

Financing Firms in India *

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Abstract

With extensive cross-country datasets and India firm samples, as well as our own surveys of small and medium firms, we examine the legal and business environments, financing channels, and growth patterns of different types of firms in India. Despite the English common-law origin and a British-style judicial system, Indian firms face weak investor protection in practice and poor institutions characterized by corruption and inefficiency. Alternative finance, including financing from all non-bank, non-market sources, and generally backed by non-legal mechanisms, constitutes the most important form of *external* finance. Bank loans provide the second most important external financing source. Firms with access to bank or market finance are *not* associated with higher growth rates. Our results indicate that bank and market finance is not superior to alternative finance in fast-growing economies such as India.

Keywords: India, banks, markets, alternative finance, growth.

JEL Classifications: O5; K0; G0.

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I. Introduction

Understanding mechanisms that promote sustainable long-term economic growth has long been one of the central missions for economists. During the past few decades, researchers have significantly advanced our knowledge by linking growth to the strength of legal protection of investors, effectiveness of institutions and the advancement of the financial system that includes a stock market and banking sector. Despite many cross-country studies, whether developing law, legal institutions, banks and markets is a necessary condition for economic growth remains an open question. Many studies accord each country in their sample an equal weight. Compared to large and diverse countries (e.g., India), small homogeneous countries (e.g., Singapore) may have more effective legal and financial institutions because they can be tailored to the needs of the domestic economy at relatively low costs. Moreover, most firm-level studies examine only large, publicly listed firms in each sample country and focus on financing channels through banks and markets. Backed by legal institutions (law and courts), banks and markets are more accessible to large and listed firms than to small and private firms in most countries. This approach thus obscures possibly considerable variations among corporate sectors and firms, and ignores other financing and alternative options to the legal system. Since in developing countries it is the small and medium firms that contribute most of the economic growth (e.g., Beck, Demirgüç-Kunt and Levine (2005)), we cannot generalize the importance of legal systems, banks and financial markets to all countries, especially large and diverse countries, based on results from a small number of large and listed firms (e.g., Holderness (2008a, b)).

In contrast to most existing research, our paper uses a single-country setting, India, one of the largest and fastest growing economies in the world, and provides a comprehensive examination of the complex linkages among legal and business environments, financing channels and growth patterns of different types of firms. We find substantial variations between large listed firms and small private firms, justifying our within-country approach. We also find that alternative finance, defined as financing from all non-bank, non-market sources, constitutes the most important form of *external* finance. Generally

operating outside formal institutions, this form of finance is backed by alternative mechanisms such as reputation, relationships and trust. Bank loans serve as the second most important form of external finance, while financial markets have played a limited role in financing the growth of Indian firms. Most existing research (e.g., Demirgüç-Kunt and Maksimovic (1998); Beck et al. (2005)) characterizes the role of alternative finance as “picking up the slack” of bank and market finance, and thus it is more costly. Contrary to previous results, we find that firms’ access to bank finance is *not* associated with higher growth rates. This result, however, is consistent with new theories (e.g., Allen and Qian (2008)) arguing that alternative finance, backed by alternative mechanisms, may have advantages compared to bank and market finance, backed by legal institutions, in fast-growing developing economies such as India.

We employ three types of data sets to conduct our analyses. We compare country-level data in India and a large sample of countries. We also compile a large sample of 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).¹ Finally, to overcome the lack of publicly available data for the SME sector, especially private firms, we also 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).

Our analyses offer the first in-depth comparison on the roles of bank and market finance, along with legal mechanisms, versus alternative finance and nonlegal mechanisms, in supporting economic growth. We have two main findings. First, taking all the firms from the *Prowess* sample together, we find that internal finance accounts for 45% of total (annual) financing, while alternative finance accounts for 30% of firms’ total financing. Small and unlisted firms rely on alternative (internal) finance for a much greater (smaller) proportion of their total funding needs. On the other hand, our aggregate evidence shows that the size of banking sector and financial markets is small relative to the size of the Indian

¹ CMIE is a Mumbai-based economic and business information and research organization. Its *Prowess* database provides financial statements, funds flows and product profiles for both large (listed) and small (unlisted) Indian companies.

economy. Consistent with this finding, the *Prowess* sample indicates that Indian firms obtain 18.2% of their total financing from banks and only 6.5% from financial markets per year. Our survey evidence demonstrates how alternative finance works. Small firms rely mostly on alternative finance, such as funds from friends, families, and business partners, and trade credits, often without a written contract, to fund their investments, operations, and growth. About a third of the survey respondents find bank finance costly and difficult to obtain. However, we also find evidence that the reliance on alternative finance persists for years beyond the start-up phase, suggesting that such sources may be the preferred mode of financing even as firms mature and bank and market finance becomes more accessible.

It is widely accepted that well-functioning financial markets depend on sound legal and government institutions.² With its English common-law origin, legal protection of investors *by the law* in India is one of the strongest in the world. Moreover, India has had a British-style judicial system and a democratic government for a long time. However, our evidence paints a different picture of investor protection *in practice*. Based on widely used measures, the effective level of investor protection and the quality of legal institutions in India is far below the average for English-origin countries, and only slightly higher than the French-origin countries and other large emerging economies.³ The wide gap between investor protection on paper and in practice can be attributed to a slow and inefficient legal system and government corruption in India.⁴ Hence, one reason for the limited role of financial markets in the Indian economy is the lack of effective legal and other supportive institutions in practice.

Our empirical tests using the *Prowess* sample confirm poor investor protection and legal institutions. Indian firms have much lower dividend payout and valuation (as measured by market-to-

² For example, the law and finance literature (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 investor protection is correlated with better institutions and financial and economic ‘outcomes.’ India had a perfect score on the Creditor Rights index (4 out of 4) based on the Company’s Act (1956) and LLSV (1998); its score of 5 out of 6 on the Anti-Director Rights index is the highest among more than 100 countries studied in Djankov, La Porta, Lopez-de-Silanes, and Shleifer (DLS (2008)).

³ Other studies also document this. DLS (2008) construct anti-self-dealing indexes for more than 100 countries, and India’s score of 0.55 (out of 1) is lower than the average (0.67) of English common-law countries.

⁴ For example, an estimated 25 million cases are pending before the courts in India and it will take more than 300 years to clear the backlog (Bhaskar 2000).

book ratios) than similar firms operating in countries with strong investor protection, but are closer to the firms in countries with weak protection (LLSV (2000b, 2002)). Equity ownership is highly concentrated within the founder's family and/or the controlling shareholder, even among the largest listed firms, similar to firms in other Asian countries (e.g., Claessens, Djankov, and Lang (2000); Claessens, Djankov, Fan, and Lang (2002)). Further, small firms exhibit stronger symptoms of a low investor protection regime. Our surveys indicate that the small firms rarely use the legal system. Over 80% of the respondent firms prefer not to seek legal recourse in situations such as customer defaults, breaches of contract, or commercial disputes. Nonlegal 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.

Our evidence thus far documents the prevalence of alternative institutions and finance in the Indian economy, but an equally important question is whether alternative finance is as conducive as bank or market finance in supporting growth.⁵ The prevailing view is that despite the limited supply of bank and market finance in developing countries, it is the preferred form of finance over alternative finance, and better firms with access to banks and markets grow faster. While this view may be true in developed countries such as the U.S. with advanced institutions, it is unclear the same can be said for developing countries. Recent research on political economy factors (e.g., Rajan and Zingales (2003a,b); Acemoglu and Johnson (2005)) argues that rent-seeking behaviors by interest groups can turn legal institutions into barriers to changes. We expect these problems to be much more severe in developing countries and the costs of building good legal institutions can be enormous.⁶ In this regard, Allen and Qian (2008) argue that in fast growing economies like India, alternative finance, by not using the legal system, can minimize the many costs associated with legal institutions and better adapt to changes than legal institutions. In

⁵ The finance and growth literature suggests that the development of stock markets and banks contributes to a country's economic growth (e.g., McKinnon (1973); King and Levine (1993); Levine and Zervos (1998)). Researchers have strengthened this view with evidence at the industry and firm levels, that the access to market and bank finance has a positive and *causal* impact on firm growth (e.g., Jayaratne and Strahan (1996); Rajan and Zingales (1998)).

⁶ For example, Djankov, McLiesh and Shleifer (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.

addition, while the initial fixed costs of alternative finance such as trade credits are high, once a network of firms, customers and investors is forged, the average costs over an extended period may be lower than the costs of market and bank finance that is based on arms-length relationships (e.g., Burkart et al. (2007); Giannetti and Yu (2007); Kim and Shin (2007)).

With the large panel data set from Prowess (more than 14,000 firms over a ten-year period) we empirically investigate these different views. The null hypothesis, based on the prevailing view, stipulates that firms with access to banks and markets have higher growth rates. Our second main finding is that the positive relation between bank finance and firm growth does *not* hold for Indian firms. In fact, we find a negative and significant relation between firm growth (in sales or assets) and firms' access to markets (listing dummy) and banks (whether a firm has a bank loan during the sample period), after controlling for firm characteristics including location and regional development and correcting for possible survivorship biases due to higher death rates among smaller firms. Since the use of any form of finance is not an exogenous event, we try to control for the possible self-selection bias by employing a two-stage treatment procedure. In the first stage, we examine factors determining whether a firm obtains a bank loan; not surprisingly, large and listed firms have easier access to bank finance. In the second stage, we reexamine firm growth with the inverse Mills ratio obtained from the first stage as an explanatory variable to control for the possible self-selection bias. We continue to find a negative and significant relation between bank finance and firm growth.

Overall, consistent with the 'Coasian view' (1937), alternative finance and institutions arise in an environment with weak institutions and underdeveloped banks and markets and become a vital engine for economic growth in India. Our results also suggest that, contrary to the common belief, alternative finance is not necessarily inferior to market and bank finance in fast-growing emerging economies.

Recently, other single-country studies have helped us better understand the connections among law, institutions, and finance in a given country (see, e.g., Stulz (2005) for a review). 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 governance mechanisms have supported the growth of the Private Sector in China, the fastest growing sector in the country.⁷

India presents a distinctly different case from China. Transiting from a socialist system to a market-based system, China had no 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. Modeled after the British judicial system, India's legal system dates back more than two centuries. State Bank of India, the largest commercial bank, 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, rely more on alternative institutions and finance than banks, markets and legal institutions to fund growth. Similar to China, firms that rely on these alternative mechanisms have growth rates that are as high as or higher than those with easier access to legal institutions, banks and markets.

