

# Financing Firms in India \*

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## Abstract

This paper uses a single-country setting, India, to examine the complex linkages between legal and business environments, financing channels, and growth patterns of different types of firms. Despite the English common-law origin, a British-style judicial system and a democratic government, Indian firms appear to be beset by weak investor protection in practice and poor legal and government institutions characterized by corruption and inefficiency. With extensive country- and firm-level data sets, including both cross-country and within-India firm samples and our own surveys of small and medium firms, 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

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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.

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.

By contrast, our paper uses a single-country setting, India, to examine the linkages between legal and business environments, financing channels, governance mechanisms, and growth patterns of different types of firms. At the end of 2006, with a population of almost 1.1 billion (the second largest in the world), India had the world's fourth largest economy measured in Purchasing Power Parity (PPP) terms (see Table 1). During the period 1990-2006, India had the fourth highest annual GDP growth rate (6.1%) and the fifth highest per capita GDP growth rate (4.2%) in the world. Unlike most of the existing research, we examine the entire corporate financing system in India, including formal and alternative financing channels at both aggregate and firm levels. We also examine the use of formal legal channels and their substitutes by Indian firms.

We employ three types of large and extensive data sets to conduct our analysis. First, we compare country-level data in India and a large sample of countries studied in the law, finance, and growth literature. Second, we compile a sample of over 2,700 non-financial Indian firms, both large corporations and small and medium enterprises (SMEs), from the Prowess database of the Centre for Monitoring the Indian Economy (CMIE).<sup>2</sup> Finally, to overcome the lack of publicly available firm-level data for the SME sector, we design and conduct two extensive surveys of SME firms, including their ownership structure, financing channels, and governance mechanisms. These surveys cover 212 entrepreneurs and senior executives of SME units located in and around the city of Hyderabad in southern India (76 firms) and the Delhi-Gurgaon area in northern India (136 firms).

While the scope and methodologies of our paper extend the existing literature, our results offer significant new insights on the linkages among law, finance, institutions, and economic growth. First,

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<sup>2</sup> CMIE is a Mumbai-based economic and business information and research organization. Its *Prowess* database provides financial statements, ratio analysis, funds flows, product profiles, returns and risks on the stock markets, etc., for over 9,000 Indian companies.

firm-level evidence from India indicates that strong legal protection is not a necessary condition for conducting business as long as there exist effective, non-legal ‘institutional’ substitutes. 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 otherwise. 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 preferred not to seek legal

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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.

recourse in any situation, including customer defaults, breaches of contract, or commercial disputes. 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.

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

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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.

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 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, within India, 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.

A particular advantage of conducting a comprehensive within-country analysis such as ours is to reveal significant variations in firms' choices of legal and financing methods. Most of the cross-country studies in the law, finance, and growth literature only examine large (and publicly listed) firms and do not consider (possibly) considerable differences among corporate sectors in a given country. Our empirical tests indicate that small firms in India find formal legal and financing channels relatively inaccessible, but they effectively substitute non-legal mechanisms for legal recourses and alternative finance for formal finance. Interestingly, they also achieve higher growth rates.

Fourth, proponents of institutional theories of capital market development argue that the political economy costs of improving the formal institutions (and perhaps the legal system) could be high, which in turn can slow down or reverse economic growth in the long run (e.g., Rajan and Zingales (2003b); Acemoglu and Johnson (2005)). Conceivably, these costs could be significantly higher for emerging countries in their early stages of growth.<sup>6</sup> In this regard, our evidence shows that most Indian firms

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<sup>6</sup> For example, DMS (2007) find that, despite apparent significant economic benefits from reform, there is very little time variation of creditor rights over the past 25 years around the globe.

operate outside the formal legal system and institutions, perhaps minimizing potential political economy costs, and that high economic growth is still possible without well-functioning formal institutions.

