

FINANCIAL AND LEGAL CONSTRAINTS TO FIRM GROWTH: DOES SIZE MATTER?

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Abstract: Using a unique firm-level survey data base covering 54 countries, we investigate whether different financial, legal and corruption issues firms report as constraints actually affect their growth rates. Our results show that the extent to which these factors constrain a firm's growth depends very much on its size and that it is consistently the smallest firms that are most adversely affected by all three constraints. Firm growth is more affected by reported constraints in countries with underdeveloped financial and legal systems and higher corruption. Thus, policy measures to improve financial and legal development and reduce corruption are well justified in promoting firm growth and particularly the development of the small and medium enterprise (SME) sector. However, our evidence also shows that the intuitive descriptors of an "efficient" legal system are not correlated with the components of the general legal constraint that do predict firm growth. This finding suggests that the mechanism by which the legal systems affects firm performance is not well understood. Our findings also provide evidence that the corruption of bank officials constrains firm growth in some countries. This "institutional failure" should be taken into account when modeling the monitoring role of financial institutions in overcoming market failures due to informational asymmetries.

Keywords: Financial Development; Financing Constraints, Small and Medium Enterprises, Law and Finance

JEL Classification: G30, G10, O16, K40

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ABSTRACT

Using a unique firm-level survey data base covering 54 countries, we investigate whether different financial, legal and corruption issues firms report as constraints actually affect their growth rates. Our results show that the extent to which these factors constrain a firm's growth depends very much on its size and that it is consistently the smallest firms that are most adversely affected by all three constraints. Firm growth is more affected by reported constraints in countries with underdeveloped financial and legal systems and higher corruption. Thus, policy measures to improve financial and legal development and reduce corruption are well justified in promoting firm growth and particularly the development of the small and medium enterprise (SME) sector. However, our evidence also shows that the intuitive descriptors of an "efficient" legal system are not correlated with the components of the general legal constraint that do predict firm growth. This finding suggests that the mechanism by which the legal systems affects firm performance is not well understood. Our findings also provide evidence that the corruption of bank officials constrains firm growth in some countries. This "institutional failure" should be taken into account when modeling the monitoring role of financial institutions in overcoming market failures due to informational asymmetries.

1. Introduction

Corporate finance literature suggests that market imperfections, such as those caused by underdeveloped financial and legal systems, may constrain firms in their ability to fund investment projects. The magnitude of these imperfections, as reflected in the conflicts of interest and informational asymmetries between corporate insiders and investors, is expected to decrease with the development of financial and legal systems. Demircug-Kunt and Maksimovic (1998) have stressed the importance of the financial system and the rule of law for relaxing firms' external financing constraints and facilitating their growth.¹ While their results show a strong effect, their conclusions are based on a sample of the largest firms in each of the economies they study, and relies on inferring firms' demand for external financing from a financial model of the firm. In this paper we examine the constraints firms face using a size-stratified sample of over 4,000 firms in 54 countries, and measures of constraints firms face are taken directly from firms' responses to a detailed survey. Our econometric model permits us to determine whether or not firm growth is in fact affected by the perceived constraints, and to test how specific constraints affect different types of firms.

There is a large literature, starting with LaPorta, Lopez-de-Silanes, Shleifer, and Vishny (1998) that argues that a country's legal and financial systems is a significant, perhaps the main determinant of the financing of firms. However, a priori it is not clear which aspects of financial and legal development are the most significant and how they

¹ Work, by Rajan and Zingales (1998) and Wurgler (2000) on industry growth, and on law and external financing by LaPorta, Lopez-de-Silanes, Shleifer, and Vishny (1997) is discussed below.

affect firms of different size.² For example, large firms internalize many of the capital allocation functions carried out by the financial markets and financial intermediaries. To this extent, development of financial markets and institutions should disproportionately benefit small firms. On the other hand, large firms are most likely to tax the resources of an underdeveloped financial system, since they are more likely to depend on long-term financing and on larger loans than small firms. Thus, it is possible that financial development would disproportionately reduce the effect of constraints on the largest firms.

In this paper, we use a unique survey data base, the World Business Environment Survey (WBES), to analyze the impact of financial and legal constraints and corruption on firm growth for small, medium and large firms. The WBES is a major cross-sectional firm level survey conducted in developed and developing countries in 1999 led by the World Bank.³ Our methodology differs from the previous literature in international corporate finance in several ways. First, the richness of the data base allows us to go beyond earlier papers that derive estimates of financing constraints using firms' financial statements.⁴ The firms that were surveyed reported how their growth was constrained by specific features of their financial and legal systems in their countries and the corruption they faced. Thus, we are able to analyze (a) the magnitude of different types of constraints faced by firms in different financial and legal systems, and (b) whether these constraints in fact do affect firm growth. Second, unlike previous studies which have mainly looked at large, listed firms, in this paper we can actually investigate

² There is vigorous debate on the precise role of the legal system on firm financing. See, for example, Rajan and Zingales (1999), Pistor (1999), Modigliani and Perotti (1998) and Stulz and Williamson (2001).

³ World Bank created the steering committee of the WBES and many other developed and developing country agencies were involved under the supervision of EBRD and Harvard Center for International Development.

⁴ Exceptions are Shiffer and Weder (2001) who investigate different constraints using WBES data and Clarke et al (2001) who assess the impact of foreign bank entry on these constraints.

size differences since around eighty percent of the surveyed firms are small and medium enterprises (SMEs).