The rest of the paper is organized as follows. Section II presents aggregate evidence on law and institutions in India and other countries and examines the size of banks and markets. Section III uses the Prowess sample to examine the patterns of Indian firms' ownership, payout, valuation and financing, including the magnitude and role of alternative financing sources in corporate investments. Using our surveys of SME firms, Section IV presents results that the surveyed firms effectively substitute non-legal mechanisms and alternative financing sources for ineffective legal institutions and bank and market financing. Section V examines whether firms' access to banks and markets is associated with higher growth. Finally, Section VI concludes. Appendix A explains the special variables used in the paper.

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

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 financial markets in the developing world, with four functioning stock exchanges (one of them, the BSE, is 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 decade-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. With information from the IMF World Economic Outlook database, Table 1, Panel A presents GDPs of the largest twenty economies based on simple exchange rates and purchasing power parity (PPP), the growth rates in GDPs and per capita GDPs (both in constant prices) during 1990-2007. In 2007, India's PPP-adjusted GDP was the third highest in the world; its annual GDP growth rate of 6.3% during 1990-2007 was also the third highest in the world.⁸ With a population of 1.1 billion (the second largest in the world) at the end of 2007, India is certain to play an increasingly significant role in the world economy in the years to come.

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

⁸ As shown in Panel B, Table 1, the World Bank adjusted its PPP-based estimates of GDP for large emerging countries such as China and India downward in 2008; a third source, the CIA, produces PPP-figures that are in between those from the IMF and the World Bank. See, e.g., Heston (2008), for explanations on the different figures.

accounted for about two-thirds of the total labor force (almost half billion), and over 90% of the labor force worked in the “unorganized sector.”⁹

II.1 Law, Institutions and Business Environment

The most striking fact about India’s legal system is the difference between superior investor protection *de jure* as opposed to inferior protection *de facto*. In Panel A of Table 2, we compare India’s scores along several dimensions of law and institutions with (the simple averages of) sixteen 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). With the exception of China, all the other emerging economies are also included in one of the four LLSV country groups (LLSV (1997, 1998) and others) according to its legal origin (indicated by the letters E, G, and F in the bracket after country name). Comparisons with the four LLSV country groups are included in Panel B of Table 2.

As discussed earlier, with its English common-law origin India provides strong protection for 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) and shareholder rights (5 on a 0-6 scale in DLLS (2008)) are the highest in the world. Even with a revised score of 2 on creditor rights (Djankov, McLiesh and Shleifer, hereafter DMS (2007), based on the Sick Industrial Companies Act of 1985), India still ranks higher than the average for other emerging economies (1.69) and for all the LLSV country groups (1.8, DMS (2007)).

To compare law enforcement and the quality of institutions, we employ five sets of widely used measures in Table 2 as compared to those used in the original work of LLSV (1998). First, corruption is a major systemic problem in many developing countries and is of particular importance to 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

⁹ 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.

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), worse than the average for the other emerging economies (3.60) and much worse than the average for each LLSV country group.

To assess the efficiency and effectiveness of the legal system for contract enforcement, we use two measures. First, the legal formalism index (DLLS (2003)) measures 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 better than the average for the other emerging economies (4.00), and slightly below the average of all LLSV country groups (3.58). Second, the legality index (Berkowitz, Pistor, and Richard (2003)), a more comprehensive measure of the effectiveness of a country's legal institutions than the formalism index, 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. While India's score (11.35) is marginally better than the average for the other emerging economies (10.59), it is appreciably worse than the average for each LLSV country group.

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. India's score of 0.92 is higher (or equal to) than that of all other emerging economies and the average of each LLSV country group, suggesting that Indian firms must disclose a large amount of information. 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 higher than the average for other emerging economies (16.61) as well as the average for all the LLSV country groups (16.00). Therefore, 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. With rampant tax evasion, the shadow economy in India is significant and estimated to be about 23% of GDP.¹⁰ 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 allowed 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)).

II.2 Financial Markets and Banks

Table 3 compares India’s capital markets and financial institutions (as of 2005) with those of the same sixteen emerging economies (as of 2005) included in Table 2 and the four LLSV country groups.¹¹ 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

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

¹¹ 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. The figures for the other emerging countries and for each of the LLSV country groups and for all four groups are *weighted* averages (with the countries’ GDPs in 2005 as the weights).

3.5% in the early 1980's to about 34% in 2003, and then rose sharply to 60% by the end of 2005. However, as shown in Table 3, even at the 2005 level India's ratio is still lower than the average of the other emerging economies (0.65). It is also lower than each of the LLSV country groups, and considerably lower than the average for all the country groups (1.02). 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.¹² The value traded/GDP ratio for India (0.56) is marginally lower than the average of other emerging economies (0.62) and of each LLSV country group, and significantly lower than the average for all four country groups (1.17). 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. Though the bank credit/GDP ratio for India (0.37) is marginally higher than the average ratio for the other emerging economies (0.32), the leading economies in South-east Asia, such as Malaysia and Thailand, have much higher ratios. India's figure is also far below the corresponding figure for every single LLSV country group. 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.

The "structure size" figure for India (0.49) and the average figure for other emerging countries (0.53) are both positive, indicating that total market cap is larger than total bank credit. India's "structure activity" figure is also positive, suggesting that total value traded of the market is larger than bank credit; but the average for other emerging countries is negative. These structure variables also imply that India has a market-dominated system, though this is mainly due to the small amount of bank credit (extended to private sectors) rather than the size of the stock markets. In terms of the relative efficiency of markets vs. banks ("structure efficiency"), India's banks are more efficient than the markets, due to banks' low overhead costs. The degree of relative efficiency of the banks over markets is similar in India (-4.44) and in other emerging economies (the average is -4.19). "Structure regulatory" measures the degree of

¹² We estimate that 45% of the total market capitalization of listed firms is actively traded in India, based on our own calculation of the free float adjustment factor of about 1,000 large firms listed on the BSE.

restrictions placed on commercial banks engaging in firm operations and securities, insurance and real estate markets. Indian banks are more constrained than those in other developing countries and all LLSV country groups. Finally, in terms of the development of the financial system (both banks and markets), India's overall financial market size, measured by "finance activity" and "finance size," is greater than that of the average emerging economy, but much smaller than the average of LLSV country groups.

Based on the evidence, we can conclude that India's stock markets as well as 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.

Since the middle of 2003 through the end of the third quarter of 2007, Indian stock prices appreciated rapidly, with the popular Sensex 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, despite the ongoing global financial crisis, the rise of the Indian equity markets allowed investors to earn a much higher return ("buy and hold return") from investing in the Sensex than from the S&P 500 Index and other major indices in the U.K., Japan, as well as the Shanghai Stock Exchange (SSE) Index in China, during the period of December 1992 to March 2009. Many credit the continuing reforms, steady economic growth, and increasing foreign direct and portfolio investment for the recent explosion in stock prices.¹³ Based on information from the International Organization of Stock Exchanges (<http://www.world-exchanges.org/>), the BSE was the tenth largest stock market in the world in terms of market capitalization at the end of 2007, while the National Stock Exchange (NSE) ranked twelfth. 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 87% 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

¹³ According to the *Reserve Bank of India*, 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. 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. While state-owned banks still dominate the banking sector (and 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 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, as the Herfindahl index (a measure of concentration) for assets and advances dropped 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 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 their counterparts in other Asian economies.

II.3 Financial Sector *vis-à-vis* Investor Protection

Figure 2 plots the size of the external markets (stock markets capitalization and bank credit) in India, the other sixteen emerging economies (from Table 3) and the LLSV country groups (as of 2005), versus the level of *effective* investor protection and quality of legal institutions in the same countries.¹⁴ Though the legal environment in India offers marginally stronger investor protection than the average emerging economy, the external markets are comparable in size. 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 external markets than in the average English-origin country. Compared to the average French-origin country, India provides stronger investor protection but smaller scales for market and bank finance.

The scatter plots in Figure 2 also show a strong and positive connection between the level of investor protection in a country and the size of its external markets, consistent with LLSV (1997, 1998).

¹⁴ The horizontal axis measures overall investor protection in each country, and equals to the aggregate of scores on creditor and shareholder rights, corruption, legal formalism and legality from Table 2 above. Each individual score is normalized on a 0-10 scale and all the scores are totaled, and the total is again normalized on a 0-10 scale. The solid horizontal and vertical lines represent the simple (un-weighted) sample means of all the data points shown in the graph.

However, the figure does not incorporate nonlegal mechanisms to ensure protection, such as threat of loss of reputation or business, or alternative financing sources, including trade credits and family and friends financing, which would allow for a range of other possible outcomes. Moreover, this law and finance figure does not compare economic growth across countries, and thus fails to reflect India's impressive growth records despite weak investor protection in practice and undersized external markets.

We close this section by emphasizing three facts about the Indian economy. First, a large and diverse country, India has had recent success in overall economic growth. Second, despite strong investor protection 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 banking sector and capital markets, their size and role in resource allocation and provision of external financing is small relative to the economy. Overall, aggregate evidence suggests that India's legal system along with financial markets have not played an important role in promoting economic growth, and that most of the results from the existing literature in law, finance and growth have limited relevance for the Indian experience. In the rest of the paper we present micro-level evidence on how Indian firms to use non-legal mechanisms and alternative financing sources to succeed in achieving high growth rates.

III. Indian Corporate Sectors: Firm-level Evidence from the *Prowess* Database

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. Therefore, 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.¹⁵ In terms of capital base, (organized) non-state sectors have been growing faster than the state sector. During 1990-2003, paid-up capital (the product of the number of shares outstanding and the face value of the shares, excluding reserves and surpluses) 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%. By contrast, paid-up capital in non-state corporations has been growing at an annual rate of 21.51%.

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).¹⁶ 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, payout and valuation of firms in manufacturing and services industries. We also examine whether these patterns are different from firms in other countries (LLS (1999); LLSV (1997, 2000, 2002)). 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.

As mentioned earlier, our sample is from the CMIE *Prowess* database and includes both listed and

¹⁵ 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.

¹⁶ Using a sample of 76 countries (India not included), Beck et al. (2005) find a strong association between the importance of SMEs and growth in per capita GDP.

unlisted companies. The raw sample includes more than 14,000 non-financial firms. Table 5 provides a snap shot of some descriptive statistics of the 8,304 firms with data available in 2005. In our subsequent analyses, we classify all the firms into four categories:

1. Large Enterprises in the manufacturing sector (LE-M);
2. Large Enterprises in the services sector (LE-S);
3. Small and Medium Enterprises in the manufacturing sector (SME-M);
4. Small and Medium Enterprises (SMEs) in the services sector (SME-S).