Recently, other single-country studies have helped us better understand the complex connections among law, institutions, and finance in a given country.<sup>7</sup> In particular, Allen, Qian, and Qian (hereafter AQQ (2005)) note that China, one of the largest and fastest growing economies in the world despite its poor legal and financial infrastructure and a corrupt and autocratic government, is an important counterexample to the law, finance, and growth literature. The authors find that alternative financing channels and informal governance mechanisms have supported the growth of the Private Sector in China, the fastest growing sector in the country, though the law-finance-growth nexus appears to apply to the other sectors of the economy.

India presents a distinctly different case from China. 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. Based on the British judicial system, India's formal legal system dates back more than two centuries. State Bank of India, the largest commercial bank in the country in terms of deposits as well as assets, is over two hundred years old and thriving. The Bombay Stock Exchange (BSE), at 130 years, is the oldest in Asia and is currently one of the two major exchanges in India. Yet, Indian firms in general, and the smaller firms in particular, do not appear to fit the predictions of the law, finance, and growth literature.

The rest of the paper is organized as follows. Section II presents some aggregate economy-level evidence on law, finance, and institutions in India and other countries and examines the size of formal (external) financing in relation to the level of investor protection and quality of legal institutions. Section III uses firm-level evidence from the Prowess sample to examine similar issues, but goes farther and

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<sup>7</sup> For example, Franks et al. (2005) study the evolution of investor protection, equity financing, and corporate ownership in the U.K. over the 20<sup>th</sup> century and conclude that formal regulations had little impact on equity issues and dispersion of ownership and that financial development in the U.K. relied more on informal relations of trust.

analyzes the magnitude and role of alternative financing sources in corporate investments and growth. Using evidence from our surveys of SME firms, Section IV carries the analysis still farther, and presents our results 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 V presents our conclusions. Appendix A explains the special variables used in the paper.

## **II. 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>8</sup>

## II.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

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<sup>8</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.

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 for the other emerging economies (3.60).

To assess the efficiency and effectiveness of the legal system for contract enforcement, we use two measures. First, by the legal formalism index (DLLS (2003)), a measure of the level of intervention in the country's judicial process on a 0-7 scale whereby a lower score is more desirable, 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>9</sup>

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.

## **II.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

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<sup>9</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%.

(as of 2005) included in Table 2.<sup>10</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>11</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 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

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<sup>10</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>11</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).

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>12</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

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<sup>12</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.

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.

### **II.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>13</sup>, and the vertical axis indicates the (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

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<sup>13</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 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.

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.

### **III. 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>14</sup> In terms of capital base, (organized) non-state sectors have been growing 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>15</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>16</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

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<sup>14</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.

<sup>15</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>16</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.

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.

### **III.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:

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.

### III.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>17</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 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

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<sup>17</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.

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>18</sup> Other recent studies have also found evidence of “under-lending” by Indian banks to the corporate sector.<sup>19</sup> It is a

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<sup>18</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>19</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) 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.

system-wide feature, indicating that companies cannot receive adequate credit, not just from a single bank but from the banking system in general.<sup>20</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>21</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

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<sup>20</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>21</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.

used by LLSV to compute country financial performance indicators is followed.<sup>22</sup> Note that in the table only the figures for large Indian enterprises should be compared 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>23</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

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<sup>22</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 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>23</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).

SME's. This finding is also consistent with what we have seen from our analysis in Table 6.

### **III.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>24</sup> LLSV (2000b) find that firms in countries with poor protection of outside shareholders tend to have low dividend payout ratios attributable to severe 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).

### **III.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.

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<sup>24</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.

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>25</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 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.

### **III.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

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<sup>25</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.

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.

### **III.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>26</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.

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<sup>26</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.

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

### IV.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>27</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,

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<sup>27</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.

with a more or less continuous distribution of firms started in the 1958 to 2005 period. Table 10 presents descriptive statistics for the firms in our survey.

## **IV.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 III above (see Table 8). About 70% of the businesses had *unlimited* liability. When asked how the owner planned to protect 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”.

## **IV.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 3 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 11. 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>28</sup>

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

The inverse of reliance on law that determines whether a firm seeks legal recourse to redress a

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<sup>28</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.

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 4 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 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 12 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.

