME sector in India in particular, is also very family-controlled, consistent with the experience of other countries

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<sup>40</sup> McMillan and Woodruff (1999a) and Berger and Udell (1998) document the role of trade credit for firms in Vietnam and the U.S. respectively.

with weak investor protection.<sup>41</sup> However, the combination of family control and dependence on mechanisms based on reputation and trust have not hindered growth.

The success of India's high-growth SME sector demonstrates that these "alternative" mechanisms have been effective in substituting for formal mechanisms based on legal protection and market-based and institutional finance. It is possible that similar mechanisms/substitutes have also worked well in other countries, including developed countries during their early stage of economic development when legal institutions were not as well-developed.

### **VIII. Concluding Observations**

In this paper we examine and compare the formal systems of law and finance in China and India and the alternative institutional arrangements and governing mechanisms in the two countries, and the relation between the development of these systems and their economic growth.

With one of the largest and fastest growing economies in the world, China differs from most of the countries studied in the law, institutions, finance, and growth literature, and is an important counterexample to the existing findings: Its legal and financial systems as well as institutions are all underdeveloped, but its economy has been growing at a very fast rate. More importantly, the growth in the Private Sector, where applicable legal and financial mechanisms are arguably poorer than those in the State and Listed sectors, is much faster than that of the other sectors. The system of alternative mechanisms and institutions plays an important role in supporting the growth in the Private Sector, and they are good substitutes for standard corporate governance mechanisms and financing channels.

India too has a special place among the countries studied in the law, institutions, finance, and growth literature. Despite its English common-law origin and British-style judicial system and democratic government, there is enough documented evidence to suggest that the effective level of investor protection and the quality of legal institutions in India are quite weak. We examine the legal and business environment in which Indian firms operate and compare our results to those from other countries. We conduct our analysis using extensive and rich datasets, including aggregate country-level data, large firm-level samples, and our own surveys of small and medium Indian firms. We also employ a broader framework of analysis than in most existing law and finance studies. The framework includes not only formal legal options (courts) and formal financial channels (stock

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<sup>41</sup> This finding is consistent with a large and considerable literature as well (see Burkart, Panunzi, and Shleifer (2003), Khanna and Palepu (2000); Khanna and Yafeh (2005); Gopalan et al. (2005)).

markets and banks) but also their institutional substitutes, including non-legal methods based on reputation, trust, and relationships to settle commercial disputes and enforce contracts, and alternative financial channels such as friends and family financing and trade credit.

Going forward, our results pose an important question for both researchers and policy makers: Should China also transform the Private Sector toward the “standard form” like it has been doing for the State Sector? Given the success of the Private Sector and the deficiency in the State and Listed sectors in China, much more research is required in order to better understand how alternative mechanisms work where standard mechanisms are not available or not suitable. These effective substitutes worked well in China, and similar substitutes based on relationship and reputation may have also worked well in other economies including developed economies. Our results thus have general implications: There are important factors connecting law, institutions, finance, and growth that are not well understood. A better understanding of how these nonstandard mechanisms work to promote growth can shed light on optimal development paths not only for China, but also many other countries.

As for India we find that Indian firms in general, and the smaller firms in particular, show symptoms of poor investor protection, including concentrated ownership, low dividend payout, and low valuation. Our empirical tests show that firms in the SME sector in India effectively substitute non-legal deterrents, such as loss of business and reputation, for legal penalties and alternative finance for funds from markets and financial institutions. Interestingly, our results also establish that the small firms grow faster than large-scale firms which operate in environments with stronger legal protection and easier access to formal finance. We find that to a large extent Indian firms too conduct business outside the formal legal system and do not rely on formal financing channels from markets and banks for most of their financing needs. Instead, firms across the board, and in particular, small and medium firms, use non-legal methods based on reputation, trust and relationships to settle disputes and enforce contracts, and rely on alternative financing channels such as trade credits to finance their growth.

The results of this paper have important implications for future research. It will be interesting and important to examine whether substitute mechanisms similar to those that have worked well in India and China have also supported the growth of firms in other economies where formal mechanisms are ineffective. At the end of 2005, China and India together accounted for 40% of the world population and 19% of the world GDP in PPP terms. Given the status of the two countries, the findings call for more single-country studies to understand better how the *effective*

level of investor protection as opposed to the nominal level affects corporate financing and growth, and leads to wide use of substitute legal and financing mechanisms.

Finally, given all other things equal, formal mechanisms by their nature should be more rigid and slower to work. Hence, informal mechanisms are perhaps more suitable for dynamic economies (India, China), dynamic corporate sectors (SME) and industries (software). The law and finance literature has identified an important determinant of formal external finance, namely quality of legal protection. Perhaps history, culture, and economic growth at the country-level and corporate growth rate and size at the firm-level 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**

Rank	GDP in 2006 (simple exchange rates)		GDP in 2006 (PPP*)		GDP growth: 1990-2006 (constant prices)		Per capita GDP growth: 1990-2006** (constant prices)	
	Country /Region	US\$ billion	Country /Region	Int'l \$ billion	Country /Region	Annual growth	Country /Region	Annual growth
1	U.S.	13,245	U.S.	13,021	<b>China</b>	<b>10.2%</b>	<b>China</b>	<b>9.2%</b>
2	Japan	4,367	<b>China</b>	<b>9,984</b>	Vietnam	7.6%	Vietnam	5.9%
3	Germany	2,897	Japan	4,171	Malaysia	6.2%	S. Korea	4.8%
4	<b>China</b>	<b>2,630</b>	<b>India</b>	<b>4,159</b>	<b>India</b>	<b>6.1%</b>	Taiwan	4.5%
5	U.K.	2,374	Germany	2,559	Korea	5.5%	<b>India</b>	<b>4.2%</b>
6	France	2,232	U.K.	2,122	Taiwan	5.3%	Malaysia	3.7%
7	Italy	1,853	France	1,935	Bangladesh	5.2%	Poland	3.7%
8	Canada	1,269	Italy	1,791	Sri Lanka	4.9%	Sri Lanka	3.7%
9	Spain	1,226	Russia	1,727	Sudan	4.9%	Thailand	3.7%
10	Brazil	1,068	Brazil	1,701	Thailand	4.7%	Bangladesh	3.1%
11	Russia	979	Spain	1,215	Pakistan	4.4%	Indonesia	2.9%
12	S. Korea	888	Mexico	1,172	Iran	4.4%	Iran	2.8%
13	<b>India</b>	<b>887</b>	Canada	1,156	Egypt	4.3%	Peru	2.7%
14	Mexico	840	S. Korea	1,156	Indonesia	4.3%	Sudan	2.7%
15	Australia	755	Indonesia	960	Peru	4.3%	Argentina	2.6%
16	Netherlands	663	Taiwan	691	Turkey	3.9%	Spain	2.2%
17	Belgium	394	Australia	680	Argentina	3.8%	Egypt	2.2%
18	Turkey	392	Turkey	661	Poland	3.7%	Turkey	2.2%
19	Sweden	385	Argentina	621	Philippines	3.6%	Pakistan	2.1%
20	Switzerland	377	S. Africa	606	Australia	3.3%	U.K.	2.1%

Notes: \* The PPP conversion factor is obtained from the *World Bank Development Indicator* (Table 5.6, World Bank. For details on how to calculate the indicator, see "Handbook of the International Program." United Nations, New York, 1992).

\*\* : Countries with population less than 20 million or GDP less than US\$ 20 billion are excluded from this ranking.

Source: IMF World Economic Outlook Database 2007.

**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.

	<b>Creditor Rights</b>	<b>Anti-Director Rights</b>	<b>Corruption Perception Index</b>	<b>Legal Formalism Index</b>	<b>Legality Index</b>	<b>Disclosure Requirement</b>	<b>Earnings Management Score</b>
<i>Panel A China, India and LLSV Country Groups</i>							
<b>China</b>	<b>2</b>	<b>1</b>	<b>3.3</b>	<b>3.4</b>	<b>N/a</b>	<b>N/a</b>	<b>N/a</b>
<b>India (E)</b>	<b>2</b>	<b>5</b>	<b>3.3</b>	<b>3.51</b>	<b>11.35</b>	<b>0.92</b>	<b>19.1</b>
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	0.6	23.6
Nordic-origin Ave.	1.75	3.8	9.34	3.32	16.42	0.56	10.15
Sample Ave.	1.8 <sup>a</sup>	3.37 <sup>b</sup>	5.24	3.58 <sup>c</sup>	14.98	0.60 <sup>d</sup>	16
<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	1.67	3.80	3.62	4.04	10.59	0.63	16.61

Notes: <sup>a</sup>: DMS (2007) average; <sup>b</sup>: DLLS (2007) average; <sup>c</sup>: DLLS (2003) average; <sup>d</sup>: LLS (2006) average.

**Table 3 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 Efficien- cy	Structure Regula- tory	Finance Activ- ity	Finance Size	Finan- ce Effici- ency
<b>Panel A: China, India and LLSV Country Groups</b>											
<b>China</b>	8	0.01	0.26	0.32	-0.16	0.03	-5.87	16	-2.51	-2.31	3.19
<b>India</b>	0.37	0.02	0.56	0.6	0.43	0.49	-4.44	10	-1.57	-1.51	3.3
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	0.6	0.66	-0.43	-0.05	-4.02	8.5	-1.45	-1.08	2.5
German origin*	1.06	0.02	1.05	0.82	-0.16	-0.37	-4.01	9.65	-0.08	-0.27	3.9
Nordic origin*	1.05	0.02	0.99	0.85	-0.07	-0.2	-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	-0.5	-0.5	3.48
<b>Panel B Other Large Emerging Markets (EMs)</b>											
Argentina (F)	0.1	0.08	0.09	0.3	-0.12	1.07	-4.95	7	-4.7	-3.51	0.13
Brazil (F)	0.29	0.08	0.19	0.51	-0.4	0.56	-4.2	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	-0.4	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	3.3
Mexico (F)	0.15	Na	0.07	0.27	-0.75	0.61	Na	12	-4.6	-3.24	Na
Pakistan (E)	0.27	0.02	1.27	0.34	1.56	0.24	-3.58	10	-1.08	-2.4	4.06
Peru (F)	0.18	0.07	0.03	0.36	-1.93	0.7	-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)	0.8	0.05	0.84	2.14	0.04	0.98	-3.12	8	-0.4	0.54	2.76
Sri Lanka (E)	0.3	0.04	0.05	0.2	-1.81	-0.4	-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	-0.7	3.36
Turkey (F)	0.21	0.06	0.55	0.36	0.96	0.52	-3.4	12	-2.14	-2.57	2.21
Ave. for EMs	0.38	0.04	0.52	0.66	-0.46	0.42	-4.66	9.62	-2.83	-1.95	2.12

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  $\log(\text{market cap ratio} \times \text{overhead cost ratio})$  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  $\log(\text{total value traded ratio} \times \text{private credit ratio})$ , "finance size" is equal to  $\log(\text{market cap ratio} \times \text{bank private credit ratio})$ , and "finance efficiency" is equal to  $\log(\text{total value traded ratio}/\text{bank overhead cost})$ .