We adopt the definitions of LE vs. SME sectors because they are used widely in the Indian context. To qualify for inclusion in either of the two SME categories, 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. We also redo all of our tests (including those in Section V below) using size sorting based on book assets, and all of our major results continue to hold without the LE-SME classification system.

III.1 Financing Patterns

Examining financing patterns of different types of firms is one of the central goals of the paper. The Prowess database provides detailed information on firms' (annual) internal and external financing channels for an extended period; external financing channels include equity (private and public placements), debt (raised from the markets, banks/institutions, and group companies and promoters), trade credits, and other sources. For all the firms and the four subgroups of firms in our sample (LE-M, SME-M, LE-S, SME-S), we also define and classify all the financing channels into four categories:

- *Internal sources*: net income after dividends + depreciation + provisions or funds set aside;
- *External financing through banks*: debt/loans from banks and other financial institutions;
- *External financing through markets*: equity (stock) and debt (bonds) raised from capital markets;
- *Alternative (external) finance*: equity and debt raised from *private* sources including group companies, promoters and founders, trade credits, and other liabilities.

To fully utilize all the available firm-level data, and to partially control for a possible survivorship bias that may affect firms' financing patterns in certain years (e.g., the last year before a firm goes into

bankruptcy), we include all the firms as long as we have at least one year's data during the five-year period (2001-2005) on the amount raised from all the financing channels. This process yields a total of 12,344 unique firms with financing data available for at least one year during 2001-2005. Table 6 provides evidence on the sources of funds for these firms: Panel A shows financing patterns (using the Prowess definitions) of Large Enterprises as well as the subgroups based on industries (services vs. manufacturing) and listing status (listed vs. unlisted); Panel B does the same for the SME sector; finally, Panel C provides a summary of financing patterns of all firms, the LE and SME sectors, using our own definitions of (four) financing channels.

For a given category of firms, we first take the average of the amount of funds raised from each financing source over the five-year period (2001-2005) for each firm; we then sum this average figure across firms (of the same category) to obtain the total funding (per year) from each source; finally, the reported numbers in the tables represent the *percentage* of total (annual) funding coming from each financing source. Effectively, we adopt a 'value-weighted' approach in that large firms (within each firm group) will carry more weights in the calculations of the importance of a funding source. In each panel of Table 6, we also report median firm size (median of the five-year average of book value of assets of all firms) for each firm group.

Panel A of Table 6 first indicates that large Indian firms obtain 46.6% of their (annual) total financing from internal sources; these sources generate as much as over 60% of all financing for listed manufacturing firms (the largest firm subgroup in terms of median assets) but only 28% of all financing for *unlisted* manufacturers (the smallest firm subgroup). Among external financing channels, equity (private and public placements combined) and debt from banks and institutions each accounts for almost 17% of total financing of large firms. We will differentiate privately raised equity and publicly placed equity in Panel C below when we construct the market finance and alternative finance measures. It appears that unlisted firms (in both manufacturing and services) rely more on bank loans than listed firms. Consistent with aggregate evidence presented before, debt raised from the capital markets (e.g., corporate

bonds) is not an important source of funding even for large firms. Finally, trade credits constitute the third most important source of external financing for large firms (11.2% per year).¹⁷

Panel B indicates that firms in the SME sector have significantly different financing patterns from those in the LE sector. First, internal sources only account for about 15% of total financing for all SMEs but there exists significant variations among subgroups. While unlisted SMEs generate only 11.2% of all funding internally, listed SMEs, which are significantly larger than unlisted SMEs, rely on internal sources for almost 40% of total financing (for listed firms in services, the largest firm group of the SME sector, this ratio is 58.7%). Second, equity (private and public combined) is the most important financing source, accounting for over 30% of all funds raised for all SMEs (for listed SMEs in services this ratio is over 44%). Third, consistent with evidence from other countries (see, e.g., Petersen and Rajan (1994) and Berger and Udell (1995) for evidence on small firms in the U.S.), SMEs overall also rely more on bank finance than those in the LE sector. In contrast to evidence from developed countries, SMEs also rely more on trade credits than large firms in India. Finally, the listing status for SMEs in the services sectors also makes a considerable difference in the importance of these two financing channels (unlisted SMEs use banks and trade credits much more).

One of our main goals is to compare the importance of bank and market finance vs. alternative finance across different types of firms. As specified above, alternative finance includes trade credits, debt raised from group companies and promoters, and “other sources.” In addition, while publicly placed equity is a major component of market finance, privately raised equity belongs to alternative finance. However, the breakdown of equity (into private vs. public placement of any firm) is not available in the Prowess database. To this end, we classify all the equity raised by *listed* firms to be market finance, and all the equity raised by *unlisted* firms to be alternative finance. Note that this classification system actually overstates the relative importance of market finance over alternative finance, since a fraction of listed firms’ equity probably comes from private placements (anecdotal evidence suggests that this is

¹⁷ The definition of trade credits from the Prowess database is “...liabilities due in the next twelve months for purchase of goods/services and expenses; bills payable/acceptances are also included,” which is consistent with the usual definitions.

indeed the case) while 100% of unlisted firms' equity, by definition, comes from alternative sources.

Panel C of Table 6 first shows that the most important financing channel for Indian firms is internal finance (45.3% of all financing), and consistent with evidence from developed countries, larger firms generate more internal finance and rely less on external channels. Second, the most important external financing channel is alternative finance (30% of all financing). Perhaps not surprisingly, SMEs rely much more on alternative finance (50%) than large firms (29%) for their funding needs, and unlisted firms (37% for unlisted LEs and 55.3% for unlisted SMEs) generate more financing from alternative sources than listed firms (21.4% for listed LEs and only 16.2% for listed SMEs). Bank finance is the second most important external financing channel for Indian firms (18.2% of all financing), and provides a more significant source for SMEs and unlisted firms. Finally, market finance (publicly raised equity and debt) only provides about 6.5% of firms' total financing. There are again considerable variations among subgroups in terms of the importance of market finance: listed SMEs rely on the markets for almost 25% of all of their funding needs, while market finance (mostly in the form of corporate bonds) only accounts for 2.8% of unlisted large firms' total financing.

Overall, the results shown in Table 6 are largely consistent with the findings in the *Reserve Bank of India* (2005) based on financial reports of around 2,000 *public* companies; similar financing patterns of SMEs in the Prowess sample are also found in our own surveys of SME firms (in Section IV below). The importance of alternative financing sources for corporate sectors in India, such as trade credits and privately placed equity, is confirmed in all the studies using different databases and methodologies. Unlike prior studies focusing on banks and/or financial markets, we analyze the entire corporate financing system in India, including alternative finance.¹⁸ Our methodology enables us to find out the relative importance of bank and market finance *vis-à-vis* alternative finance, and underlines the limited relevance for India of the implications of most of the existing literature focusing on bank and market finance.

¹⁸ Other recent studies document the “under-lending” phenomenon by Indian banks to the corporate sectors, in that the last rupee lent to a corporate borrower yields a higher return than the cost of extending the loan. For example, Banerjee and Duflo (2003) and Banerjee et al. (2004) find that bank credit was scarce while interest rates, though high by world standards, appeared to be below equilibrium levels. Gormley (2007) finds that the entry of foreign banks does not relax the overall credit constraints of India firms (especially SME firms) since they only lend to the most profitable firms.

Our evidence suggests that alternative finance has substituted for market finance, especially for small and unlisted firms. Most observers would interpret these patterns as evidence that small and/or unlisted firms face more obstacles in financing as compared to large firms, and that alternative finance is more costly than bank and market finance.¹⁹ Recent research, however, argues and finds that alternative finance, such as trade credits, is not necessarily more expensive than bank and market finance in both developed and developing economies. In Section V below, we examine different hypotheses on the relation between bank and market finance and firm growth in India.

III.2 Dividend Policy and Valuation

Panel A of Table 7 compares external financing sources at the firm level for India and the country groups studied in LLSV (1997). The data for the other country groups are taken from *Worldscope* database for the same period (2001-2005) as our India sample, and the same approach used by LLSV to compute country-level variables is followed.²⁰ While we report ratios for both large and small firms in India, only the figures for large firms should be compared with the other country groups, as the *Worldscope* firms are generally much 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 (0.36) is lower than not only the average for all country groups (0.81) but also each single group including the civil law countries.²¹ The evidence on (long-term) debt financing is mixed. The debt/sales ratio for large Indian firms (0.29) is lower than English-origin countries (0.38) but higher than French-origin countries (0.11). LLSV (1997) find that investor protection does not explain firm-level debt financing patterns across countries, and attribute it to intervention by the government and other non-

¹⁹ SME firms in other countries also face problems in accessing institutional finance. For example, small firms in the U.S. have difficulties in obtaining bank loans, but part of the funding slack has been provided by private equity (angel financing and venture capital) and privately and publicly issued bonds (e.g., Berger and Udell (1995, 1998)).

²⁰ In LLSV (1997), a ratio (e.g., market cap/sales) for a given country is the *median* ratio for all the firms from the country, and the ratio for a country group is the simple average of the country ratios. For all the countries other than India, we use their method but re-compute the figures with *Worldscope* 2001-2005 data (same database for LLSV). For India, we take the median ratio for all the firms in our *Prowess* sample during 2001-2005. A caveat is in order: shares of a large majority of listed firms in India trade infrequently; hence, variables based on market prices (such as market capitalization or Tobin's Q) may be less informative than accounting information.

²¹ All the differences are statistically significant. The null hypotheses that a) the samples of Indian large firms and LLSV country groups come from the same distribution, and b) the ratios are the same, are strongly rejected (p-value < 0.0001).

market forces in the granting of bank loans. Panel A of Table 7 also indicates that large Indian enterprises rely more on debt financing than SME firms, but they rely less on equity financing than SME firms (market cap to sales ratio is 0.36 for large firms versus 0.6 for SMEs). These findings are consistent with what we have seen from Table 6 above. It is worthwhile to note again that equity financing here for the SMEs includes non-market equity, including contributions by the founder's friends and family.

Next, we examine the dividend policy and valuations of firms in India, and compare the results to those studied by LLSV (2000, 2002).²² LLSV (2000) 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 the lowest possible, much lower than not only the average of combined LLSV country groups but also the average for most individual country groups, including the French civil-law origin countries. In fact, in the last year of our sample period, 2005, over 60% of all Indian firms and over 80% of SMEs did not pay dividends. The dividend policies of Indian firms appear to be consistent with a low investor protection regime. A similar conclusion emerges from the firm valuation figures reported in the table. Tobin's Q ratio for large Indian firms (0.71) 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 even smaller (0.57).