#### **IV.4 Financial Environment**

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

The picture of the legal environment for the SME sector in section IV.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>29</sup>

Figure 5 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>30</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

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<sup>29</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>30</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)).

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***

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>31</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>32</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

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<sup>31</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>32</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:  $[(2+3+4)/3]$ .

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>33</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 13 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 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>34</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

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<sup>33</sup> Our data on the proportion of alternative finance are categorical rather than continuous, and hence we use Ordered Probit regressions.

<sup>34</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.

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>35</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, 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.

#### **IV.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

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<sup>35</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.

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.

#### **IV.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>36</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 with weak investor protection.<sup>37</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

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<sup>36</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.

<sup>37</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)).

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.

## **V. Concluding Observations**

One of the largest and fastest growing economies in the world, India 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. In this paper, 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 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. In particular, we have considered the entire corporate financing system in India. In scope as well as methodologies, our paper extends the existing law, finance, and growth literature.

The paper also contributes new insights. 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.

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 have also supported the growth of firms in other economies where formal mechanisms are ineffective. AQQ (2005) have found similar results in China. 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.

## Appendix

### Indices and variables based on survey data

1. **Proportion of Alternative Finance (PAF):** This is an average index formed from the responses to the question asking the firm to indicate the proportion of various forms of finance in the total sources of funds, by ranking the sources on a scale of 1 to 4 (1=least important, 4=very important). These rankings in order of importance reflect the underlying proportion of the various sources to total sources of finance. We average the ranks of family and friends and trade credit to form the index of proportion of informal finance. The index ranges from 1 to 4, with higher values indicating a greater proportion of informal finance to total sources of funds.
2. **Index for requirements for formal finance (REQ):** To construct this index, we combine the responses to the question asking the 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 and 0 indicating no requirement at all. A higher value of this index therefore, represents greater requirements for formal finance.
3. **Index for difficulty in accessing formal finance (DIFF):** For this index we combine the responses to the question asking the firm to assess the level of difficulty in accessing (i) short-term bank loans (ii) long-term bank loans (iii) loans from specialized institutions such as SIDBI and SFC's. The respondent was asked to rank these three independently on a scale of 1 to 4, (1=very easy, 4=very difficult). We form an average index from the rankings, the index ranging from 1 to 4 for each firm. E.g if the firm ranked (i) as 2, (ii) as 3 and (iii) as 4, the index of difficulty in accessing formal finance for this firm is  $3 = [(2+3+4)/3]$ . A higher value of this index indicates a greater difficulty in accessing finance from banks and specialized institutions.
4. **Level of sales (SALES):** The firms in our sample fall under five levels of sales. We group these firms with respect to the median sales into three categories viz, (1) below median sales, (2) median sales and (3) above median sales. Thus the variable has three categories from 1 to 3, a higher number indicating a higher level of sales.
5. **Category of employee size (EMP):** We group the firms with respect to the median number of employees into three categories viz, (1) below median number of employees, (2) median number of employees and (3) above median number of employees. Thus this variable has three categories from 1 to 3, a higher number indicating a higher number of employees.
6. **Reliance on Law (ROL) Index:** To construct this index we combine the responses to three questions asking the firm's recourse in case of defaults, breach of contract (by counter-parties) and dispute settlements. The respondents were given various options to choose from, ranging from negotiations among the parties to legal recourse. 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 adding up the responses to all three questions, the minimum value of the index could be 0: this would happen when the firm did not resort to courts in any of the three questions asked. The maximum value could be 3 and this would happen if the firm chose to settle matters legally in all three questions. Thus the value of the index can range between 0 and 3.
7. **Legal Deterrence (LD) Index:** We construct this 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 "Legal Deterrence" Index can range between 1 and 3.
8. **Non-Legal (NLD) Index:** We construct this 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.