**Table 4. A comparison of the largest stock markets in the world (2006)**

Rank	Stock Exchange	Total Market Cap (US\$ million)	Concentration (%)	Turnover Velocity (%)
1	NYSE Group	15421167.9	26.6	134.3
2	Tokyo SE	4,614,068.8	58	125.8
3	Nasdaq	3,865,003.6	82.1	269.9
4	London SE	3,794,310.3	84.8	124.8
5	Euronext	3,708,150.1	57	116.4
6	Hong Kong Exchanges	1,714,953.3	68.4	62.1
7	TSX Group	1,700,708.1	67.5	76.4
8	Deutsche Börse	1,637,609.8	77.1	173.7
9	BME Spanish Exchanges	1,322,915.3	....	167
10	Swiss Exchange	1,212,308.4	74.1	130.2
11	OMX	1,122,705.0	79.1	134.5
12	Australian SE	1,095,858.0	...	88.4
13	Borsa Italiana	1,026,504.2	65.6	162.9
14	Shanghai SE	917,507.5	31.5	153.8
15	Korea Exchange	834,404.3	57.6	171.4
<b>16</b>	<b>Bombay SE</b>	<b>818,878.6</b>	<b>75.2</b>	<b>31.9</b>
<b>17</b>	<b>National Stock Exchange India</b>	<b>774,115.6</b>	<b>68.6</b>	<b>67.8</b>
18	JSE	711,232.3	66.5	48.9
19	Sao Paulo SE	710,247.4	54.6	45.5
20	Taiwan SE Corp.	594,659.4	45.3	141.7
21	Singapore Exchange	384,286.4	41.8	58.2
22	Mexican Exchange	348,345.1	61.7	29.6

Notes: All figures are from <http://www.world-exchanges.org>, the web site of the international organization of stock exchanges. Concentration is the fraction of total turnover of an exchange within a year coming from the turnover of the companies with the largest market cap (top 5%). Turnover velocity is the total turnover for the year expressed as a percentage of the total market capitalization.



**Table 5-A. A comparison of Nonperforming loans of banking systems**

	1997	1998	1999	2000	2001	2002
<b>China</b>	N/a	<b>2.0</b> <b>(2.2)</b>	<b>9.5 (10.6)</b>	<b>18.9 (24.9)</b>	<b>16.9</b> <b>(22.7)</b>	<b>12.6</b> <b>(15.2)</b>
Hong Kong	1.3 (3.0)	4.3 (10.2)	6.3 (13.9)	5.2 (12.6)	4.9 (12.9)	3.7 (9.6)
India	n/a	7.8 (1.6)	7.0 (1.6)	6.6 (1.6)	4.6 (1.7)	2.2 (0.8)
Indonesia	0.3 (0.2)	11.8 (4.6)	8.1 (2.0)	13.6 (3.2)	9.9 (2.2)	4.5 (0.9)
Japan	2.7 (5.4)	5.1 (10.8)	5.3 (10.9)	5.8 (11.5)	9.2 (15.3)	7.4 (12.8)
South Korea	2.9 (5.1)	4.8 (6.3)	12.9 (12.9)	8.0 (8.6)	3.4 (3.4)	2.5 (2.6)
Taiwan	2.4 (3.2)	3.0 (3.9)	4.0 (5.7)	5.2 (7.6)	6.2 (9.4)	4.1 (5.2)

Notes: NPL is measured as % of total loans made, and as % of GDP (numbers in brackets). Both the loan and NPL are the aggregate of all banks in a country.

Source: The Asian Banker data center 2003, <http://www.theasianbanker.com>.

**Table 5-B. A cross-country comparison of banking system profitability**

The profitability is measured as the return on average equity (ROAE), and return on average assets (ROAA). The latter is presented in the brackets.

	1997	1998	1999	2000	2001	2002
<b>China</b>	<b>6.6</b> <b>(0.2)</b>	<b>4.0</b> <b>(0.2)</b>	<b>3.2</b> <b>(0.18)</b>	<b>3.9</b> <b>(0.2)</b>	<b>3.5</b> <b>(0.2)</b>	<b>4.16</b> <b>(0.2)</b>
Hong Kong	18.7 (1.8)	11.0 (1.0)	18.2 (1.6)	18.8 (1.6)	15.7 (1.4)	15.6 (1.4)
India	17.0 (0.9)	9.7 (0.5)	14.2 (0.7)	10.9 (0.5)	19.2 (0.9)	19.6 (1.0)
Indonesia	-3.8 (- 0.3)	N/a	N/a	15.9 (0.3)	9.7 (0.6)	21.1 (1.4)
Japan	-18.6 (- 0.6)	-19.2 (- 0.7)	2.7 (0.1)	-0.7 (0.0)	-10.4 (- 0.5)	-14.5 (- 0.6)
South Korea	-12.5 (- 0.6)	-80.4 (- 3.0)	-34.0 (- 1.5)	-7.0 (- 0.3)	15.8 (0.7)	13.1 (0.6)
Taiwan	11.2 (0.9)	9.5 (0.8)	6.9 (0.6)	5.1 (0.4)	4.0 (0.3)	-5.2 (- 0.4)

Source: The Asian Banker data center 2003, <http://www.theasianbanker.com>.

**Table 6-A. Growth rates of the State, Listed, and Private sectors**

In this table, Panel A displays the growth rate of “industrial output” for the two 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 also calculate the weighted-average growth rate across the selected ownership types. Panel B displays the average growth rate of “investment in fixed assets” for the two sectors.

Growth rate (%)	Panel A: Industrial Output		Panel B: Investment in Fixed Assets	
	State & Listed Sectors	Private Sector	State & Listed Sectors	Private Sector*
1996	15.9	17.4	10.2	17.3
1997	-0.6	18.9	9.0	6.1
1998	-6.5	10.2	17.4	9.0
1999	5.8	6.8	3.8	7.5
2000	14.0	24.2	3.5	11.4
2001	4.6	9.9	6.7	12.6
2002	6.5	12.5	7.2	16.8
Ave. Annual rate (95- 02)	5.4	14.3	8.2	11.5

Notes: \* =includes foreign-owned companies, companies owned by investors from Taiwan and Hong Kong, and TVEs.

Sources: China Statistic Yearbooks 2000 - 2003.

**Table 6-B. Employment in the State, Listed, and Private sectors**

Year	1995	1996	1997	1998	1999	2000	2001	2002	95-02 annual growth rate
<b>Panel A: Number of Employees (million)*</b>									
State & Listed Sectors	115	116	115	94	89	85	81	77	-5.7%
Private Sector	221	233	233	235	240	233	245	246	1.5%
<b>Panel B: Percentage of total employees belonging to each sector (%)</b>									
State & Listed Sectors	34.3	33.3	33.0	28.7	27.2	26.8	24.9	23.8	
Private Sector	65.7	66.7	67.0	71.3	72.8	73.2	75.1	76.2	

Note: \*=indicate non-agricultural employees. Source: China Statistic Yearbooks 2000 - 2003.

**Table 7-A. Types of Common Stock Issued in China**

Tradable on the Exchanges?		Definition
No (Private block transfer possible)	<b>State-owned shares**</b>	Shares that are controlled by the central government during the process in which firms are converted into a limited liability incorporation but before they are listed. All these shares are managed and represented by the Bureau of National Assets Management, which also appoints board members on firms' boards.
	<b>Entrepreneur's shares</b>	Shares reserved for firms' founders during the same process described above; different from shares that founders can purchase and sell in the markets.
	<b>Foreign owners</b>	Shares owned by foreign industrial investors during the same process.
	<b>Legal entity holders</b>	Shares sold to legal identities (such as other companies, listed or non-listed) during the same process.
	<b>Employee shares</b>	Shares sold to firm's employees during the same process.
Yes (New issued shares)	<b>A shares</b>	Chinese companies listed in Shanghai or Shenzhen Stock Exchanges, and shares sold to Chinese (citizen) investors.
	<b>B shares</b>	Chinese Company listed in SHSZ or SZSE, but shares are sold to foreign investors.
	<b>H shares</b>	Chinese Company listed in Hong Kong (shares can only be traded on the HK Exchange but can be held by anyone).

Note: \*\*=There are subcategories under this definition.

**Table 7-B. Tradable vs. nontradable shares for China's listed companies**

Year	State/total shares	Nontradable <sup>^</sup> /total shares	Tradable/total shares	A/total shares	A/tradable shares <sup>*</sup>
1992	0.41	0.69	0.31	0.16	0.52
1993	0.49	0.72	0.28	0.16	0.57
1994	0.43	0.67	0.33	0.21	0.64
1995	0.39	0.64	0.36	0.21	0.60
1996	0.35	0.65	0.35	0.22	0.62
1997	0.32	0.65	0.35	0.23	0.66
1998	0.34	0.66	0.34	0.24	0.71
1999	0.36	0.65	0.35	0.26	0.75
2000	0.39	0.64	0.36	0.28	0.80
2001	0.39	0.64	0.36	0.29	0.80
2002	n/a	0.65	0.35	0.26	0.74
2003	n/a	0.64	0.35	0.27	0.76

<sup>^</sup>=Nontradable shares include "state-owned" and "shares owned by legal entities". <sup>\*</sup>=tradable shares include A, B, and H shares. Source: China Security Regulation Committee Reports (2000) and <http://www.csrc.gov.cn>.

**Table 7-C. Ownership and control in listed firms of China**

Company Ownership and Control (%)		
Shareholder type	Ownership	Control (board seats)
State	24	21
Legal person	44	48
Employees	2	3
Tradable Shares	30	4
Total	100	76

Source: Table 4.6 p.83, "Corporate Governance and Enterprise Reform in China, Building the institutions of Modern Market," 2002, World Bank publication.

**Table 8. Summary statistics of Chinese listed firms (in US\$ millions)**

Firms are listed in SHSE and SZSE (as of December 2000). Data are downloaded from Taiwan Economic Journal's "Asia Emerging Market Database" (<http://www.tei.com.tw/>).

<b>Panel A: Key financial items and ratios (whole sample)</b>						
	Mean	Median	Min	Max	Std. Dev	Number of obs
Market cap. (US\$ mil)	448.2	354.9	0.0	8,190.2	513.9	1174
LT debt / Common equity	0.3	0.1	0.0	6.9	0.6	981
Net income	99.6	502.0	-1,215.9	21,718.6	721.0	979
EPS	0.2	0.2	-3.2	1.6	0.4	979
Proceeds from stock sales	163.6	0.0	-290.8	29,379.2	987.0	975 (272)
Dividend	50.8	18.4	0.0	8,106.0	270.2	979 (617)
Retained earnings	26.4	33.2	-2,125.7	2,210.18	234.4	979 (951)
Bonds issue	0.8	0.0	0.0	521.0	17.3	975 (6)
Long term borrowing	634.9	233.1	0.0	157,053.1	5,073.7	974 (895)
<b>Panel B: Listed firms converted from SOEs vs. nonstate firms</b>						
Types of listed firms and sample size	Market Cap. (US\$ mil.)	Tobin's Q	Dividend/ Earnings	Dividend/ Net sales	L-T Debt/ Book Equity	Return on Assets
Previously SOEs (921)	490.62	0.50	0.48	0.06	0.35	0.028
Previously non-SOEs (242)	454.94	0.51	0.11	0.06	0.24	0.028
Difference in means (t-test)	1.03	-0.19	0.85	-0.08	3.00*	0.004

**Table 9 Ownership Structures of Indian Firms vis-à-vis Other Country Groups**

In this table we compare ownership structure of firms in India and other countries (LLSV country groups, selected Asian countries including China). Our sample of 2,754 Indian firms (panel data set for the period 2000-2004) is collected and compiled from the CMIE *Prowess* database, of which 1,388 firms' ownership data is available. The ratio of ownership type is calculated at firm\*year (6,432) level for India firms.