III.3 Ownership Structure

Since only listed companies are required to disclose their ownership patterns (Clause 35 of Listing Agreement, Securities and Exchanges Board of India), data is available for 2,735 firms during the period 2001-2005. Table 8 compares the ownership structure of the Indian firms to that of the Claessens et al., (2000) sample of listed Asian firms (excluding Japan), the AQQ (2005) sample of over 1,100 listed firms

²² 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.

from China, and the LLS (1999) sample of over 1,000 publicly listed and traded firms from 27 countries (India excluded).

Panel A of the table indicates that the controlling interests in 75.3% of the Indian firms reside with a particular individual or family.²³ The dominance of family/individual ownership of Indian firms is similar to those of other Asian countries (e.g., Claessens et al. (2000); Claessens et al. (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. Even among the largest non-financial firms in India, which are included in the BSE 500 Index (based on a total of 317 non-financial firms), founder's family and/or other individuals are the controlling shareholder in 68.6% of them. Further, similar to other Asian countries, only 3.4% of the Indian firms are widely held, i.e., no shareholder owns more than 10% of the equity. Finally, in 7.7% of Indian firms (and almost 14% among BSE 500 firms) the controlling shareholder is a non-resident Indian or foreign investor or entity. LLSV (1998) and LLS (1999) find that countries that protect minority shareholders poorly (strongly) tend to have more concentrated (dispersed) ownership.²⁴ The observed ownership structure of Indian firms is once again, more consistent with that of a low investor protection country.

To summarize, consistent with aggregate evidence in the previous section, our results in this section show that Indian firms obtain most of their financing from internal and alternative (external) sources, and have not relied on financial markets for much of their funding needs. Based on the comparisons between large and small Indian firms with the other country groups, we also find that several important characteristics, including low levels of financing from markets and banks, low dividend policy and valuation, and concentrated ownership, do not follow the predictions of the law and finance literature given its strong investor protection by the law. In fact, these characteristics indicate that Indian firms appear to be more consistent with a low investor protection country.

²³ 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), but 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.

²⁴ See Holderness (2008a, b) for an alternative view on ownership concentration and legal protection of investors.

IV. Survey Evidence of the Small and Medium Sector

In previous sections we find that SME firms, a vibrant sector of the Indian economy, have many distinctive characteristics as compared to large enterprises. Since the majority of SME firms are privately owned, the *Prowess* database only provides limited information on some of the largest SME firms. To overcome the lack of publicly available firm-level data, we also design and conduct two extensive surveys of SMEs, and the results are reported in this section.

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, finance and growth literature (e.g., Graham and Harvey (2001); DLLS (2003); McMillan and Woodruff (1999a, b); Johnson et al. (2002); AQQ (2005)), we developed the survey questionnaire with special attention to the important issues in the business and legal environment in which Indian SMEs operate, while trying to avoid biases induced by the questionnaire and maximize response rates. 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 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. The sample spans several industries including engineering, chemicals, packaging and software. The firms range in age from start-ups (less than one year old) to about 85-year old companies,

with a more or less continuous distribution of firms started in the 1958 to 2005 period. Table 9 presents descriptive statistics for the firms in our survey.²⁵

IV.1 Ownership Structure and Corporate Governance

Our survey sheds light on the organization, ownership pattern and corporate governance mechanisms among 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 higher than 75% observed for the large sample of SME firms (see Table 8 above). 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.2 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). As mentioned earlier, 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

²⁵ 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. Given the diversity of the surveyed firms, a number of questions in the survey did not generate 100% response.

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 10. 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 legal system. Alternative channels of dispute resolution evidently play a far more important role for the SME firms.²⁶ The same finding also comes through in responses to other questions in the survey. About 50% of the firms surveyed do *not* have a regular legal adviser; among the other half, less than 50% of these firms have 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 directly and fairly. Clearly, the legal system takes a back seat while reputation, trust and personal relationships are the driving factors in screening counter-parties to do business with.

Legal and Non-legal Deterrence

²⁶ 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.

The inverse of reliance on law that determines whether a firm seeks legal recourse to redress a breach of contract and other disputes is concern for legal deterrence that may prevent it from perpetrating similar breaches itself. Our survey findings indicate that legal sanctions are far less important to the SMEs than the demands and responsibilities of the informal networks within which they exist and function. For instance, in the case of default on a payment, the primary concern is loss of reputation (2.48 on 1-3 scale), followed closely by loss of property (2.45). In the case of a breach of contract also, loss of future business opportunities ranks the highest (2.58), followed by loss of reputation (2.46). Significantly, in both types of violation, the fear of legal consequences (adverse court sentence or jail term) is the *least* important concern (1.54 for default, 1.44 for breach of contract). Even threat to personal safety ranks higher than legal consequences (1.65 and 1.57 respectively). Clearly, violation of the “unwritten rules” of the 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 11 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.3 Financial Environment

Financing during Start-up and Growth Phases

The picture of the legal environment for the SME sector above does not appear conducive to bank and market finance. Typically, these forms of arms-length finance require formal contracts, and effective legal mechanisms to enforce the contracts and deter infractions. Consequently, we should expect alternative channels of external finance, based on familiarity, social norms and other nonlegal mechanisms, 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 noted above, alternative finance includes all external sources beyond markets and banks, such as friends and family financing as well as trade credits. 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, institutional finance comprises sources of external finance that are institution-based, 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.²⁷

Figure 5 depicts the relative importance of institutional and alternative finance in the start-up phase and the ease of accessing in the growth stage.²⁸ 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

²⁷ 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 due to low response rates; the respondents who do report these sources rate these sources much lower than other sources in terms of importance.

²⁸ 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)).

growth stage. While 85% of the respondent firms consider friends and family finance extremely important in the start-up phase and 86% in the growth phase, the corresponding numbers are 15% and 17% for bank finance. Of the 199 respondents who answered the query, 22% had no bank/financial institution credit. 48% of the respondents had loans from only one institution (indicating that bank credit could be relationship-driven), 14% had accounts with two banks or intermediaries, while only 2% had loans from three institutions. These results are consistent with our findings from the Prowess sample that (unlisted) SMEs get as much as 55% of their funding from alternative sources.

Determinants of the Proportion of Alternative Finance

To understand the obstacles that SMEs encounter in obtaining institutional finance, we define and use two different indices. Our first index for requirements for institutional 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: a score of 6 indicates that the firm listed 6 requirements needed to improve their chances of accessing bank finance, a score of 5 indicates 5 requirements, ..., and 0 indicating no requirement.²⁹ A higher value of this index, therefore, represents greater requirements for institutional finance.

Our second index for difficulty in accessing institutional 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, 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.³⁰ Though higher values of both REQ and DIFF variables indicate

²⁹ Our survey questionnaire asked how many of the five factors would facilitate obtaining a bank loan: profitability and growth opportunities, size, whether the firm operates in "protected" industries, business connections with government officials, and political/personal connections with government officials. Respondents also mentioned other factors like "reputation of firm." In all, the maximum number of these factors was seven.

³⁰ For example, if a firm rated short-term bank loans a '2,' long-term bank loans a '3' and loans from specialized institutions a '4,' the index of difficulty in accessing institutional finance is $3 = [(2+3+4)/3]$.

greater hurdles in obtaining bank finance, they capture different aspects of access to institutional finance. The sample correlation coefficient between the two variables is only 0.04.

Do Indian SMEs seek alternative finance as a matter of choice, or because they have restricted access to institutional finance? We use Ordered Probit regressions to address this question, since our data on the proportion of alternative finance are categorical rather than continuous. Specifically, the PAF index is the dependent variable and the REQ index is one of the independent variables. If alternative finance is sought because a firm's access to institutional finance is restricted because, among other factors, information asymmetry and uncertainty of the firm, then we should expect a positive relationship between the degree of difficulty to obtain institutional finance and the proportion of alternative finance used by the firm. On the other hand, if alternative finance is obtained as a matter of choice, then we should not expect a significant relationship between the two variables.

In Panel A of Table 12, 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 (sales) at start-up and the number of employees.³¹ The coefficient for the REQ index is positive and significant at 5% in all three models. On the other hand, the level of dependence on alternative finance appears to decline with firm size, proxied by sales and the number of employees, suggesting that it is easier for larger firms to secure institutional finance even at the start-up phase. These results are consistent with our finding from the Prowess sample that larger firms seek less alternative finance, and are consistent with the hypothesis that the reliance on alternative finance is the result of limited access to institutional finance.

In Panel B of Table 12, we examine whether the SMEs that depend on alternative finance in the start-up phase continue to use it as the main source of funds in their growth phase, or whether, as they mature, transit successfully toward institutional and market-based financing channels. On the one hand,

³¹ For the level of sales (SALES), the survey responses fall in five categories. We group these responses into three categories relative to the median: below the median (a score of 1), at the median (a score of 2), and above the median (a score of 3). The employee size (EMP) variable is coded analogously.

as a firm grows larger and matures, it faces a smaller degree of information asymmetry and uncertainty compared to its start-up phase, and accordingly may have easier access to banks and markets. On the other hand, if the firm has built long-term relationships with the investors and other business partners during the start-up phase, it may find alternative finance to be the less costly channel for capital.

In Panel B, the dependent variable is the DIFF index for firms in their growth phase, divided into 4 categories, with a higher value indicating greater difficulty in accessing institutional finance. Since we consider only firms older than 5 years, this requirement truncates our original sample of 203 to 159. While the difficulty in accessing institutional 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; but not significant for the log of firm age variable), the difficulty level is significantly positively related (at 1% level) to the dependence on alternative financing (PAF index) during the start-up stage.³² This last result can be interpreted as a ‘stickiness’ or persistence of alternative financing for SME firms over time, which can also explain the very large proportion of alternative finance used in total funding in the case of the *Prowess* firms that we studied before. The persistence in using alternative finance is consistent with the hypothesis that alternative finance is actually the preferred funding choice for the firms. However, it does not contradict the hypothesis that alternative finance only picks up the slack of institutional finance, because the firms that rely on alternative finance during their growth phase may be the ones that have not evolved into large and safe borrowers to secure institutional credit. In the next section we examine whether the access to institutional finance leads to higher firm growth, which can shed more light on the comparisons of different financing channels.