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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	China	10.2%	China	9.2%
2	Japan	4,367	China	9,984	Vietnam	7.6%	Vietnam	5.9%
3	Germany	2,897	Japan	4,171	Malaysia	6.2%	S. Korea	4.8%
4	China	2,630	<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 India and LLSV Country Groups</i>							
<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	0.60	23.60
Nordic-origin Ave.	1.75	3.80	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>	16.00
<i>Panel B Other Large Emerging Markets (EMs)</i>							
Argentina (F)	1	2	2.9	5.49	10.31	0.5	N/a
Brazil (F)	1	5	3.3	3.83	11.43	0.25	N/a
China	2	1	3.3	3.4	N/a	N/a	N/a
Egypt (F)	2	3	3.3	3.6	10.14	0.5	N/a
Indonesia (F)	2	4	2.4	3.88	8.37	0.5	18.3
Korea (South)(G)	3	4.5	5.1	3.33	12.24	0.75	26.8
Malaysia (E)	3	5	5	3.21	13.82	0.92	14.8
Mexico (F)	0	3	3.3	4.82	10.79	0.58	N/a
Pakistan (E)	1	4	2.2	3.74	8.27	0.58	17.8
Peru (F)	0	3.5	3.3	5.42	9.13	0.33	N/a
Philippines (F)	1	4	2.5	5	7.91	0.83	8.8
S. Africa (E)	3	5	4.6	3.68	11.95	0.83	5.6
Sri Lanka (E)	2	4	3.1	3.89	9.68	0.75	N/a
Taiwan (G)	2	3	5.9	3.04	14.26	0.75	22.5
Thailand (E)	2	4	3.6	4.25	10.7	0.92	18.3
Turkey (F)	2	3	3.8	3.49	9.88	0.5	N/a
Average of EMs	1.69	3.63	3.60	4.00	10.59	0.63	16.61

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

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

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

\*\*\*: Financial development variables measure the entire financial system (banking and market sectors combined), and the higher the measure, the larger or more efficient the financial system is. Specifically, "finance activity" is equal to  $\log(\text{total value traded ratio} \times \text{private credit ratio})$ , "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 Comparing the State and Non-state Sectors: 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 <i>all</i> 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 5 Descriptive Statistics of the Prowess Sample of Firms**

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- Manufacturing	Large- Manufacturing	SME- Service	Large- Service	All SMEs	All 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
	Min.	0	0	0	0	0	0	0
<b>Total Assets (\$Million)</b>	Max	81	16,036	67	90,683	81	90,683	90,683
	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
	Min	2	0	0	2	0	0	0

**Table 6 Sources of Funds for 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	
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 7 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>							
<b>Country</b>	English origin average	French origin average	German origin average	Nordic origin average	Sample average	<b>India</b>	
						Large Enterprises	SMEs
Market cap/sales	1.52	0.72	1.39	0.98	0.81	0.25	0.49
Market cap/cash flow	15.3	-2.96	13.94	-41.52	1.05	2.54	2.43
Debt**/sales	0.38	0.11	0.8	0.24	0.12	0.27	0.06
Debt/cash flow	0.99	2.15	-0.5	-39.76	0.04	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 8 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
China (Allen, Qian, Qian 2005)		0.4	60.0	13.6	1.8	24.2
<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 9 Comparing Growth Rates of Non-financial firms (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	0.1308*** (0.00684)	0.1296*** (0.00719)	0.3410*** (0.02993)	0.3276*** (0.02907)
Scale	-0.0462*** (0.00991)	-0.0462*** (0.00992)	-0.02422** (0.01026)	-0.0402*** (0.01005)
Industry		0.0074 (0.01352)	0.0040 (0.01338)	-0.0054 (0.01301)
Log of age (Lage)			-0.0670*** (0.00922)	-0.0379*** (0.00927)
Assets Turnover				-0.0731*** (0.00604)
Number of observations	2,365	2,365	2,365	2,365
R-squared	0.0091	0.0092	0.0309	0.0875