Controlling Shareholder*	Foreign	Widely-held (%)	State (%)	Family/Indiv. (%)	Financial Corp. (%)	Non-Fin Corp. (%)
<b>Panel A: LLS (1999) Sample of Large Firms</b>						
High-antidirector average		34.2	15.8	30.4	5.0	5.8
Low-antidirector average		16.0	23.7	38.3	11.0	2.0
Sample average		24.0	20.2	34.8	8.3	3.7
<b>Panel B: LLS (1999) Sample of Medium Firms</b>						
High-antidirector average		16.7	10.3	50.9	5.8	1.7
Low-antidirector average		6.0	20.9	53.8	6.7	2.7
Sample average		10.7	16.2	52.5	6.3	2.2
<b>Panel C: Asian Firms</b>						
Asia (no Japan, Claessens et al. 2000)		3.1	9.4	59.4	9.7	18.6
<b>China (Allen, Qian, Qian 2005)</b>		<b>0.4</b>	<b>60.0</b>	<b>13.6</b>	<b>1.8</b>	<b>24.2</b>
<b>Panel D: Indian Firms</b>						
	NRI/OCB**			<i>a</i>	<i>b</i>	<i>c</i>
Full Sample	10.7	1.9	0.4	77.6	1.0	8.8
All SMEs	3.5	1.6	0.0	80.4	0.1	14.4
All Large Enterprises	12.8	1.9	0.5	76.7	1.3	7.2
BSE 500 <sup>d</sup>	18.1	1.8	0.3	73.0	2.1	5.1

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.

*a*: For these Indian firms, we identify the dominant shareholder to be private block-holders, but we are not sure how many blockholders there are and whether they are related or not.

*b*: For these Indian firms, we identify the dominant shareholder to be a financial company, but we are not sure whether the financial company is widely held or not.

*c*: For these Indian firms, we identify the dominant shareholder to be another listed and traded corporation, but we are not sure whether this corporation is widely held or not.

*d*: Based on 317 non-financial large firms included in the BSE 500 index.

**Table 10 Comparing External Financing, Dividend, and Valuation**

This table compares firm-level external financing, dividend payout and valuation of Indian firms with other country groups. For all countries other than India and for all country groups, we use the same method as in LLSV (1997a)\* but re-compute the figures with Worldscope 2001-2004 data. For the Indian sample, we follow their approach and take the median ratio for all firms in our Prowess sample from the same period (2001-2004).

<i>Panel A: External Financing</i>								
Country	English origin average	French origin average	German origin average	Nordic origin average	Sample average	China	India	
							Large Enterprises	SMEs
Market cap/sales	1.52	0.72	1.39	0.98	0.81	0.06	0.25	0.49
Market cap/cash flow	15.3	-2.96	13.94	-41.52	1.05	0.52	2.54	2.43
Debt**/sales	0.38	0.11	0.8	0.24	0.12	0.67	0.27	0.06
Debt/cash flow	0.99	2.15	-0.5	-39.76	0.04	5.34	1.68	0
<i>Panel B: Dividend and Valuation</i>								
Dividend/Earnings	0.21	0.17	0	0.35	0.128		0.07	0
Dividend/Sales	0.017	0.055	0	0.02	0.008		0.003	0
Tobin's Q	1.56	1.06	1.51	1.77	1.04		0.94	0.85
# of observations	10192	2969	5133	523	42		1761	992

\* In LLSV (1997a), a ratio (e.g., market cap/sales) for a given country is the median ratio in 1994 for all the firms from that country in their sample. The average ratio for a country group based on legal origin is the arithmetic average of the country ratios. LLSV use Worldscope data.

\*\* Debt includes long-term debt only (as in LLSV, 1997a)

**Table 11 Comparing the State and Non-state Sectors in India: 1990-2003 (in US\$ billions)**

This table 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	<i>GDP from State and Non-state Sectors</i>		<i>State Sector - Public Sector Undertakings (PSUs)</i>			<i>Registered Non-state corporations* (listed and unlisted)</i>		
	State Sector GDP <sup>a,b</sup>	GDP from all Non-State Sectors <sup>a,c</sup>	Number of Units ('000)	Paid-up Capital <sup>d</sup>	Employment (million) <sup>e</sup>	Number of Units ('000)	Paid-up Capital <sup>d</sup>	Employment (million) <sup>e</sup>
1990-91	20.03	96.19	1.16	15.26	19.06	200.97	5.53	7.68
1991-92	24.94	156.26	1.17	17.45	19.21	223.29	6.51	7.85
1992-93	28.10	126.56	1.18	18.90	19.33	249.18	8.72	7.85
1993-94	33.25	140.84	1.19	19.28	19.45	274.47	10.49	7.93
1994-95	35.85	169.13	--	--	19.47	304.42	14.79	8.06
1995-96	39.16	194.04	1.20	21.91	19.43	352.09	18.75	8.51
1996-97	37.75	210.40	1.22	21.68	19.56	407.93	24.54	8.69
1997-98	41.11	222.72	1.22	22.69	19.42	449.73	28.58	8.75
1998-99	43.88	223.54	1.22	21.15	19.41	483.28	30.59	8.70
1999-00	43.15	248.86	1.23	22.14	19.31	510.76	38.64	8.65
2000-01	43.55	265.68	1.24	21.43	19.14	541.19	42.90	8.65
2001-02	51.22	276.50	1.27	21.87	18.77	567.83	49.67	8.43
2002-03	64.41	302.94	1.26	22.71	18.58	587.99	57.26	8.42
<b>CAGR</b>	10.22	10.03	0.70	3.37	-0.21	9.36	21.51	0.77

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

<sup>a</sup>: Output and GDP figures exclude agriculture; <sup>b</sup>: Total (non-agriculture) GDP generated from all non-state sector firms; <sup>c</sup>: Includes GDP from non-corporate non-state sector as well; <sup>d</sup>: Paid-up capital for a company is the number of shares outstanding times the face value or par value per share; <sup>e</sup>: 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 12 Descriptive Statistics of the Prowess Sample of Firms (India)**

This table provides the descriptive statistics of our sample of non-financial Indian firms in the year 2004, based on the *Prowess* database of CMIE. The table shows the breakdown between firms in the small and medium enterprises (SME) sector and large enterprises (LE), as well as between manufacturing and services sectors. It reports the maximum, median and minimum values of sales, assets and age of the firms.

Firm Category		SME-			All		All	
		Manufacturing	Large- Manufacturing	SME- Service	Large- Service	SME s	Large Firms	All Firms
<b>Number of Obs.</b>		655	1374	337	387	992	1761	2753
<b>Sales (Million US\$)</b>	Max	124	30,841	367	8,344	367	30,841	30,841
	Med.	1.3	30.5	0.6	57.1	1.0	32.7	12.6
<b>Total Assets (\$Million)</b>	Min.	0	0	0	0	0	0	0
	Max	81	16,036	67	90,683	81	90,683	90,683
<b>Firm Age (years)</b>	Med.	1.7	0.7	1.4	113.3	1.6	38.6	15.5
	Min	0	30.9	0	1.6	0	0.7	0
<b>Firm Age (years)</b>	Max	128	135	94	139	128	139	136
	Med.	18	20	14	20	16	20	16
<b>Firm Age (years)</b>	Min	2	0	0	2	0	0	0

**Table 13 Sources of Funds for Indian Non-financial Firms (Percentage of Total Funding; 2001-2004)**

This table provides evidence on the sources of (new) funds for non-financial Indian firms during the 4-year period of 2001-2004, based on the *Prowess* database of CMIE. The table shows the breakdown between firms in the small and medium enterprises (SME) sector and large enterprises, as well as between manufacturing and services sectors. 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 the percentage of the total funds from all sources during the same period.

	Large Enterprises (LEs)			Small & Medium Enterprises (SMEs)			All Firms
	All LEs	LE-M	LE-S	All SMEs	SME-M	SME-S	
Internal Sources	53.8	66.8	46.8	7.0	13.8	0.3	53.6
Equity (Private + Public)	6.7	7.2	6.4	29.8	19.0	40.5	6.8
Capital Market-Debt	12.0	-0.4	18.7	3.3	0.0	6.4	12.0
Debt: Banks and FI's	7.3	4.3	9.0	5.1	6.9	3.3	7.3
Debt: Group Co's/Promoters	0.7	1.7	0.2	4.1	6.0	2.2	0.7
Trade Credits	9.3	13.4	7.1	35.6	42.0	29.3	9.4
Others	10.1	6.9	11.8	15.1	12.2	18.0	10.1
Number of Observations	1,761	1,374	387	992	655	337	2,753

Source: The source of the data is *Prowess* database compiled by the Centre for Monitoring Indian Economy (CMIE).

**Table 14: Comparing Growth Rates of Non-financial firms in India (1996-2005)**

This table provides evidence on the rates of growth in sales and total assets for non-financial Indian firms during the 10-year period of 1996-2005, based on the Prowess database of CMIE. The table shows the breakdown between firms in the small and medium enterprises (SME) sector and large enterprises (LE), as well as between manufacturing and services sectors. Panel A reports ten-year CAGR of sales and assets along with the F-statistics and P values, which test the equality of the growth for small manufacturing and large manufacturing; small service and large services; and all small and large enterprises. Panel B shows the results of the linear regression, with CAGR of sales from 1996 to 2005 as the dependent variable. The independent variables are scale (0=small, 1=large) and industry (0=manufacturing, 1=services). Numbers in parenthesis are the standard errors for the mean coefficient estimates reported. The control variables are log of age and turnover in the year 2000. \*, \*\* and \*\*\* denote statistical significance at 1%, 5% and 10% levels, respectively.

**Panel A: CAGR of Sales and Assets**

Category	Number of Obs.	Average CAGR (Sales)	F Stat (p-value)	Number of Obs.	Average CAGR (Assets)	F Stat (p-value)
SME-M	1036	13.09%	3.35 ( <.0001)	1156	7.99%	3.46 ( <.0001)
LE-M	951	8.20%		990	6.82%	
SME-S	203	13.01%	1.5 (0.004)	236	10.77%	1.52 (0.0045)
LE-S	176	9.25%		185	10.66%	
All Small Enterprises	1239	13.08%	2.86 ( <.0001)	1392	8.46%	3.11 ( <.0001)
All Large Enterprises	1126	8.46%		1175	7.42%	
All Enterprises	2365	10.88%	--	2567	7.99%	--

**Panel B: Regression analysis of growth rates**

Variable	(1)	(2)	(3)	(4)
Intercept	<b>0.1308</b> <sup>***</sup> (0.00684)	<b>0.1296</b> <sup>***</sup> (0.00719)	<b>0.3410</b> <sup>***</sup> (0.02993)	<b>0.3276</b> <sup>***</sup> (0.02907)
Scale	<b>-0.0462</b> <sup>***</sup> (0.00991)	<b>-0.0462</b> <sup>***</sup> (0.00992)	<b>-0.02422</b> <sup>**</sup> (0.01026)	<b>-0.0402</b> <sup>***</sup> (0.01005)
Industry		<b>0.0074</b> (0.01352)	<b>0.0040</b> (0.01338)	<b>-0.0054</b> (0.01301)
Log of age (Lage)			<b>-0.0670</b> <sup>***</sup> (0.00922)	<b>-0.0379</b> <sup>***</sup> (0.00927)
Assets Turnover				<b>-0.0731</b> <sup>***</sup> (0.00604)
Number of observations	<b>2,365</b>	<b>2,365</b>	<b>2,365</b>	<b>2,365</b>
<b>R-squared</b>	0.0091	0.0092	0.0309	0.0875

**Table 15: Evidence from the World Bank's Investment Climate Survey data****A. Summary statistics**

Our sample from the world bank survey includes two countries: China and India. For China, we have observations of survey conducted in 2002 and 2003. For India, 2002 and 2005. There are 3948 firm\*year observations for China, 1548 firms in 2002 and 2400 firms in 2003. There are 4114 firm \*year observations for India, 1827 firms in 2002 and 2287 firms in 2005. We don't know which firms are surveyed in both years.