IV.4 Comparison of Survey Findings in New Delhi and Hyderabad Regions

As a final note of this section, we compare the survey findings from the two 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

³² We have conducted robustness checks 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.

are a few important differences. Average values of both the reliance on law (ROL) and the legal deterrence (LD) indices are statistically significantly higher for the New Delhi area firms. Consistent with this fact, the proportion of alternative finance (PAF) index is also statistically significantly higher for the New Delhi area firms. Further, both friends and family financing (in start-up as well as growth phases) and trade credits appear to be more important for the New Delhi respondents than for those in Hyderabad. On the other hand, bank loans and reinvestment of profits are more common for Hyderabad firms. These findings indicate considerable regional differences in the nature of SME financing and effectiveness of legal mechanisms *within* India. In our firm-level finance-growth analysis below, we use both state dummy variables and a set of financial, economic and institutions development variables to capture these regional variations.

V. Financing Channels and Firm Growth

Our aggregate-level and firm-level analyses, including comparisons with other countries and surveys of SME firms, have generated two main findings thus far. First, the legal system and financing through capital markets have played limited roles in the Indian economy, despite the long history of development and the sophistications of these institutions. Second, the prevalence of alternative finance, backed by nonlegal mechanisms and particularly important for SMEs, implies that it has filled the gap between the vast and fast-growing economy and the undersized banks and markets along with inefficient legal institutions.

These findings also raise important questions regarding the role of different financing channels, backed by mechanisms within and outside the legal system, in supporting growth at the firm- and economy-levels. The predominant view, as illustrated in recent cross-country studies such as Beck et al. (2005), is that, first, despite limited supply of market and bank finance in developing countries due to underdeveloped legal and other institutions, is the preferred form of finance; and second, the higher-quality firms (e.g., large and more profitable firms with higher growth potential and lower risk) with

access to banks and markets grow faster than the rest of the firms.

The starting point of a different view on alternative finance is the role of legal institutions. In developed countries such as the U.S., these institutions have generally been viewed as facilitating the roles of markets and banks in providing funds for corporate sectors and allocating resources in the economy. However, the same cannot be said for many developing countries. As mentioned earlier, corruption and inefficiency in the government and legal institutions are regarded as one of the main hurdles for conducting business in India. In fact, an influential strand of recent research (e.g., Rajan and Zingales (2003a,b); Acemoglu and Johnson (2005)) shows that legal institutions can be ‘captured’ by vested interest groups, and their rent-seeking behaviors can deter innovations and competition and slow down economic growth. We expect these political economy problems to be much worse in developing countries, and given the enormous costs of building good legal institutions, these problems are not likely to go away for an extended period of time.

During early stages of economic growth, how can the political economy costs associated with legal institutions be reduced? Allen and Qian (2008) argue that, alternative finance, by operating outside the legal system, can minimize these costs as compared to financing through banks and markets. In a fast-growing economy like India, characterized by frequent changes in finance, commerce and the entire economy, they argue that this alternative system has an additional advantage, in that it can adapt and change much more quickly than when the law and legal system are used. In particular, competition can ensure the most efficient mechanism prevails and this process does not require persuading the legislature and the electorate to revise the law when circumstances change. Applying these ideas to specific financing channels, recent research in both developed and developing countries finds that while the initial fixed costs of alternative finance such as trade credits are high, once a vertical and/or horizontal network of firms, customers, suppliers and investors is forged, the average costs over an extended period may be lower than the costs of bank and market finance that is based on arms-length relationships (e.g., Burkart et al. (2007); Giannetti and Yu (2007); Kim and Shin (2007)).

In summary, there are two different views regarding whether alternative finance is as conducive as bank and market finance in supporting growth. The ‘predominant’ view states that firms with access to bank and market finance are of superior quality and they will grow faster than the rest of the firms relying only on internal and alternative finance. By contrast, the ‘alternative’ view states that in a fast-growing economy, alternative finance, backed by nonlegal mechanisms, can actually be superior to bank and market finance, backed by the legal system. In our empirical tests, the null hypothesis, based on the predominant view, is that the access to bank and market finance is associated with higher firm growth rates. More specifically, in firm growth regressions, the coefficients on market and bank financing variables should be positive and significant according to the null. Rejecting the null would imply that bank and market finance is not necessarily superior to alternative finance for Indian firms.

For firm-level analysis on finance and growth, we need financing and growth data for a large panel of firms (along with detailed financial and accounting information) over an extended period. As mentioned above, the only data set that meets these requirements for Indian firms is the *Prowess* database. We consider all the SMEs and all the large firms in manufacturing and services sectors covered by the *Prowess* database during the ten year period of 1996-2005. We employ two approaches: A balanced-panel approach in which only the firms that appear in the dataset for all ten years are included in the analyses, and an unbalanced-panel approach that allows firms with only a subset of years’ observations to enter the analyses. We focus on the second approach because it takes into account the possibility that firms stop reporting to the database due to poor performance (e.g., bankruptcy and/or been acquired), but we first briefly present the results from the balanced panel analysis (results *not* reported in tables).

Beginning in 1996, we track sales information for a total of 2,365 firms and assets information for 2,567 firms for each of the ten years through 2005. We sort firm size by both the SME-Large Enterprise (LE) grouping and by the size of total assets in the initial year (1996). In terms of the compound annual growth rates (CAGRs), these Indian firms recorded an impressive 10.9% annual (average) rate in sales. Further, the average SME firm grew at a CAGR of 13.1% compared to a CAGR of 8.5% for the average

large enterprise, and the difference is statistically significant at the 1% level; and small firms (defined by different initial size cutoffs) grow faster than large firms. The dominance in growth (in both assets and sales) of small firms over large firms also holds in shorter time horizons and in regressions controlling for firm characteristics and location (state dummies).

Since small firms rely more on alternative finance than large firms, our evidence indicates that small firms are not hindered by the lack of access to banks and markets; in fact, they have grown much faster than large firms with an easier access to these financing channels. These results are inconsistent with the ‘predominant’ view on the inferiority of alternative finance. However, the balanced panel approach may suffer a survivorship bias – if small firms ‘disappear’ from the database more frequently than large firms *and* the firms drop out due to poor performance, our results can be driven by the fact that the ‘surviving’ small firms (in the data for ten years) are the best and do not represent the ‘average’ small firm in the economy. In this regard, we do find that the smaller the size of the firm, the more likely it will disappear from the database. Therefore, a perhaps more reliable way to analyze the data is the unbalanced-panel approach, which we describe next.

In order to calculate a firm’s growth (in sales), we need at least two consecutive years’ data for the firm. This requirement results in a total of 33,000 to 45,000 firm-year observations (over 14,000 unique firms) during 1996-2005 depending on the availability of other variables. Table 13 presents results from panel regressions with year- and (firm) location-fixed effects and sales growth (in percentage) as the dependent variable. To capture regional differences, we include both a financial development variable (per capita bank credit of a state) and an overall economic development variable (per capita GDP at the state level) as explanatory variables, as well as state dummies (not reported in tables) to absorb the ‘residual’ location effects on growth. We cluster standard errors of all firms from the same state to allow for possible dependence of error terms across firms. Finally, we also include year dummies to capture possible time trends in growth.

The main variables of interest are access to bank and market finance variables. The listing

dummy equals one if a firm is publicly listed (at the beginning of a given year). Following the standard approach, we use *lagged* bank finance dummies, which equal one if a firm has at least one bank loan one, two or three years prior to the current year, to measure the effects of bank finance. We also include firm size (log of assets at the beginning of a year), age (log of one plus firm age), as well as industry dummies (18 classifications; not reported in tables) as controls.

From Table 13, while the growth for more mature firms is lower than younger firms, larger firms have shown higher growth rates than smaller firms, a result that can be explained by the fact that small firms are more likely to drop out of the database due to poor performance. More importantly, there is no positive and significant relation between the access to the stock market and firm growth; in fact, in most models we observe a negative and significant relation between the two. Similar results are found for bank financing – while the coefficient on the one-year-lag bank finance dummy is positive in Models (1), (3) and (4), it is not economically or statistically significant; moreover, there is a negative and significant relation between two- and three-year-lagged bank finance indicators and firm growth. We found some evidence that bank finance have a relatively more positive impact on large and older firms (the coefficient on the interaction between bank finance dummies and size and age variables is positive and significant) than for small and younger firms, but we do not find the impact of bank finance on listed firms to be different from that on unlisted firms. Finally, when we include all the bank financing indicators during the past three years (Model 13), we observe an overall negative association between bank finance and firm growth.

A potential problem with the OLS estimates on the effects of bank and market finance on firm growth lies in the fact that the use of any particular form of financing channel is endogenously determined by the firms. This endogenous selection process therefore may bias the OLS estimates. To control for this potential self-selection bias, we employ a two-equation procedure, which consists of a selection equation and a regression (‘outcome’) equation (see, e.g., Maddala (1983)). The results are shown in Table 14. In both stages we run panel regressions with year- and (firm) location fixed effects. In the

selection equation (Probits), the dependent variable is a dummy indicating the use of at least one bank loan (in one of the three years prior to the current year). For explanatory variables, we use firm size, age, and dummies on industry. We also include the listing dummy as an explanatory variable rather than a dependent variable, because bank finance has played a more important role than markets for Indian firms, and we expect listed firms to be more likely to receive bank loans – as shown in Table 14 this is indeed the case. From the first-stage we also obtain the inverse Mills ratio for each observation, which is related to the probability of a firm having access to bank loans in a given year.

In the second stage regressions on sales growth, we use the size of bank loans (log of bank loans, a continuous variable) obtained in a given year as the main explanatory variable, augmented by inverse Mills ratio obtained from the first stage selection regression to reflect the probability of the firm receiving a loan. We find a negative and significant relation between the size of (lagged) bank loans and firm growth, while the coefficient on the inverse Mills ratio is statistically insignificant, suggesting the endogenous selection process of bank loans is not affecting the regression ‘outcome’ of bank finance and growth. In terms of other results, the coefficients on firm size and the listing dummy, previously found to have a statistically significant impact on firm growth (Table 13), are no longer significant, indicating that their impact on firm growth is primarily coming through the channel of enhancing the likelihood of a firm receiving a bank loan (they are both statistically significant in the first stage Probit regressions) rather than a direct effect on growth.

To summarize, our results, from both the pooled OLS and the two-stage selection models that account for the potential survivorship bias (among small firms) and the self-selection bias (in the choice of bank finance), reject the null hypothesis based on the predominant view. Therefore, the positive impact of bank (and market) finance on firm growth observed in other studies does not apply to India. Instead, firms that rely on alternative and internal sources alone do no worse than those with access to markets and banks.