**Table 10 Survey Firms – 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
<b>Firm Age (years)</b>	Max.	85	38	85
	Median	21	11	19
	Min.	< 1	< 1	< 1
<b>Total Assets (US\$ million)</b>	Max.	1.1 to 3.3	0.222 to 1.1	1.1 to 3.3
	Median	0.222 to 1.1	< 0.222	0.222 to 1.1
	Min.	< 0.222	< 0.222	< 0.222
<b>Sales (US\$ million)</b>	Max.	> 0.222	> 0.222	> 0.222
	Median	0.0555 to 0.111	0.0555 to 0.111	0.0555 to 0.111
	Min.	< 0.0555	< 0.0555	< 0.0555
<b>Number of employees</b>	Max.	350	50	350
	Median	10	20	10
	Min.	2	7	2

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

**Table 11 Survey Firms: 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)			
<1	39 (83.0%)	8 (17.0%)	0	0
1- 2.5	23 (85.2%)	4 (14.8%)	0	0
>2.5	47 (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)			
<10	30 (69.8%)	13 (30.2%)	0	0
10	17 (81.0%)	4 (19.0%)	0	0
>10	44 (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)			
<10	40 (74.1%)	12 (22.2%)	2 (3.7%)	0
10 to 50	45 (88.2%)	6 (11.8%)	0	0
>50	3 (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 12 Survey Firms: 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%)
20 to 30	14 (45.2%)	13 (41.9%)	4 (12.9%)	1 (1.5%)	28 (42.4%)	12 (18.2%)
>30	17 (60.7%)	10 (35.7%)	1 (3.6%)	0	20 (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		

**Table 13 Ordered Probit Regressions on the Importance of Informal Financing**

**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.

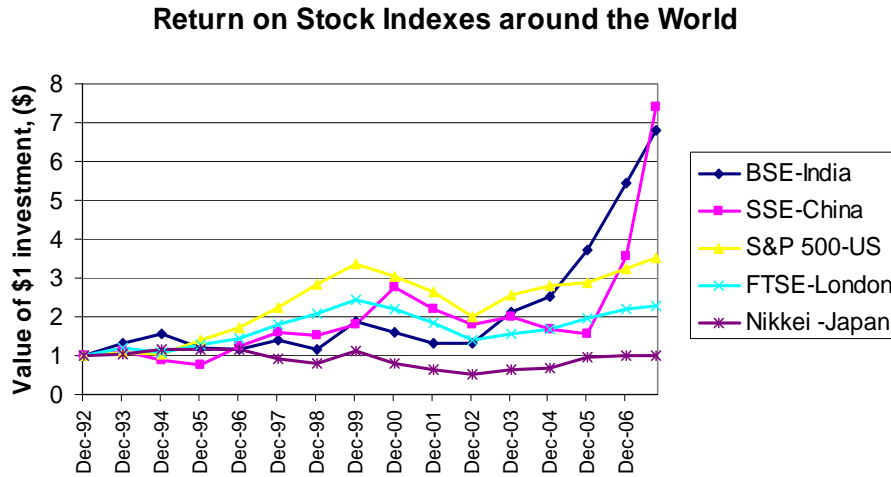
Independent Variables	(1)	(2)	(3)
Index for requirements for formal finance (REQ)	0.1704*** (0.0653)	0.1603** (0.0656)	0.2033*** (0.0777)
Sales Level (SALES)		-0.2805*** (0.0879)	-0.3091*** (0.0975)
Dummy for employees (EMP)			-0.4421** (0.1775)
Number of observations	203	203	193
Chi-square	6.81	10.1700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