**(I). Basic Information**

		China		India	
		2002	2003	2002	2005
<b>Types of firms</b>					
(1)	% of Domestic firms	70.6	87.6	98.1	98.2
	% of foreign firms	29.4	12.4	1.9	1.8
(2)	% of Listed firms	1.7	2.3	15.0	0
(3)	% of Private Sector <sup>a</sup>	79.8	77.8	98.6	98.2
	% of Government Sector <sup>b</sup>	19.4	21.7	1.3	0.5
	% of Others	0.7	0.4	0.1	1.3
(4)	% of Manufacturing firms	65.9	67.1	99.8	99.9
	% of Services firms <sup>b</sup>	34.1	32.9	0.2	0.1
<b>(5) Age of firms operated in the country (mean)</b>					
	Full sample	14.5	16.0	16.8	16.8
	Domestic firms	16.9	17.0	16.7	16.7
	foreign firms	8.9	9.1	20.1	18.1
	Listed firms	11.5	11.5	25.3	Na
	Private Sector	11.5	12.8	16.6	16.7
	Government Sector	26.8	27.4	34.3	24.3
	Manufacturing firms	16.3	16.6	16.8	16.8
	Services firms	11.0	14.8	8.0	17.0
<b>Firm size (mean)</b>					
(6). Employment	Full sample	502	482	95	Na
(No. of people)	Domestic firms	494	480	86	Na
	foreign firms	522	500	566	Na
	Listed firms	2461	1801	327	Na
	Private Sector	359	285	90	Na
	Government Sector	1082	1192	451	Na
	Manufacturing firms	499	374	94	Na
	Services firms	508	706	205	Na
<b>(7). Total sales</b>					
(end of last year)	Full sample	25.9	25.3	17.3	15.9
(in US \$ million)	Domestic firms	12.9	20.1	16.8	14.5
	foreign firms	55.7	62.1	43.5	104.7
	Listed firms	190.1	126.5	107.5	Na
	Private Sector	25.6	26.2	17.2	16.2
	Government Sector	24.4	21.4	27.0	8.17
	Manufacturing firms	30.6	21.5	17.3	16.0
	Services firms	16.5	33.0	7.3	0.02

Note: <sup>a</sup> = We define a firm to be in private sector if the firm's ownership by private sector is more than 50%. The same is for state-owned firms.

<sup>b</sup> = Observation number for this type of firms in India survey is extremely small (= < 10).

## (II). Financing sources and efficiency

	China				India			
(1). Financing sources ( <i>Observations are in only 2003 for China, 2005 for India</i> )								
<i>(% of firms who uses the source in the last year and among them, the average % of finance from this source)</i>	Working Capital		New Investments		Working Capital		New Investments	
Internal funds or retained earnings	24.9	52.6	23.8	64.1	83.6	56.0	80.7	64.5
Local Commercial banks	38.2	68.6	28.6	70.7	61.7	49.3	52.9	59.1
Foreign owned banks	0.6	27.9	0.4	33.0	2.2	42.1	2.0	44.0
Lease arrangement	Na	Na	Na	Na	3.8	18.1	3.4	27.3
Funds from states	0.7	51.9	1.1	48.9	Na	Na	Na	Na
Trade credits	4.7	47.9	2.2	47.7	27.8	31.5	12.7	35.4
Credit cards	Na	Na	Na	Na	3.2	21.9	2.4	35.5
Equity sales	17.9	65.2	16.1	77.0	5.0	30.0	3.7	30.0
Family, friends	10.5	54.6	9.1	64.7	28.0	31.6	16.4	42.3
Informal money lenders	4.6	40.7	3.2	57.6	2.4	23.8	1.6	36.9
Others	49.0	78.7	49.4	86.4	1.6	48.7	1.3	70.0

	China		India	
(2). Financing Efficiency ( <i>Observations are in only 2002 for both countries</i> )				
<i>(mean of non-zero answers, except fee on check<sup>a</sup>)</i>	Days it takes	Fee as % of transaction	Days takes	Fee as % of transaction
Clear a check	4.7	0.6	11.1	1.6
A domestic wire	5.5	0.7	7.9	2.5
A foreign wire	8.9	2.3	12.5	3.6

<sup>a</sup> = It is common that there is no fee charge on clear a check, but not for wiring. For check, the mean for non-zeros are (1.02 and 2.2 respectively in China and India).

## (III). Growth

	China		India	
<i>Average Annualized %</i>	1999-2001	2000-2002	1999-2001	2002-2004
(1) Growth of sales	34.7	21.1	14.5	Na
(2) Growth of salary, bonus, and benefits paid out	23.4	16.1	9.8	Na

## B. Regression analysis

### (I) The first group of regressions address the determinants of financing sources of firms.

The **dependant variables** use (a1). Internal Financing: likelihood of usage; (a2). Internal Financing: amount of usage given usage>0; (b1). Trade credits: likelihood of usage; (b2). Trade credits: amount of usage given usage>0; (c1). Family, friends borrowing: likelihood of usage; (c2). Family, friends borrowing: amount of usage given usage>0; (d1). Informal financing: likelihood of usage; (d2). Informal financing: amount of usage given usage>0;.

Notes (i). The usage and amount have summed obs. from working capital and new investments.

(ii) Informal financing is the sum of trade credits, family friends borrowing, money lender and others. We keep internal source independent here since it is important in every country.

(iii). Given the large number of zero, regression results by using amount measure including zeros is very similar to the likelihood measure with more significant t-stats.

The **explanatory variables** include (a). log(firm size): use total sales in 2000; (b). log(firm age): 2003–the starting year of operation in the country; (c). the largest shareholder: For Indian firms, there are four dummies: the largest shareholder is government; individuals/family, foreign, bank/investment funds. For Chinese firms, such differentiation is not available, hence we use private sector vs. state-owned sector; (d). exporter: dummy; (e). perception on judicial efficiency and fairness: a rank as surveyed; (f). Perception on government efficiency: a rank as surveyed; (g). perception on official influence rule implementation; a rank. (h - ). country dummy, or year dummy, or interactive variables.

**Note:** Financing sources are observation in 2003 China and 2005 India survey data, but many of the explanatory variables are observed in 2002 survey only.

#### (I) Internal (observations are in only 2003 survey for china, 2005 for India)

	Chinese firms		Indian firms		Chinese & Indian firms	
	Likelihood	Amount	Likelihood	Amount	Likelihood	Amount
Constants	-3.60 (-8.59)	171.18 (7.46)	2.11 (3.45)	133.31 (12.03)	-0.69 (-2.55)	151.98 (19.40)
Log(firm size)	<b>0.26</b> <b>(8.78)</b>	<b>-4.68</b> <b>(-2.66)</b>	-0.04 (-1.06)	<b>-3.22</b> <b>(-3.66)</b>	<b>0.11</b> <b>(4.62)</b>	<b>-4.00</b> <b>(-3.39)</b>
Log(firm age)	-0.10 (-1.18)	<b>-8.47</b> <b>(-1.73)</b>	0.02 (0.18)	-3.13 (-1.35)	<b>-0.48</b> <b>(-6.11)</b>	-6.08 (-1.39)
Exporters	<b>-0.36</b> <b>(-1.75)</b>	-9.89 (-0.97)	<b>0.59</b> <b>(2.17)</b>	<b>17.89</b> <b>(4.01)</b>	-0.16 (-0.85)	-10.81 (-1.08)
Judicial environment			-0.03 (-0.36)	1.67 (1.22)		
Government efficiency			0.07 (0.91)	<b>2.55</b> <b>(1.74)</b>		
Official Impact						
Private Sector	<b>0.70</b> <b>(3.88)</b>	-7.50 (-0.77)				
India *					0.06 (1.63)	0.55 (0.46)
Log(firm size)						
India *					<b>0.91</b> <b>(7.69)</b>	2.94 (0.62)
Log(firm age)						
India *					0.39 (1.15)	<b>27.26</b> <b>(2.50)</b>
Exporters						
# of observations	1337	412	1216	1073	2629	1556
Adjusted/Psuedo R <sup>2</sup>	0.06	0.03	0.01	0.03	0.28	0.04

**(II) Trade credit (observations are in only 2003 survey for china, 2005 for India)**

	Chinese firms		Indian firms		Chinese & Indian firms	
	Likelihood	Amount	Likelihood	Amount	Likelihood	Amount
Constants	-6.01 (-6.88)	18.41 (0.63)	-0.49 (-1.21)	98.00 (8.18)	-1.28 (-4.75)	97.11 (11.35)
Log(firm size)	<b>0.23</b> <b>(4.46)</b>	-2.72 (-1.20)	-0.03 (-1.16)	-1.25 (-1.35)	0.03 (0.70)	<b>-4.58</b> <b>(-2.70)</b>
Log(firm age)	-0.16 (-1.01)	13.76 (1.73)	-0.04 (-0.54)	<b>-14.55</b> <b>(-5.65)</b>	-0.81 <b>(-5.44)</b>	7.63 (0.94)
Exporters	<b>0.73</b> <b>(2.58)</b>	-12.13 (-0.90)	<b>-0.77</b> <b>(-3.64)</b>	<b>-21.01</b> <b>(-5.06)</b>	<b>1.01</b> <b>(3.52)</b>	-4.53 (-0.36)
Judicial environment			-0.05 (-0.94)	-1.16 (-0.87)		
Government efficiency			0.01 (0.27)	1.54 (1.03)		
Official Impact						
Private Sector	<b>1.37</b> <b>(2.74)</b>	<b>49.54</b> <b>(4.40)</b>				
India *					-0.02 (-0.49)	<b>3.11</b> <b>(1.84)</b>
Log(firm size)						
India *					<b>0.89</b> <b>(5.64)</b>	<b>-20.35</b> <b>(-2.46)</b>
Log(firm age)						
India *					<b>-1.85</b> <b>(-5.26)</b>	-16.67 (-1.29)
Exporters						
# of observations	1337	79	1216	290	2629	394
Adjusted/Psuedo R <sup>2</sup>	0.08	0.12	0.02	0.23	0.10	0.17



**(III) Family /Friend borrowing (observations are in only 2003 survey for china, 2005 for India)**

	Chinese firms		Indian firms		Chinese & Indian firms	
	Likelihood	Amount	Likelihood	Amount	Likelihood	Amount
Constants	-0.24 (-0.38)	248.91 (7.60)	-1.09 (-2.55)	79.24 (4.36)	0.18 (0.72)	144.22 (10.35)
Log(firm size)	<b>-0.27</b> <b>(-6.67)</b>	<b>-13.98</b> <b>(-5.45)</b>	-0.04 (-1.46)	-1.89 (-1.42)	<b>-0.17</b> <b>(-5.84)</b>	<b>-5.63</b> <b>(-2.60)</b>
Log(firm age)	<b>-0.36</b> <b>(-2.59)</b>	-13.28 (-1.58)	0.01 (0.14)	<b>-10.13</b> <b>(-2.23)</b>	<b>-0.33</b> <b>(-3.31)</b>	3.69 (0.48)
Exporters	-0.06 (-0.19)	<b>-29.11</b> <b>(-1.70)</b>	<b>-0.58</b> <b>(-2.90)</b>	<b>-26.98</b> <b>(-3.74)</b>	-0.05 (-0.15)	<b>-27.71</b> <b>(-1.79)</b>
Judicial environment			<b>0.10</b> <b>(1.80)</b>	1.70 (0.79)		
Government efficiency			0.02 (0.42)	<b>4.22</b> <b>(2.00)</b>		
Official Impact						
Private Sector	<b>1.58</b> <b>(3.87)</b>	4.76 (0.24)				
India *					<b>0.07</b>	0.69
Log(firm size)					<b>(2.18)</b>	(0.32)
India *					<b>0.23</b>	<b>-19.32</b>
Log(firm age)					<b>(1.94)</b>	<b>(-2.36)</b>
India *					-0.52	6.90
Exporters					<b>(-1.37)</b>	<b>(0.40)</b>
# of observations	1337	149	1216	306	2629	471
Adjusted/Psuedo R <sup>2</sup>	0.10	0.18	0.02	0.10	0.06	0.20