V.2 Discussions on Alternative Finance and Growth

We provide some brief discussions on alternative finance, backed by nonlegal mechanisms, and its impact on firm growth. First, our country- and firm-level evidence, especially the survey evidence, suggests that the fast-growing SME sector in India depends overwhelmingly on nonlegal mechanisms based on reputation, trust, and relationships to settle claims and disputes. This is consistent with firm-level findings elsewhere in the world. For example, in examining the venture capital and private equity contracts, Lerner and Schoar (2005) find that investors and firms rely more on out-of-courts settlements to resolve control issues and agency problems in (developing) countries with weak legal enforcement institutions.³³ In addition, the Indian firms in general, and the SME sector in particular, is also family-controlled, consistent with the experience of other countries with weak investor protection.³⁴

Second, we find many Indian firms, and in particular, the SME sector relies heavily on alternative financing channels, including friends and family as well as trade credit, to fund operations and growth.³⁵ Based on the analysis of surveyed SME firms, we find that firms that find institutional finance more difficult to access are more likely to obtain a greater proportion of their funding from alternative sources including trade credits. We also find ‘stickiness’ in the use of alternative finance as firms mature. More importantly, the combination of family control and dependence on nonlegal mechanisms and alternative finance has not hindered growth for Indian firms. Our results thus suggest alternative finance may actually be the preferred choice of finance over bank and market finance, at least for some firms. This is in contrast to the findings of previous studies, which document the limitations of nonlegal mechanisms and alternative finance and that the access to legal institutions along with markets and banks has a positive impact on growth.

Finally, it is important to note that while our findings indicate the importance and effectiveness of alternative finance and nonlegal mechanisms for Indian firms and economy, we are not claiming

³³ Also see Greif (1989, 1993) for analysis of traders’ organizations in the eleventh century in Italy, AQQ (2005) on modern China, Banerjee and Duflo (2000) in the Indian software industry, and Spagnolo (1999) for a theoretical analysis.

³⁴ See Burkart, Panunzi, and Shleifer (2003) for a theoretical analysis on the degree of insider control and the development of legal system, Khanna and Palepu (2000), Khanna and Yafeh (2005), Gopalan et al. (2005)) for evidence of family firms and business groups in India, and Bertrand et al. (2008) for evidence on family firms in Thailand.

³⁵ For additional studies on trade credits, see McMillan and Woodruff (1999a) and Berger and Udell (1998) document the role of trade credit for firms in Vietnam and the U.S., respectively.

developing financial markets and financial and legal institutions is not an important task for any developing country. While alternative finance and nonlegal mechanisms may be better suited for dynamic, fast-growing economies, Allen and Qian (2008) argue that conducting finance and commerce based on the law and supported by legal institutions is optimal in static environments with slower and predictable growth. New and imaginative research is necessary to test these hypotheses and discover the best possible combination of different financing methods along various stages of economic growth.

VI. Summary and Concluding Remarks

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, we find that the effective level of investor protection and the quality of legal institutions in India are poor. We also 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 datasets, including aggregate country-level data, large firm-level samples, and our own surveys of small and medium Indian firms. Our framework is broader than most previous studies, by including not only legal mechanisms and financing channels from stock markets and banks but also other methods to settle disputes and enforce contracts, and alternative financing channels including trade credits and finance from friends and family. We also consider the entire corporate financing system in India including both large listed firms and small and unlisted firms. In scope as well as methodologies, our paper extends the existing literature.

Our paper also provides new insights on the comparison between bank and market finance versus alternative finance in supporting growth. Our empirical tests show that firms in general, and SME firms in particular, rely mostly on nonlegal deterrents, such as loss of business and reputation, and alternative financing channels to support their growth. Moreover, our results, based on both pooled OLS regressions that take into account of possible survivorship bias among small firms and a two-stage selection

procedure that control for the possible self-selection bias of endogenous choice of financing channels, establish that the access to bank and market finance is not related to higher growth as found in previous studies. These results thus indicate that bank and market finance, backed by legal institutions, may not be superior to alternative finance, backed by nonlegal mechanisms, in fast growing economies such as India.

Our results have important implications for future research. AQQ (2005) find that nonlegal mechanisms and alternative financing channels, similar to those in India as documented our paper, have been the main driver behind phenomenal economic growth during the past thirty years in China. At the end of 2007, China and India together accounted for more than 40% of the world population and 20% of the world GDP in PPP terms. Given the status of the two countries, the findings call for more within-country (or region) studies to better understand the role of different financing channels in supporting economic growth. In particular, it will be interesting to examine under what conditions nonlegal mechanisms and alternative financing channels can support growth in environments where legal institutions are ineffective and markets and banks are underdeveloped.

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

Panel A IMF World Economic Outlook Database 2008

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

Panel B PPP-adjusted GDPs in 2007 from Different Sources

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

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

Table 2 Comparing Legal Systems and Institutions

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

	Creditor Rights	Anti-Director Rights	Corruption Perception Index	Legal Formalism Index	Legality Index	Disclosure Requirement	Earnings Management Score
<i>Panel A India and Other Large Emerging Markets (EMs)</i>							
India (E)	2 (4)	5	3.3	3.51	11.35	0.92	19.1
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	5.0	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	5.0	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
<i>Panel B LLSV Country Groups</i>							
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.	1.80 ^a	3.37 ^b	5.24	3.58 ^c	14.98	0.60 ^d	16.00

Notes: *: simple average of scores of other emerging market economies *without* India; ^a: DMS (2007) average; ^b: DLLS (2007) average; ^c: DLLS (2003) average; ^d: LLS (2006) average.

Table 3 Comparing Financial Systems: Banks and Markets

This table compares 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. The figures for other emerging countries and for all LLSV country groups are weighted averages (with the countries' GDPs in 2005 as the weights).

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
Panel A India and Other Large Emerging Markets (EMs)											
India	0.37	0.02	0.56	0.60	0.43	0.49	-4.44	10	-1.57	-1.51	3.30
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 ^a	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 ^a	0.32	0.04	0.62	0.65	-0.32	0.53	-4.19	7.97	-3.00	-2.15	2.55
Panel B LLSV Country Groups											
English origin*	0.67	0.04	1.57	1.34	0.89	0.77	-2.99	1.93	-0.15	-0.10	3.72
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

Notes: ^a: *weighted* (by 2005 GDP) average of other emerging market economies *without* India; * = the figures for each legal origin group are weighted averages (GDP in 2005); English origin averages are calculated *without* India.

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

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

Table 4 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 ^{a,b}	GDP from all Non-State Sectors ^{a,c}	Number of Units ('000)	Paid-up Capital ^d	Employment (million) ^e	Number of Units ('000)	Paid-up Capital ^d	Employment (million) ^e
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
CAGR	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;

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

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

Table 5 Descriptive Statistics of the Prowess Sample of Firms (as of 2005)

This table provides the descriptive statistics of our sample of non-financial Indian firms in the year 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. 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
Number of Obs.		3,373	2,723	1,815	393	5,188	3,116	8,304
Sales (Million US\$)	Max	900.26	34,837.47	1,324.82	10,025.98	1,324.82	34,837.47	34,837.47
	Med.	0.83	22.82	0.17	10.62	0.49	21.47	2.94
	Min.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Assets (\$Million)	Max	2,324.28	21,098.39	1,381.39	24,937.98	2,324.28	24,937.98	24,937.98
	Med.	1.64	21.94	0.96	23.05	1.40	22.03	4.19
	Min	0	0.62	0	0.74	0	0.62	0
Firm Age (years)	Max	137	180	108	104	137	180	180
	Med.	16	21	14	15	15	20	17
	Min	0	1	0	1	0	1	0

Table 6 Sources of Funds for Non-financial Firms (Percentage of Total Funding; 2001-2005)

This table provides evidence on the sources of (new) funds for non-financial Indian firms during the 5-year period of 2001-2005, based on the *Prowess* database of CMIE. Panel A shows the breakdown for firms in the LE sector as well as between manufacturing and services industries and whether a firm is listed (on BSE or LSE) or not, Panel B shows similar results for the SME sector, and Panel C for all the firms using our own definitions of four financing channels. For a given category of firms, the numbers reported in the tables are obtained by first calculating the average *new* funds from each funding source during 2001-2005 for each of the firms, and then summing across all firms and expressed as the percentage of the total funds from all sources obtained during the same period. In each panel, we also report median firm size (median of five-year average of book value of assets of all firms) for each firm group.

	<i>Panel A Large Enterprises (LEs)</i>								
	All LEs	LE-M	LE-S	Listed LEs	Unlisted LEs	Listed LE-M	Unlisted LE-M	Listed LE-S	Unlisted LE-S
Internal Sources	46.6	47.8	43.9	58.3	34.51	60.67	28.02	46.74	42.77
Equity (Private+Public)	16.8	15.6	19.5	12.4	21.28	12.00	21.11	14.46	21.5
Capital Market-Debt	2.5	1.9	3.8	2.2	2.76	2.2	1.5	2.2	4.37
Debt: Banks and FI's	16.9	16.3	18.4	12.3	21.64	11.16	24.17	18.34	18.43
Debt: Group Co's/Promoters	1.9	2.2	1.2	-0.2	4.11	-0.2	5.93	-0.2	1.79
Trade Credits	11.2	11.7	10.0	12.0	10.35	11.68	11.85	13.83	8.44
Other Sources	4.1	4.4	3.2	2.8	5.35	2.49	7.42	4.63	2.72
Median Assets Value (in Rs. Crores)	70.37	70.55	69.76	223.16	51.19	232.24	50.73	181.76	54.62
Number of Obs.	4,760	3,899	861	1,001	3,759	837	3,062	164	697

<i>Panel B Small and Medium Enterprises (SMEs)</i>									
	All SMEs	SME-M	SME-S	Listed SMEs	Unlisted SMEs	Listed SME-M	Unlisted SME-M	Listed SME-S	Unlisted SME-S
Internal Sources	15.11	11.04	21.45	39.49	11.16	26.99	8.47	58.69	15.35
Equity (Private+Public)	31.59	33.44	28.7	34.82	31.06	28.68	34.21	44.25	26.16
Capital Market-Debt	6.99	9.71	2.8	3.4	7.57	5.33	10.41	0.45	3.15
Debt: Banks and FI's	21.62	24.61	17.0	10.44	23.44	17.71	25.72	-0.71	19.88
Debt: Group Co's/Promoters	3.4	4.29	2.0	8.98	2.49	12.64	2.95	3.36	1.78
Trade Credits	15.83	14.11	18.51	6.89	17.28	9.4	14.87	3.03	21.04
Other Sources	5.5	2.81	9.6	-4.03	7.00	-0.74	3.38	-9.1	12.65
Median Assets Value (in Rs. Crores)	9.55	10.82	6.36	69.56	8.64	64.97	9.93	85.38	5.77
Number of Obs.	9,014	6,121	2,893	400	8,614	282	5,839	118	2,775

In **Panel C** below we present results on financing patterns for all firms and for firms in both the LE and SME sectors. We aggregate all financing channels (from the Prowess database and results presented in Panels A and B) into four categories: 1) Internal sources (same as in Panels A and B): net income after dividends + depreciation + provisions or funds set aside; 2) Market finance (external financing through markets): equity (stock) and debt (bonds) raised from capital markets; 3) Bank/FI finance (external financing through banks): debt/loans from banks and other financial institutions; and 4) Alternative (external) finance: all nonmarket, nonbank external finance, including equity and debt raised from private sources including group companies, promoters and founders, trade credits, and other liabilities. As shown in Panels A and B, the breakdown of equity into publicly issued stocks (part of Market finance) and privately placed equity (part of Alternative finance) of firms is not available in the Prowess database. We classify all the equity raised by *listed* firms to be market finance, and all the equity raised by *unlisted* firms to be alternative finance.