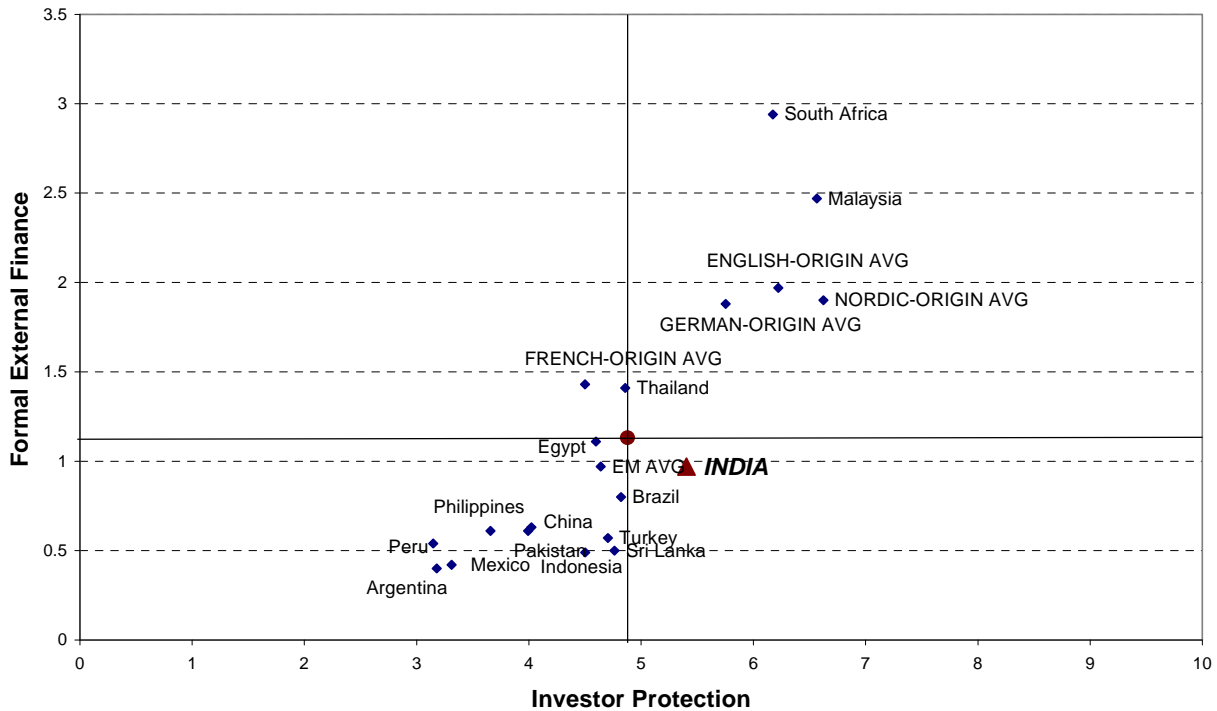
Independent Variables	(1)	(2)	(3)	(4)	(5)
Requirements for formal finance (REQ)	-0.0266 (0.0781)	-0.0279 (0.0781)	-0.0766 (0.0896)	-0.0739 (0.0899)	-0.1696* (0.0940)
Sales Level (SALES)		-0.1995* (0.1044)	-0.1524 (0.1129)	-0.1588 (0.1137)	-0.0259 (0.1208)
Dummy for employees (EMP)			-0.3608* (0.2064)	-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)**



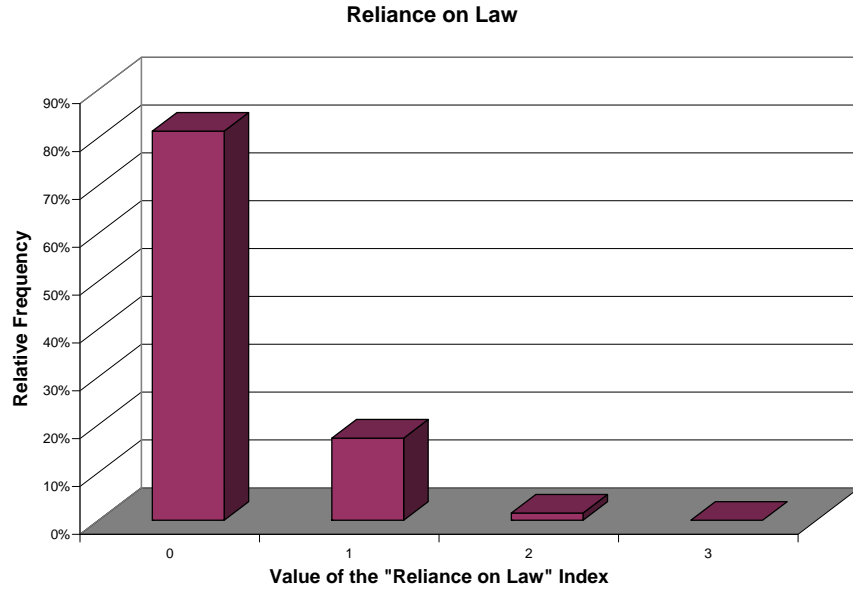
**Figure 2 Investor Protection and External Financing – International Comparison**