**(IV) Total Informal financing (observations are in only 2003 survey for china, 2005 for India)**

	Chinese firms		Indian firms		Chinese & Indian firms	
	Likelihood	Amount	Likelihood	Amount	Likelihood	Amount
Constants	1.25 (3.37)	252.68 (20.59)	-0.10 (-0.29)	97.64 (7.79)	0.79 (3.89)	182.70 (23.33)
Log(firm size)	<b>-0.09</b> <b>(-3.52)</b>	<b>-8.87</b> <b>(-9.88)</b>	-0.03 (-1.14)	-1.25 (-1.21)	<b>-0.06</b> <b>(-2.82)</b>	<b>-5.65</b> <b>(-7.22)</b>
Log(firm age)	0.11 (1.36)	-2.94 (-1.03)	-0.04 (-0.57)	<b>-12.20</b> <b>(-3.61)</b>	<b>0.17</b> <b>(2.51)</b>	<b>7.28</b> <b>(2.96)</b>
Exporters	0.19 (0.98)	5.42 (0.77)	-0.88 (-5.17)	-31.68 (-6.21)	0.17 (0.90)	0.37 (0.05)
Judicial environment			0.05 (1.14)	0.55 (0.35)		
Government efficiency			0.05 (1.07)	<b>3.12</b> <b>(1.97)</b>		
Official Impact						
Private Sector	0.01 (0.09)	<b>-17.78</b> <b>(-3.39)</b>				
India *					-0.01 (-0.41)	-0.65 (-0.65)
Log(firm size)						
India *					<b>-0.27</b> <b>(-3.01)</b>	<b>-28.64</b> <b>(-8.14)</b>
Log(firm age)						
India *					<b>-1.02</b> <b>(-4.01)</b>	<b>-21.50</b> <b>(-2.48)</b>
Exporters						
# of observations	1337	884	1216	514	2629	1441
Adjusted/Psuedo R <sup>2</sup>	0.01	0.11	0.03	0.12	0.05	0.37

**C. The Relation between firm growth and firm characteristics**

The **dependant variables** use: (a). Growth of firm's total sales: (b). Growth of salary, wage, bonus, and other benefits paid out. Both are in annualized % 1999-2001.

The **explanatory variables** use: (a). log(firm size): use total sales in 2000; (b). log(firm age): 2003–the starting year of operation in the country; (c). the largest shareholder: For Indian firms, there are four dummies: the largest shareholder is government; individuals/family, foreign, bank/investment funds. For Chinese firms, such differentiation is not available, hence we use private sector vs. state-owned sector; (d). exporter: dummy; (e). perception on judicial efficiency and fairness: a rank as surveyed; (f). Perception on government efficiency: a rank as surveyed; (g). perception on official influence rule implementation; a rank. (h - ). country dummy, or year dummy, or interactive variables. And (g). Financing sources: internal, vs. informal, vs. formal used for Working capital financing. Use dummies as well as amounts (without excluding zeros).

Notes: Unfortunately, we can not do this time because of the missing match in the observation period. But we can do it late when better sample becomes available.

**Caveat for this group of regressions:**

Constrained with the observation availability, our growth rate is measured for period 1999-2002 and other variables are measure in 2002 (financing source is 2002 for China and 2004 for India). There is a look-ahead bias. Therefore any causality should not be inferred from here.

**Growth of firms** (observations are in only 2002 survey).

	Chinese firms		Indian firms		Chinese & Indian firms	
	Growth of Sales	Growth of Benefits Paid out	Growth of Sales	Growth of Benefits Paid out	Growth of Sales	Growth of Benefits Paid out
Constants	-26.76 (-0.59)	69.59 (3.06)	39.83 (2.20)	12.43 (1.04)	1.84 (0.08)	40.28 (3.41)
Log(firm size)	<b>15.55</b> <b>(2.79)</b>	<b>4.02</b> <b>(2.45)</b>	1.78 (1.03)	2.20 (1.76)	<b>14.31</b> <b>(2.87)</b>	<b>4.82</b> <b>(3.14)</b>
Log(firm age)	<b>-41.22</b> <b>(-2.46)</b>	<b>-29.19</b> <b>(-3.86)</b>	<b>-9.36</b> <b>(-2.34)</b>	<b>-4.74</b> <b>(-2.02)</b>	<b>-42.66</b> <b>(-2.67)</b>	<b>-26.46</b> <b>(-3.97)</b>
Exporters	21.67 (0.63)	16.74 (1.20)	-3.31 (-0.97)	3.92 (1.02)	21.87 (0.65)	15.81 (1.16)
Judicial environment	5.60 (0.71)	0.91 (0.25)	0.38 (0.24)	-0.32 (-0.52)	4.27 (0.56)	1.66 (0.47)
Government efficiency	-13.19 (-1.06)	-6.51 (-1.26)	-2.96 (-1.35)	-0.44 (-0.73)	-14.78 (-1.17)	-5.45 (-1.04)
Official Impact	9.53 (1.07)	2.42 (0.64)	-1.89 (-0.99)	<b>-2.08</b> <b>(-2.39)</b>	8.74 (0.99)	3.02 (0.81)
Private Sector	-4.07 (-0.40)	-5.96 (-0.74)				
Individual/family as the major shareholder			6.11 (1.10)	-12.24 (-1.04)		
Financial firms as the major shareholder			-4.88 (-1.49)	-1.81 (-0.67)		
India *					<b>-10.51</b>	<b>-4.32</b>
Log(firm size)					<b>(-2.46)</b>	<b>(-2.50)</b>
India *					<b>35.69</b>	<b>20.04</b>
Log(firm age)					<b>(2.11)</b>	<b>(2.83)</b>
India *					-27.93	-9.94
Exporters					(-0.82)	(-0.70)
India * Judicial environment					-2.73 (-0.35)	-2.77 (-0.79)
India * Government efficiency					12.98 (1.00)	4.27 (0.80)
India *					-9.83	-5.61
Official Impact					(-1.10)	(-1.50)
# of observations	1259	1233	1099	991	2358	2224
Adjusted R-square	0.02	0.02	0.03	0.03	0.03	0.04

Note: For Judicial, government efficiency, and official impact, I also interact them with size and age respectively. The robust tstats of those interactive variables are not significant. (*Non-robust ones are significant.*)

**Table 16: Summary statistics for surveyed firms in China (as of December 2002)**

The sample includes 17 firms: one from Shanghai, three from Jiangsu Province, and 13 from Zhejiang Province. The sample covers firms in the industry of chemical products (3), fabric making and printing (3), metal products (2), medical and health products (2), realty management (2), auto repairing (1), food processing (1), agriculture product processing (1), electronic products (1), and handcraft and art products (1). Some firms are in multiple business lines.

	<b>Mean</b>	<b>Min</b>	<b>Max</b>	<b>Std. Dev</b>
Age of the firm	11.4	3.00	27.00	6.7
# of employees	1634.3	90.00	5552.00	2107.8
Size (Total Assets in mil. US\$)	55.3	0.60	337.30	82.7
D/E ratio	2.1	0.38	14.95	3.4
Net income (in mil. US\$)	2.5	0.20	9.00	2.8
Return on assets	0.1	0.00	0.34	0.1

**Table 17 Survey Firms (India) – Descriptive Statistics**

The firms in the sample were selected from several industrial parks in the New Delhi (northern India) and Hyderabad (southern India) areas that provided industrially diversified clusters of firms. The clusters include the Mayapuri Industrial Area, Naraina Industrial Area, WHS Kirtinagar cluster in Delhi and Patanchera and Jeedimetla Industrial Development Areas (IDAs), the Katedan Industrial Estate and the Bharat Heavy Electricals Ltd. (BHEL) Ancillary Industrial Estate at Ramachandrapuram in Hyderabad. Interviews were conducted with the owners or top level executives of the firms in the sample. On average an interview took about 45 minutes to complete. The survey contained 36 questions (most with subparts) in four sections. The survey instrument and tabulated results are available at

<http://www.isb.edu/faculty/rajeshchakrabarti/india-survey.zip>.

		<b>New Delhi</b>	<b>Hyderabad</b>	<b>Combined</b>
<b>Number of Observations*</b>		136	76	212
	Max.	85	38	85
<b>Firm Age (years)</b>	Median	21	11	19
	Min.	< 1	< 1	< 1
	Max.	1.1 to 3.3	0.222 to 1.1	1.1 to 3.3
<b>Total Assets (US\$ million)</b>	Median	0.222 to 1.1	< 0.222	0.222 to 1.1
	Min.	< 0.222	< 0.222	< 0.222
	Max.	> 0.222	> 0.222	> 0.222
<b>Sales (US\$ million)</b>	Median	0.0555 to 0.111	0.0555 to 0.111	0.0555 to 0.111
	Min.	< 0.0555	< 0.0555	< 0.0555
	Max.	350	50	350
<b>Number of employees</b>	Median	10	20	10
	Min.	2	7	2

\* Number of interviews made. Numbers of responses to individual questions vary

**Table 18 Survey Firms (India): Reliance on Law**

This table provides evidence on reliance on law by SMEs included in our surveys. For the index, a lower value indicates lower potency of law. The firms have been categorized by sales, number of employees, asset size and age, and classified into different size groups within each category. For each category, the absolute number of respondents in different groups is shown with the percentage of total respondents in parenthesis. Mean (median) indicates the mean (median) value of the index for *all* respondents within a category. The F statistics report results of the tests of the hypothesis that the average value of the index is constant across the different groups within a category.