<i>Panel C All Firms with Four Financing Channels</i>							
	All Firms			LEs		SMEs	
	All Firms	LEs	SMEs	Listed LEs	Unlisted LEs	Listed SMEs	Unlisted SMEs
Internal Sources	45.29	46.6	15.11	58.32	34.51	39.49	11.16
Market Finance	6.47	5.47	9.98	8.09	2.76	24.87	7.57
Bank/FI Finance	18.18	18.86	25.02	12.18	25.75	19.42	25.92
Alternative Finance	30.06	29.08	49.89	21.42	36.98	16.21	55.34
Median Assets Value (in Rs. Crores)	16.40	70.37	9.55	223.16	51.19	69.56	8.64
Number of Observations	12,344	4,760	9,014	1,001	3,759	400	8,614

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 World scope 2001-2005 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 (2001-2005).

<i>Panel A: External Financing</i>							
Country	English origin average	French origin average	German origin average	Nordic origin average	Sample average	India	
						Large Enterprises	SMEs
Market cap/sales	1.52	0.72	1.39	0.98	0.81	0.36	0.6
Debt**/sales	0.38	0.11	0.8	0.24	0.12	0.29	0.12
<i>Panel B: Dividend and Valuation</i>							
Dividend/Earnings	0.21	0.17	0	0.35	0.128	0	0
Dividend/Sales	0.017	0.055	0	0.02	0.008	0	0
Tobin's Q	1.56	1.06	1.51	1.77	1.04	0.71	0.57
# of observations	10,192	2,969	5,133	523	--	4,760	9,015

* 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 World scope 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 15,111 Indian firms (panel data set for the period 2001-2005) is collected and compiled from the CME *Prowess* database, of which 2,735 firms' ownership data is available. The ratio of ownership type is calculated at firm*year (13,675) level for India firms.

Controlling Shareholder*	Foreign	Widely-held (%)	State (%)	Family/Indiv. (%)	Financial Corp. (%)	Non-Fin Corp. (%)
<i>Panel A: Indian Firms</i>	FOREIGN/ NRI/OCB**			<i>a</i>	<i>b</i>	<i>c</i>
Full Sample	7.7	3.4	0.9	75.3	2.0	10.7
All SMEs	4.1	4.4	0.2	75.1	0.9	15.3
All Large Enterprises	11.4	2.3	1.7	75.5	3.0	6.1
BSE 500 ^d	13.9	2.5	5.8	68.6	3.9	5.3
<i>Panel B: Asian Firms</i>						
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
<i>Panel C: LLS (1999) Sample of Large Firms</i>						
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
<i>Panel D: LLS (1999) Sample of Medium Firms</i>						
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

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 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>.

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

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

Table 10 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
F stat (p value)	0.68 (0.5066)			
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
F stat (p value)	1.15 (0.3216)			
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
F stat (p value)	3.82 (0.0534)			
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
F stat (p value)	0.22 (0.806)			
Mean (Median)	0.20 (0)			
Number of Observations	134			

Table 11 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%)
F stat (p value)	0.22 (0.806)			0.82 (.44)		
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%)
F stat (p value)	0.63 (0.5347)			2.97(.05)		
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
F stat (p value)	0.39 (0.6789)			.01(.92)		
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%)
F stat (p value)	1.1 (0.3354)			.34(.80)		
Mean (Median)	1.54 (1)			2.26 (2)		
Number of Obs.	149			205		

Table 12 Ordered Probit Regressions on the Importance of Alternative Finance

Panel A: Proportion of Alternative Finance at Start-up Phase

Regressions are ordered Probits. The dependent variable is the proportion of alternative finance in start-up phase, divided into 4 categories, with a higher value indicating a higher proportion of alternative finance as a percentage of total sources of funds. Numbers in parentheses below coefficients 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 Institutional 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
P-value	0.0091	0.0014	0.0128

**Panel B: Difficulty in Accessing Institutional 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 Institutional finance in growth phase, divided into 4 categories, with a higher value indicating a greater difficulty. Numbers in parentheses 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 Institutional 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 Alternative 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

Table 13 Firm Growth and Finance: Pooled OLS Regressions using the *Prowess* Database (1996-2005)

This table presents results from panel regressions with year- and (firm) location-fixed effects and sales growth (in percentage) as the dependent variable. In order to calculate a firm's growth (in sales), we need at least two consecutive years' data for the firm, but allow for different firms having different number of observations on growth. We include but do not report industry (18 classifications) dummy variables. The listing dummy equals one if a firm is publicly listed (at the beginning of a given year). The *lagged* bank finance dummies equal one if a firm has at least one bank loan one, two or three years prior to the current year. Standard errors of all firms from the same state are clustered to allow for possible dependence of error terms. *, ** and *** denote statistical significance at 1%, 5% and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
ASSETS (Log of assets)	0.02***	0.02***	0.02***	0.02***	0.02***	0.02***	0.02***	0.02***	0.02***	0.02***	0.02***	0.02***	0.03***
	[0.00]	[0.01]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.01]	[0.00]	[0.00]	[0.00]
Log(1 + AGE)	-0.14***	-0.14***	-0.13***	-0.14***	-0.14***	-0.14***	-0.15***	-0.14***	-0.13***	-0.14***	-0.15***	-0.13***	-0.13***
	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]
Listing Dummy	-0.05***	-0.05***	-0.05***	-0.04*	-0.04***	-0.05***	-0.04**	-0.05**	-0.04**	-0.04**	-0.04**	-0.05**	-0.04**
	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]
Log(Per capita Bank Credit-State)	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
	[0.05]	[0.04]	[0.05]	[0.05]	[0.05]	[0.05]	[0.05]	[0.05]	[0.05]	[0.05]	[0.05]	[0.05]	[0.05]
Log(Per capita GDP const prices-State)	0.13	0.1	0.12	0.12	0.12	0.13	0.12	0.12	0.12	0.12	0.12	0.12	0.12
	[0.17]	[0.17]	[0.17]	[0.17]	[0.17]	[0.17]	[0.17]	[0.17]	[0.16]	[0.17]	[0.17]	[0.16]	[0.16]
One year Lag of Bank Finance Dummy	0.01	-0.03	0.04	0.02									0.02*
	[0.01]	[0.02]	[0.05]	[0.02]									[0.01]
One year Lag of BFD*ASSETS		0.01*											
		[0.01]											
One year Lag of BFD*AGE			-0.01										
			[0.02]										
One year Lag of BFD*LISTED				-0.02									
				[0.03]									
Two year Lag of Bank Finance Dummy					-0.05***	-0.11***	-0.15***	-0.06***					-0.05***
					[0.01]	[0.01]	[0.04]	[0.02]					[0.01]
Two year Lag of BFD*ASSETS						0.02***							
						[0.00]							
Two year Lag of BFD*AGE							0.04**						
							[0.02]						
Two year Lag of BFD*LISTED								0.01					
								[0.02]					
Three year Lag of Bank Finance Dummy									-0.06***	-0.09***	-0.16***	-0.08***	-0.05***
									[0.01]	[0.02]	[0.03]	[0.02]	[0.01]
Three year Lag of BFD*ASSETS										0.01*			
										[0.01]			
Three year Lag of BFD*AGE											0.04***		
											[0.01]		
Three year Lag of BFD*LISTED												0.03	
												[0.02]	
Constant	-0.19	-0.06	-0.17	-0.15	-0.13	-0.24	-0.1	-0.14	-0.15	-0.25	-0.22	-0.16	-0.12
	[1.57]	[1.52]	[1.58]	[1.58]	[1.55]	[1.59]	[1.56]	[1.55]	[1.53]	[1.56]	[1.51]	[1.53]	[1.53]
Observations	24,700	24,463	24,690	24,700	24,700	24,496	24,695	24,700	24,700	24,513	24,697	24,700	24,700
Number of Years	9	9	9	9	8	8	8	8	7	7	7	7	7
R-squared	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02

Table 14 Firm Growth and Finance: Two-stage Selection Procedure (*Prowess Database*)

This table presents results from a two-stage procedure examining finance and firm growth. In both stages we run panel regressions with year- and (firm) location-fixed effects, and include but do not report industry dummies (18 categories) as controls. In the first stage (Probits), the dependent variable is a dummy indicating the use of at least one bank loan (in one of the three years prior to the current year). The listing dummy equals one if a firm is publicly listed (at the beginning of a given year). In the second stage (OLS), the dependent variable is sales growth (in %). In order to calculate a firm's sales growth, we need at least two consecutive years' data for the firm, but allow for different firms having different number of observations on growth (unbalanced panel). We use the size of bank loans (log of bank loans, a continuous variable) obtained in a given year as the main explanatory variable, augmented by inverse Mills ratio obtained from the first stage selection regression to reflect the probability of the firm receiving a loan. Standard errors of all firms from the same state are clustered to allow for possible dependence of error terms. *, ** and *** denote statistical significance at 1%, 5% and 10% levels.