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 rescaled 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 Effects of the Legal System on Survey Firms**

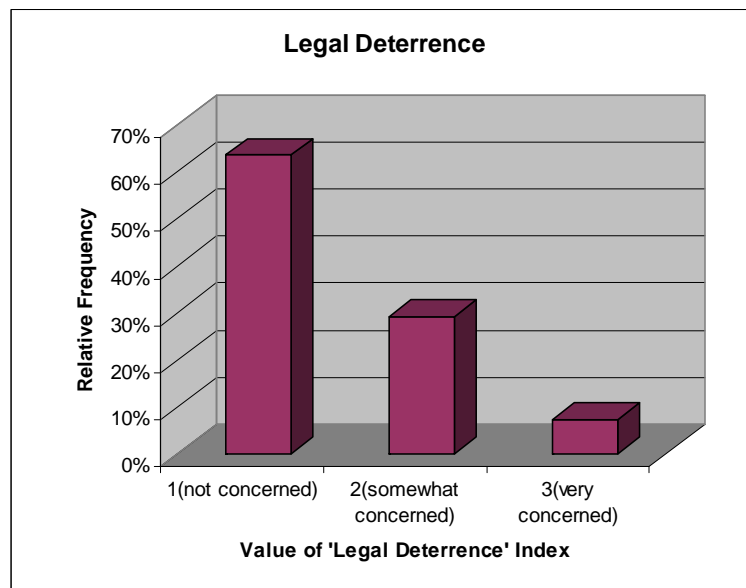
The “Reliance on Law” (ROL) index combines the responses to three questions in our surveys enquiring about the respondent firm’s preferred action if they faced defaults, breaches of contract and dispute settlements. To form this additive index, we assigned a value of 1 wherever the firm chose to settle 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 4 Legal and Non Legal Deterrence**

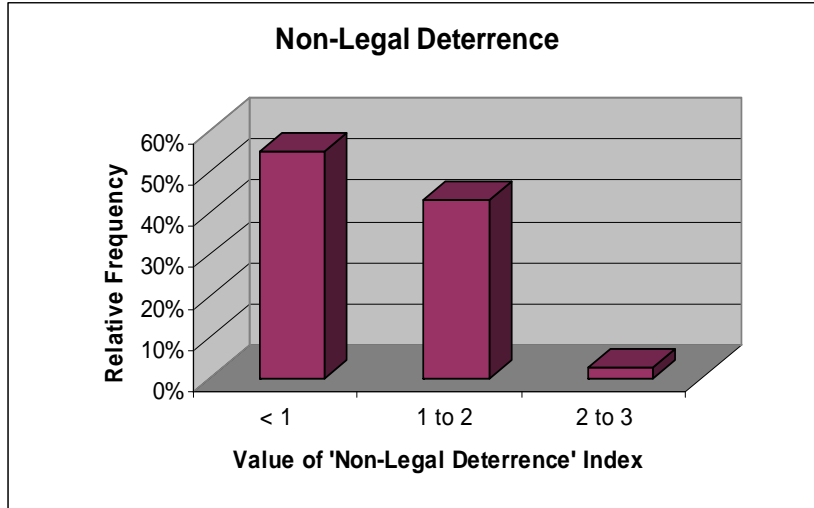
Panels A and B show the “Legal Deterrence” (LD) and “Non-Legal Deterrence (NLD)” indices respectively. We construct the LD index by combining the responses to a single question probing the respondents’ concern for legal penalty (being sentenced by court) if *their* own firms were in violation of contracts. 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.

*Panel A*



**(Figure 4) 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 5 Financing Channels for Survey Firms**

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.