Category	Value of Reliance on Law Index			
	0	1	2	3
Sales in Rs. million	Number of Observations (percentage)			
	39			
<1	(83.0%)	8 (17.0%)	0	0
	23			
1- 2.5	(85.2%)	4 (14.8%)	0	0
	47			
>2.5	(78.3%)	11 (18.3%)	2 (3.3%)	0
<b>F stat (p value)</b>	<b>0.68 (0.5066)</b>			
Mean (Median)	0.20 (0)			
Number of Observations	134			
Number of Employees	Number of Observations (percentage)			
	30			
<10	(69.8%)	13 (30.2%)	0	0
	17			
10	(81.0%)	4 (19.0%)	0	0
	44			
>10	(89.8%)	3 (6.1%)	2 (4.1%)	0
<b>F stat (p value)</b>	<b>1.15 (0.3216)</b>			
Mean (Median)	0.21 (0)			
Number of Observations	113			
Asset Size in Rs. million	Number of Observations (percentage)			
	40			
<10	(74.1%)	12 (22.2%)	2 (3.7%)	0
	45			
10 to 50	(88.2%)	6 (11.8%)	0	0
	3			
>50	(100.0%)	0	0	0
<b>F stat (p value)</b>	<b>3.82 (0.0534)</b>			

Mean (Median)	0.20 (0)			
Number of Observations	108			
Age in years	Number of Observations (percentage)			
<10	34 (82.9%)	7 (17.1%)	0	0
10 to 20	46 (88.5%)	6 (11.5%)	0	0
20 to 30	15 (71.4%)	5 (23.8%)	1 (4.8%)	0
>30	14 (70.0%)	5 (25.0%)	1 (5.0%)	0
<b>F stat (p value)</b>	<b>0.22 (0.806)</b>			
Mean (Median)	0.20 (0)			
Number of Observations	134			

**Table 19 Survey Firms (India): Legal Deterrence and Non Legal Deterrence**

This table provides evidence on legal and non-legal deterrence for SMEs included in our surveys. For both indices, a lower value indicates a lower deterrence. The firms have been categorized by sales, number of employees, asset size and age, and classified into different size groups within each category. For each category, the absolute number of respondents in different groups is shown with the percentage of total respondents in parenthesis. Mean (median) indicates the mean (median) value of the index for *all* respondents within a category. The *F* statistics report results of the tests of the hypothesis that the average value of the index is constant across the different groups within a category.

Category	Value of Legal Deterrence Index			Value of Non-Legal Deterrence Index		
	1	2	3	< 1	1 to 2	> 2
Sales in Rs. million	Number of Observations (percentage)					
<1	25 (53.2%)	16 (34.0%)	6 (12.8%)	3 (4.2%)	43 (59.7%)	26 (36.1%)
1- 2.5	17 (47.2%)	17 (47.2%)	2 (5.6%)	1 (1.4%)	32 (44.4%)	10 (13.9%)
>2.5	40 (60.6%)	21 (31.8%)	5 (7.6%)	2 (2.8%)	64 (88.9%)	23 (31.9%)
<b>F stat (p value)</b>	<b>0.22 (0.806)</b>			<b>0.82 (.44)</b>		
Mean (Median)	1.53 (1)			2.26(2)		
Number of Observations	149			204		
Number of Employees	Number of Observations (percentage)					
<10	23 (51.1%)	22 (48.9%)	0	2 (2.9%)	42 (61.8%)	24 (35.3%)
10	59 (56.7%)	32 (30.8%)	13 (12.5%)	1 (1.5%)	25 (36.8%)	5 (7.4%)
>10	29 (56.9%)	18 (35.3%)	4 (7.8%)	1 (1.5%)	43 (63.2%)	26 (38.2%)
<b>F stat (p value)</b>	<b>0.63 (0.5347)</b>			<b>2.97(.05)</b>		
Mean (Median)	1.53 (1)			2 (2)		
Number of Observations	200			169		
Asset Size in Rs. million	Number of Observations (percentage)					
<10	33 (56.9%)	17 (29.3%)	8 (13.8%)	1 (1.2%)	60 (71.4%)	23 (27.4%)
10 to 50	30 (48.4%)	29 (46.8%)	3 (4.8%)	3 (3.6%)	48 (57.1%)	23 (27.4%)
>50	2 (50.0%)	1 (25.0%)	1 (25.0%)	0	0	0
<b>F stat (p value)</b>	<b>0.39 (0.6789)</b>			<b>.01(.92)</b>		
Mean (Median)	1.56 (1)			2 (2)		
Number of Observations	124			158		
Age in years	Number of Observations (percentage)					
<10	27 (61.4%)	13 (29.5%)	4 (9.1%)	3 (4.5%)	44 (66.7%)	19 (28.8%)
10 to 20	24 (52.2%)	18 (39.1%)	4 (8.7%)	2 (3%)	48 (72.7%)	18 (27.3%)

					28	
20 to 30	14 (45.2%)	13 (41.9%)	4 (12.9%)	1 (1.5%)	(42.4%)	12 (18.2%)
					20	
>30	17 (60.7%)	10 (35.7%)	1 (3.6%)	0	(30.3%)	10 (15.2%)
<b>F stat (p value)</b>		<b>1.1 (0.3354)</b>			<b>.34(.80)</b>	
Mean (Median)		1.54 (1)			2.26 (2)	
Number of Obs.		149			205	

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**Table 20: Ordered Probit Regressions on the Importance of Informal Financing (India)****Panel A: Proportion of Informal Finance at Start-up Phase**

Regressions are ordered probits. The dependent variable is the proportion of informal finance in start-up phase, divided into 4 categories, with a higher value indicating a higher proportion of informal finance as a percentage of total sources of funds. Numbers in parenthesis are the standard errors for the mean coefficient estimates reported. \*, \*\* and \*\*\* denote statistical significance at 10%, 5% and 1% levels, respectively. Chi-square and *p*-values are reported for every additional variable in the equation.

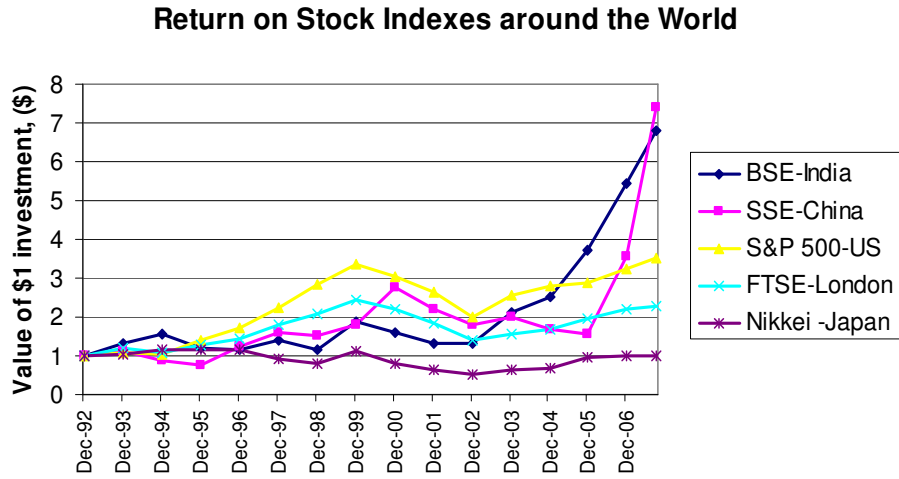
Independent Variables	(1)	(2)	(3)
Index for requirements for formal finance (REQ)	0.1704*** (0.0653)	0.1603** (0.0656)	0.2033*** (0.0777)
Sales Level (SALES)		-0.2805*** (0.0879)	-0.3091*** (0.0975)
Dummy for employees (EMP)			-0.4421** (0.1775)
Number of observations	203	203	193
Chi-square	6.81	10.1700	6.2011
Probability	0.0091	0.0014	0.0128

**Panel B: Difficulty in Accessing Formal Finance in Growth Phase  
(firm age is greater or equal to 5 years)**

Regressions are ordered probits. The dependent variable is the difficulty in accessing formal finance in growth phase, divided into 4 categories, with a higher value indicating a greater difficulty. Numbers in parenthesis are the standard errors for the mean coefficient estimates reported. \*, \*\* and \*\*\* denote statistical significance at 10%, 5% and 1% levels, respectively. Chi-square and *p*-values are reported for every additional variable in the equation.

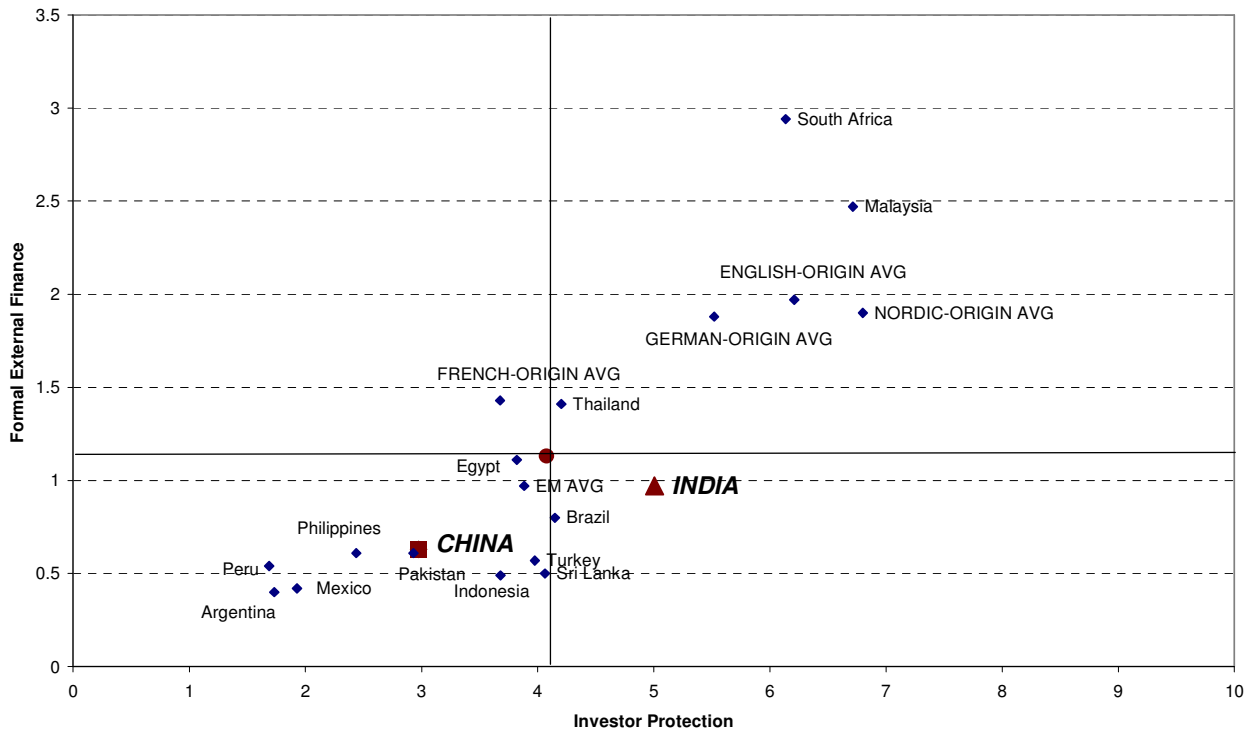
Independent Variables	(1)	(2)	(3)	(4)	(5)
Requirements for formal finance (REQ)	-0.0266 (0.0781)	-0.0279 (0.0781)	-0.0766 (0.0896)	-0.0739 (0.0899)	-0.1696* (0.0940)
Sales Level (SALES)		-0.1995* (0.1044)	-0.1524 (0.1129)	-0.1588 (0.1137)	-0.0259 (0.1208)
Dummy for employees (EMP)			-0.3608* (0.2064)	-0.3595* (0.2064)	-0.2298 (0.2166)
Log of age (LAGE)				0.1056 (0.2147)	-0.0138 (0.2251)
Proportion of Informal Finance in start-up phase (PIFS)					0.6791*** (0.1472)
Number of observations	159	159	134	134	134
Chi-square	0.1158	3.6495	3.0578	0.2421	21.2840
Probability	0.7336	0.0561	0.0804	0.6227	<.0001

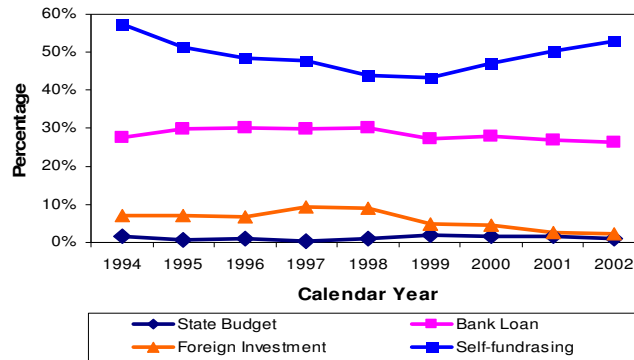
**Figure 1 A Comparison of Performance of Stock Indexes (“Buy and Hold” returns during Dec. 1992 and Sep. 2007)**



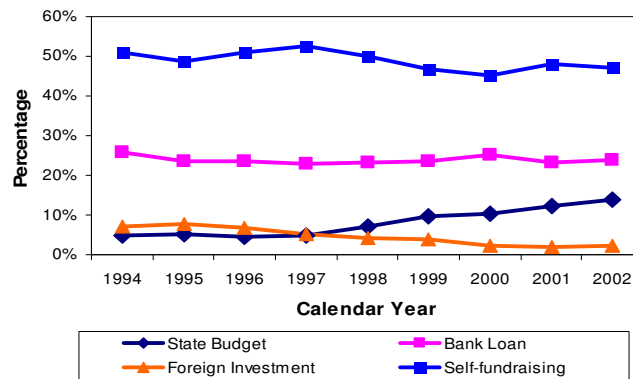
**Figure 2 Investor Protection and External Financing – International Comparison**

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.