	(1)		(2)		(3)	
	Selection: Bank Finance Dummy (BFD)	Outcome: Sales Growth (%)	Selection: Bank Finance Dummy (BFD)	Outcome: Sales Growth (%)	Selection: Bank Finance Dummy (BFD)	Outcome: Sales Growth (%)
ASSETS (Log of assets)	0.14*** [0.00]	0.01 [0.05]	0.14*** [0.01]	0.07 [0.05]	0.13*** [0.01]	0.09* [0.05]
Log(1+AGE)	-0.06*** [0.01]	-0.10*** [0.02]	0.01 [0.01]	-0.09*** [0.01]	0.06*** [0.01]	-0.07*** [0.03]
Listing Dummy	0.18*** [0.02]	-0.05 [0.06]	0.31*** [0.02]	0.02 [0.11]	0.42*** [0.02]	0.11 [0.17]
One year lag of Log (Bank Loans)		-0.01** [0.00]				
Two year lag of Log (Bank Loans)				-0.02*** [0.01]		
Three year lag of Log (Bank Loans)						-0.03*** [0.01]
Inverse Mills Ratio		-0.27 [0.47]		0.16 [0.47]		0.37 [0.54]
Constant	-6.7 [0.00]	0.84 [0.65]	-7.06 [0.00]	0.11 [0.78]	-7.44 [0.00]	-0.46 [1.03]
Observations	33,073	33,073	30,899	30,899	29,079	29,079

Figure 1 A Comparison of Performance of Stock Indexes (“Buy and Hold” returns from Dec. 1992 to Mar. 2009)

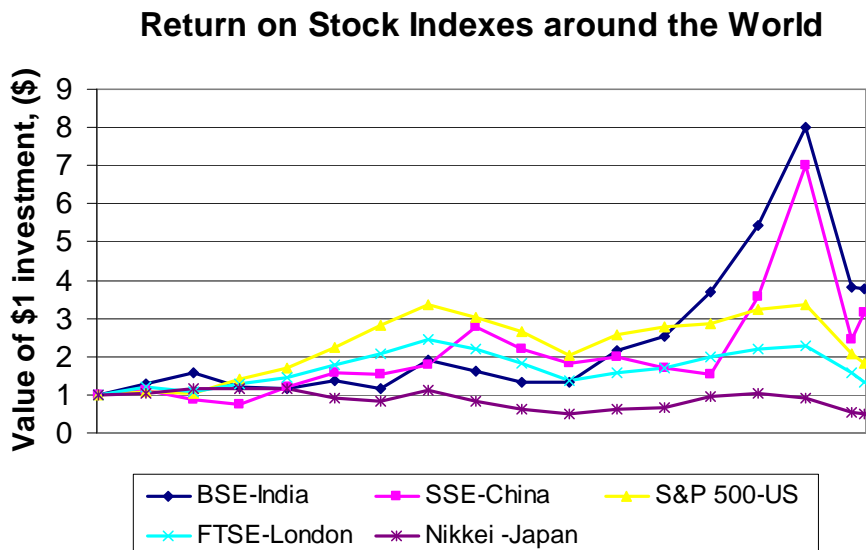


Figure 2 Investor Protection and External Financing – International Comparison

The figure compares India’s legal system and external financial markets to those of other emerging markets (as of 2005) and LLSV country groups (sorted by legal origins). 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, and we replace it with the Rule of Law score from International Country Risk Guide instead. Each score is re-scaled on a 0 to 10 scale before being included in the final sum. The final sum is also rescaled on a 0 to 10 scale. 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.

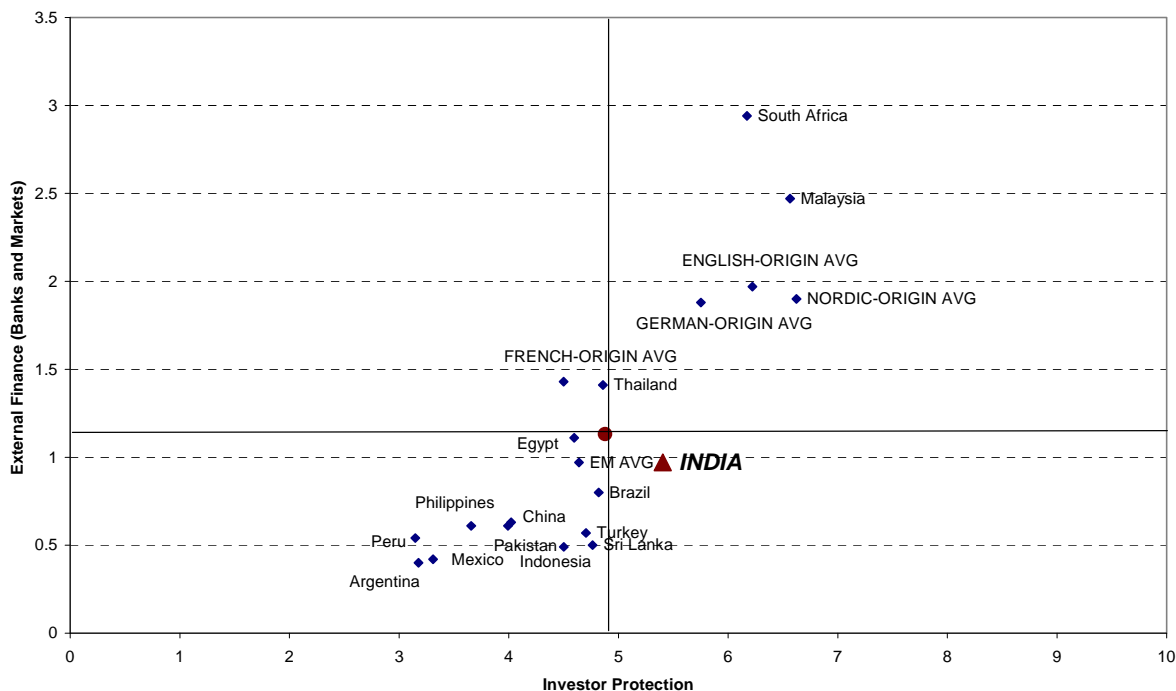


Figure 3 Effects of the Legal System on Survey Firms

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.

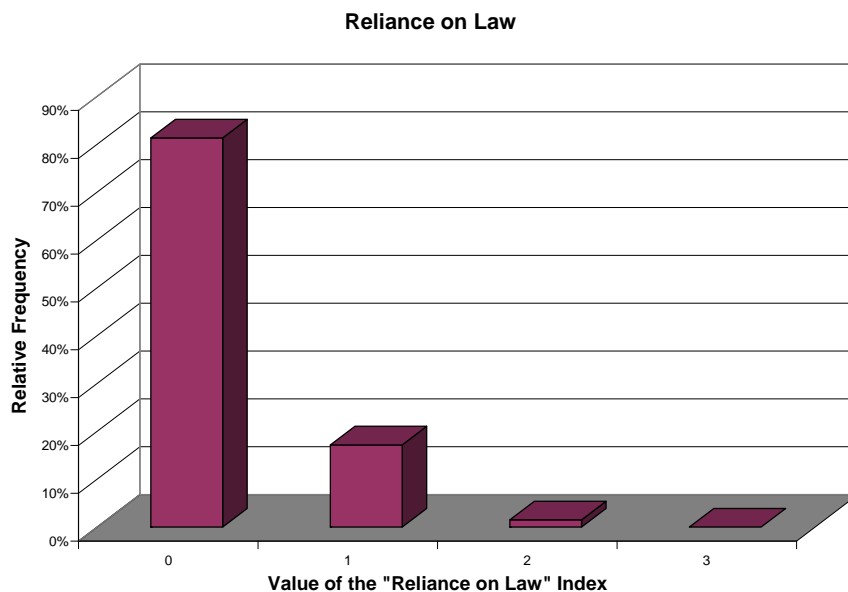
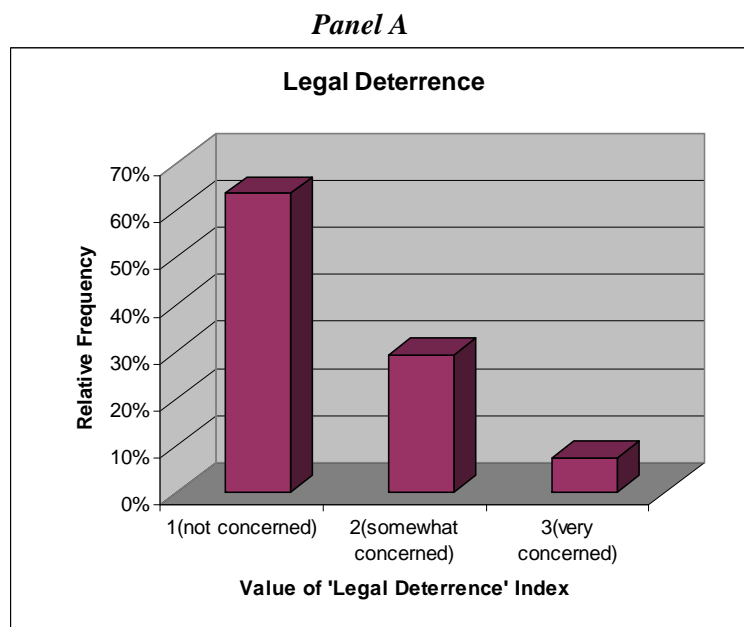


Figure 4 Legal and Non Legal Deterrence

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.



(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.

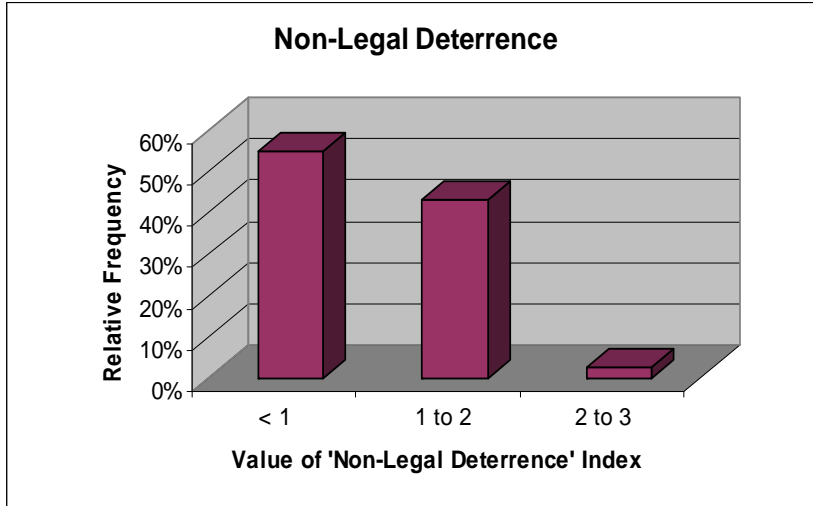


Figure 5 Financing Channels for Survey Firms

This figure highlights the relative importance in the start-up phase and the ease of obtaining funding in the growth stage from institutional and alternative sources. Alternative finance includes financing from friends and family and trade credit. Institutional 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 institutional and alternative groups are reported in the figure.