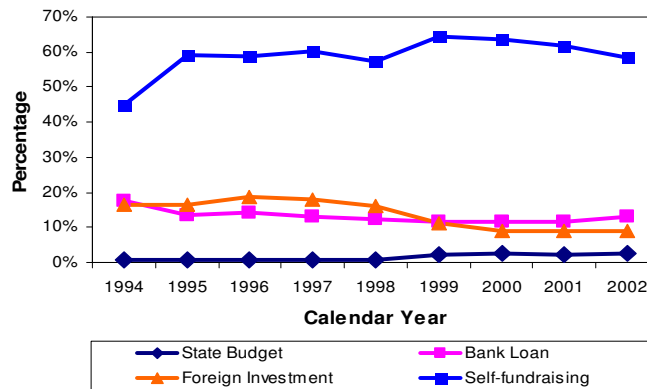




**Figure 3-A. Financing sources for the Listed Sector**

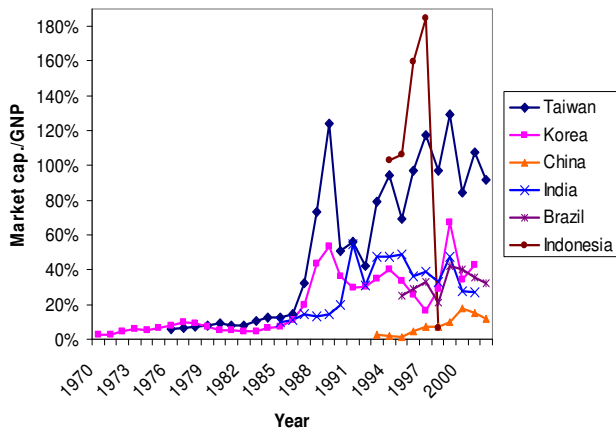


**Figure 3-B. Financing sources for the State Sector**

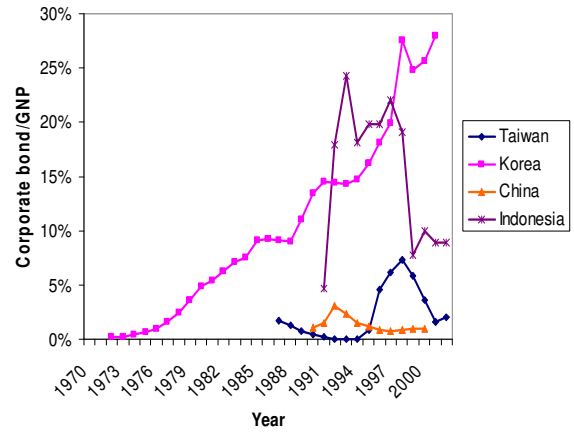


**Figure 3-C. Financing sources for the Private Sector**

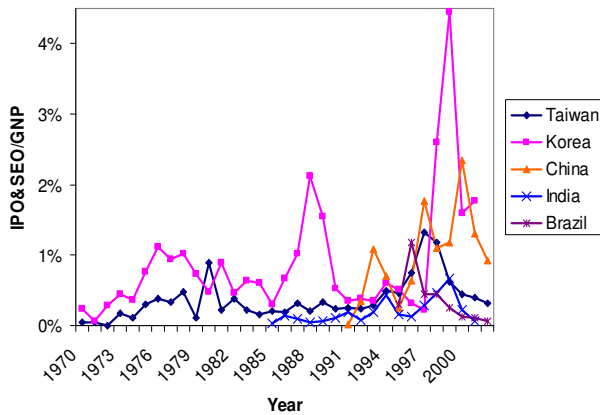
Figures 3-A, 3-B, and 3-C examine financing sources (for the investment of fixed assets) of different types of firms in China. In all three figures, each of the four connected lines represents the importance of a particular financing channel over the time period 1994 to 2002, measured by the percentage of firms' total financing coming from this channel. Figure 3-A presents financing sources for firms in the Listed Sector (publicly listed and traded), Figure 3-B presents results for firms in the State Sector (state-owned firms), while Figure 3-C presents results for firms in the Private Sector (all other firms).



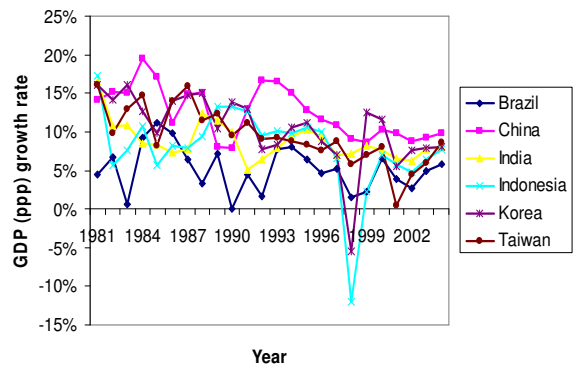
**Figure 4-A. Stock market capitalization**



**Figure 4-B. Corporate bond market**



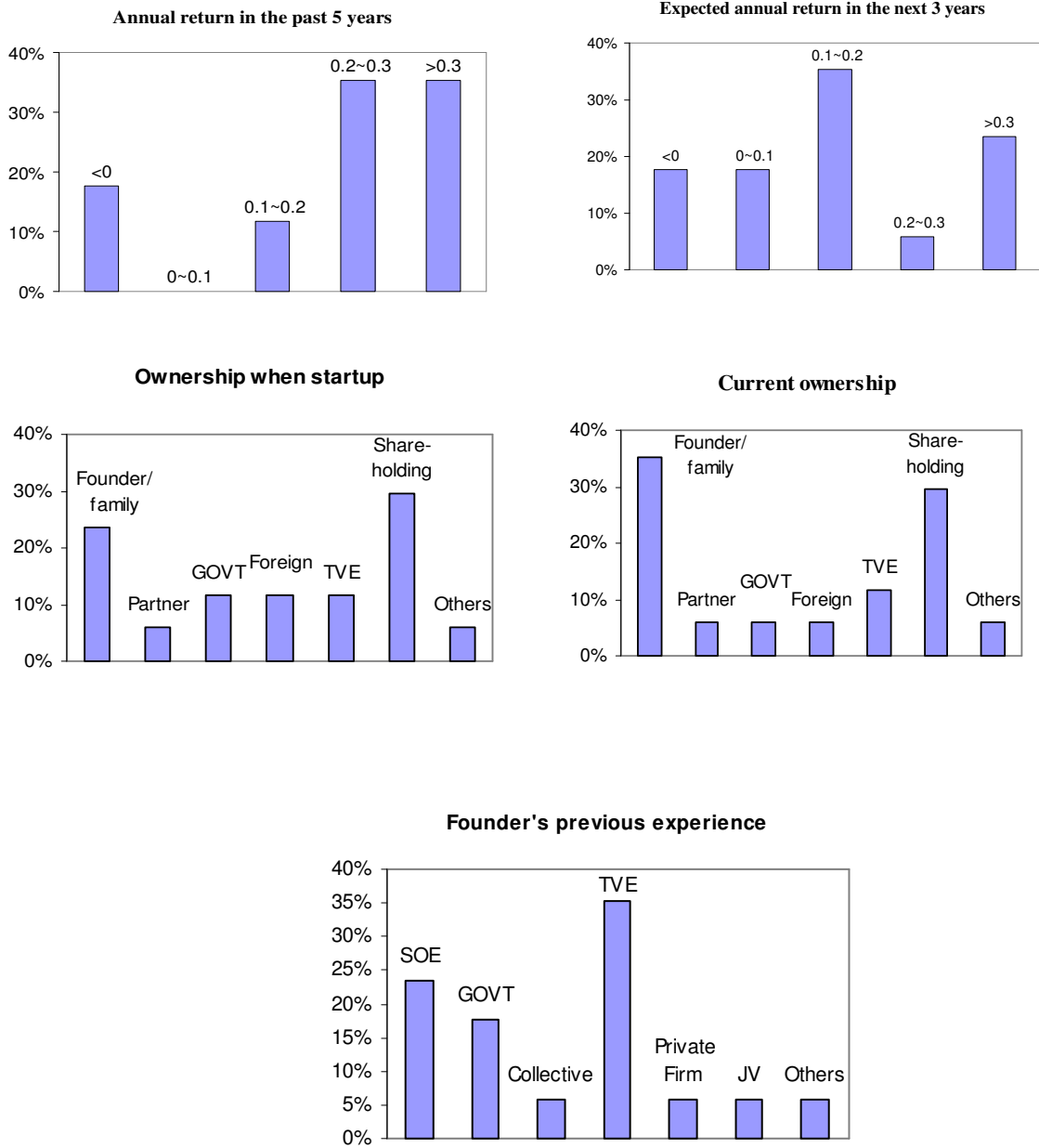
**Figure 4-C. Equity issuance**



**Figure 4-D. GDP growth rates**

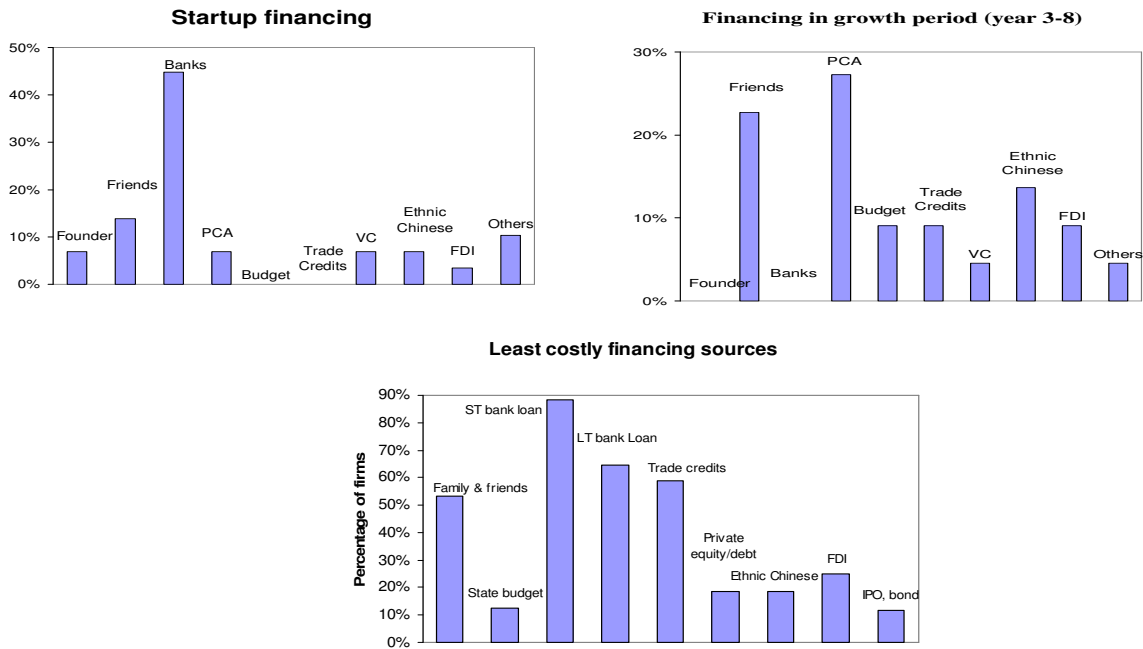
**Figure 4. Comparing financing channels in emerging economies**

Figure 4-A compares the time series of stock market capitalization/GNP ratios across six emerging economies, Figure 4-B presents the time series of the ratios of the amount of corporate bonds outstanding /GNP, while Figure 4-C presents the time series of IPO and SEO issuance (in a given year)/GNP. The calculations for all the ratios in these three figures are based on local currencies of a country in a given year. Figure 4-D compares time series of the growth rates of GDP, and the growth rates are calculated using PPP-adjusted GDP figures in order to avoid biases caused by different currency policies.

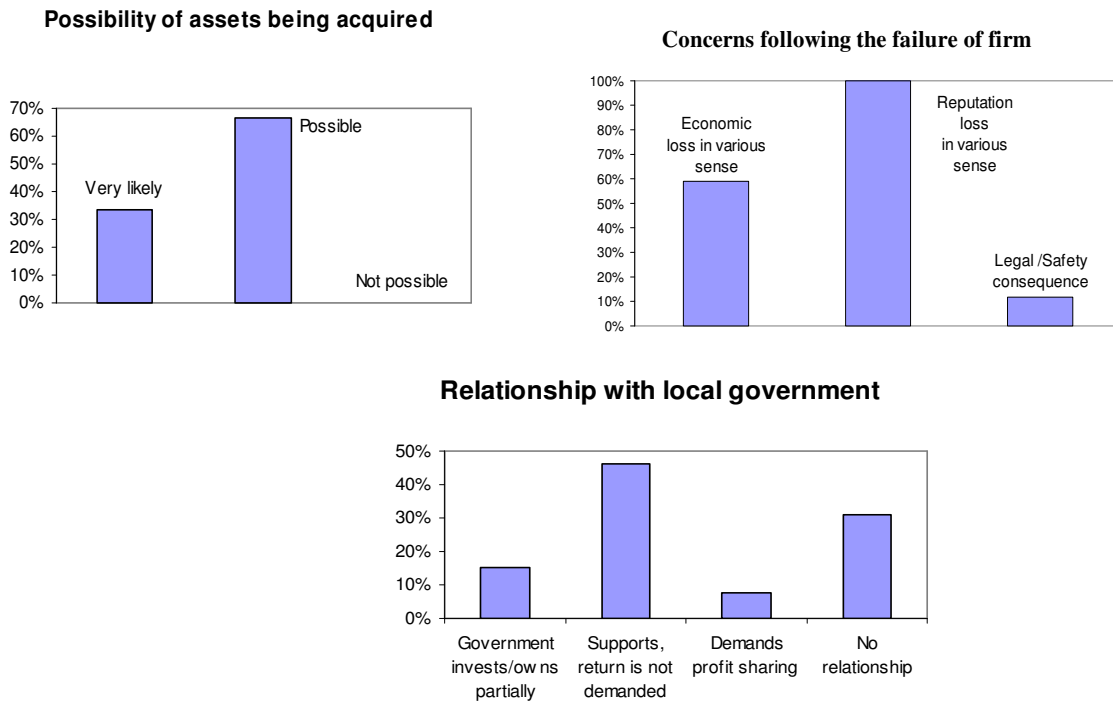


**Figure 5-A Background information on survey firms**

Figure 5-A provides some information on the firms that were surveyed. In all of the above histograms, the vertical axis represents the percentage of firms' managers/founders who provide the same answer for a particular question in the survey. In the bottom three histograms, "GOVT" stands for firms that have local government as the majority owner; while "JV" stands for joint ventures.



**Figure 5-B. Financing channels of survey firms**

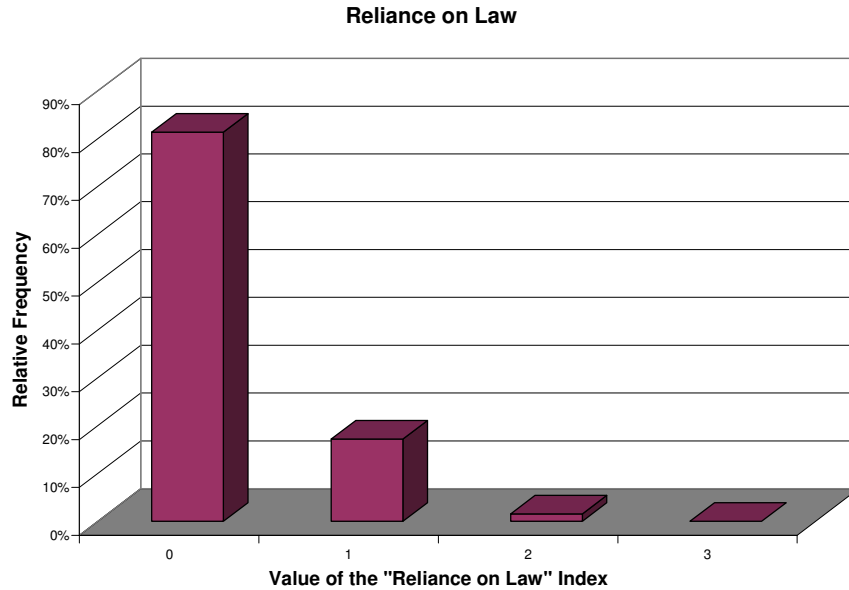


**Figure 5-C. Governance mechanisms of survey firms**

Figure 5-B presents survey results on firms' financing channels: Each bar represents the percentage of firms regards a financing source as very important (25-50%) or extremely important (>50%) during their start-up and growth periods. Notes: PCA=private credit agencies; Budget=state/local budget, and VC=venture capital. Figure 5-C presents results on selected governance mechanisms among these firms.

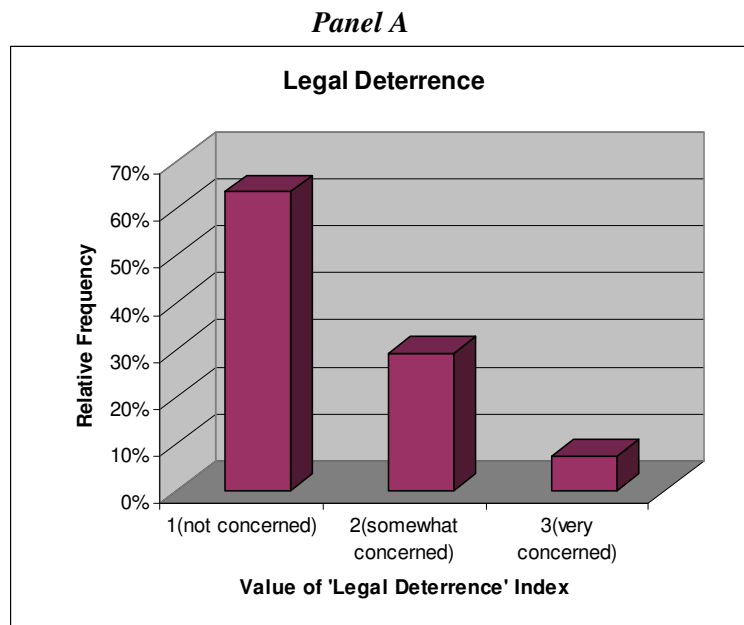
**Figure 6 Effects of the Legal System on Survey Firms (India)**

The “Reliance on Law” (ROL) index combines the responses to three questions in our surveys enquiring about the respondent firm’s preferred action if they faced defaults, breaches of contract and dispute settlements. To form this additive index, we assigned a value of 1 wherever the firm chose to settle matters through courts or other legal mechanisms; and a value of 0 for any other recourse. Thus the value of the ROL index can range between 0 and 3.



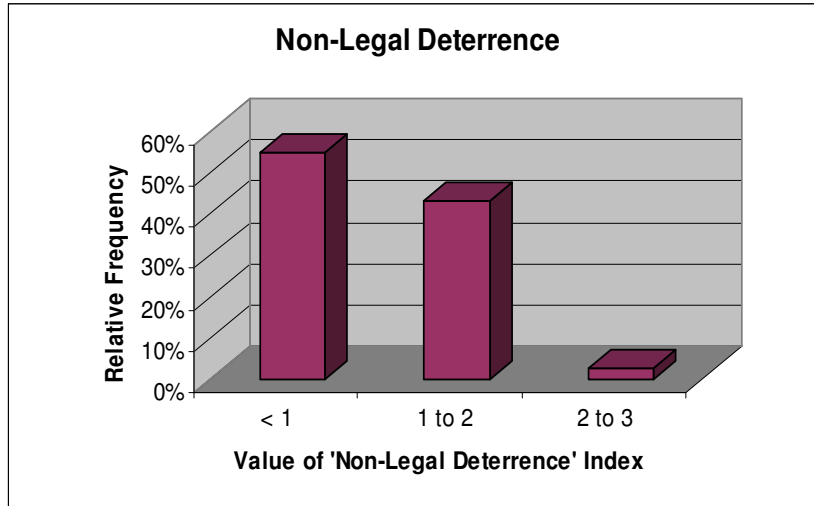
**Figure 7 Legal and Non Legal Deterrence (India)**

Panels A and B show the “Legal Deterrence” (LD) and “Non-Legal Deterrence (NLD)” indices respectively. We construct the LD index by combining the responses to a single question probing the respondents’ concern for legal penalty (being sentenced by court) if *their* own firms were in violation of contracts. The respondents rated their concerns on a 1-3 scale (1= Not concerned at all; 2 = somewhat concerned; 3 = very concerned). Thus the value of the index can range between 1 and 3.



**(Figure 7) Panel B**

We construct the NLD index by using the responses to the same question that is used for the LD index. For this index, the ratings for five non-legal concerns (loss of reputation, loss of business in the same geographic area, loss of business in another geographic area, future financing difficulty, and fear of personal safety) on a 1- 3 scale (1 = not concerned at all; 2 = somewhat concerned; 3 = very concerned) are considered. We average the ranks of the five concerns. Note that not all respondents ranked all the five concerns. Thus, the value of the NLD index ranges from less than 1 to and 3.



**Figure 8 Financing Channels for Surveyed Firms (India)**

This figure highlights the relative importance in the start-up phase and the ease of obtaining funding in the growth stage from formal and alternative sources. Alternative finance includes financing from friends and family and trade credit. Formal finance includes banks, private credit agencies and individuals, government funding and venture capital for the start-up phase and short-term and long-term bank credit, loans from specialized lending institutions like SIDBI and SFC as well as private equity/debt from investors within India. Survey respondents rated each source on a 1- 4 scale (1= least important (extremely difficult and costly to access); 4 = extremely important (very easy and low cost)). The average ratings of sources within the formal and alternative groups are reported in the figure.