Our results indicate that all three types of constraints reported by firms – financial, legal, and corruption – indeed do affect firm growth rates adversely. The extent of the effect depends very much on firm size: The smallest firms are most adversely affected by all the constraints. We also show that firms that operate in countries with underdeveloped financial and legal systems and higher levels of corruption tend to be more constrained in general. Furthermore, we see that a marginal development of the financial system or the legal system or a reduction in national corruption level helps relax these constraints most for the most-constrained groups of small and medium firms. These results are consistent with the notion that large firms internalize the operations of the financial markets and institutions and are therefore least affected by the effects in the public markets.

Next, looking at the constraints in detail, we see that among the financing constraints, firms that reported being constrained by the need for special connections with banks, and by banks' lack of money have significantly lower rates of growth. In addition, constraints such as high interest rates, the adverse impact of having to deal with bank bureaucracies, collateral requirements, lack of access to operations finance appear to affect firm growth significantly. While these latter constraints are more severe in less developed financial systems, they may arise naturally in well-functioning markets. Empirically, this is reflected by the fact that they continue to constrain firm growth even after we include measures of financial system development in the regressions.

Firms report that the state of the legal system, in general, and several specific problems with its operation constrain their growth. Our regressions confirm a negative relation between the reported “general legal system” constraint and firm growth. However, we do not find a significant relation between specific problems, such as the consistency of court decisions, and firm growth. Nevertheless, quality of the court system, the affordability and consistency of courts, enforcement of court decisions and confidence in the legal system significantly predict about 50 percent of the cross-country variation in the general legal constraint. Thus, there is evidence that the intuitive notions of what makes an efficient legal system do predict survey responses, they do not predict the effect of the legal system on firm growth.

We also find evidence that the level of corruption is related to firm growth. The two specific types of corruption found to have a significant relation are the amount of bribes paid and the corruption of bank officials. The significance of the corruption of bank officials, together with the earlier finding that firms are constrained by need to develop “special” relationships with banks, suggest that there exists an under-explored agency problem in some developing countries: Officials in financial intermediaries may be holding up the efficient allocation of investment to smaller firms. This may have implications for the design of financial systems in developing countries.

The remainder of the paper is organized as follows. In Section 2 we discuss the hypotheses that we test. Section 3 discusses the data and summary statistics. Section 4 discusses the empirical methodology. Section 5 presents our main results. Section 6 has conclusions and policy implications.

2. Motivation

A developed financial system can relax firm financing constraints because well-functioning markets and intermediaries serve as direct sources of capital and as mechanisms for ensuring that investors have access to information about firms' activities. An effective legal system also plays an important role in relaxing financing constraints because a firm that wishes to obtain financing, particularly long term financing, must be able to commit credibly to controlling opportunistic behavior by corporate insiders. Measures such as debt covenants or explicit fiduciary constraints only work if there is an effective legal system that deters violations and demands compensation from violators.

Recent empirical evidence supports the view that the development of a country's financial system affects firm growth and financing. In addition to Demirguc-Kunt and Maksimovic's (1998) firm-level results, Rajan and Zingales (1998) show that industries that are dependent on external finance grow faster in countries with better developed financial systems.⁵ Wurgler (2000) shows that the rate at which resources are allocated to productive industries depends on development of the financial system. Love (2000) shows that the sensitivity of investment to cash flow depends negatively on financial development. La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1997) identify important differences between legal systems and show their importance for external finance. Demirguc-Kunt and Maksimovic (1999) show that the origin and efficiency of a legal system facilitates firms' access to external finance, particularly long term finance. At the country level, King and Levine (1993), Levine and Zervos (1998) and Beck, Levine and Loayza (2000) show that financial development promotes growth and that differences in legal origins explain differences in financial development.

⁵ Carlin and Mayer (1999) also argue that there exists a relation between a country's financial system and the characteristics of industries that prosper in the country,

While the results in the literature suggest that less developed financial and legal systems can constrain firms, the constraints to firm growth are not generally observed. Therefore, in the corporate finance literature different approaches have been used to identify firm constraints. Following Fazzari, Hubbard, and Petersen (1988) most empirical papers interpret firms to be financially constrained if they are observed to have a high correlation between long-term investment and internal financing, after controlling for investment opportunities. Demirguc-Kunt and Maksimovic (1998) use a different approach. They rely on a financial planning model to obtain the maximum growth rate that individual firms can attain without access to external finance.⁶ If firms are growing faster than these predicted rates, this reveals that they are externally-financed and potentially constrained. This approach allows them to associate the proportion of externally-financed firms in a country to specific country characteristics, such as the level of financial and legal development.

While these approaches can identify the extent to which a population of firms is financially constrained, they do not allow the investigator to observe whether a particular market imperfection or institutional feature is affecting a specific firm. The WBES data base we use in this paper permits this, and consequently has a number of advantages. First, it is a survey focusing on firm constraints, and offers a rich set of details on what the firms consider to be constraints. For example, in addition to general financing constraints, we have information on whether collateral requirements, bank bureaucracies, the need to have special connections with banks, high interest rates, lack of money in the banking system, and access to different types of financing are troubling enough issues for firms to report as constraints. Similarly, firms report quite a bit of detail as to what they

⁶ See Higgins (1977) for a discussion of sustainable growth rates.

find constraining about the legal system: Is it the availability of laws or regulations, or consistent interpretation of these laws? Is it the overall efficiency of the system that is lacking or confidence that the legal system will enforce contract and property rights? Do the firms consider the speed, affordability, consistency, or fairness of the legal system particularly constraining?

Second, using this data set we can test how firm growth is affected by perceived constraints as reported by firms themselves. Previous literature have used indirect means to establish that financial and legal constraints affect firm growth. Here, since we observe these constraints, we can directly test if they have an impact on firm performance.

Third, the data set also provides detailed information about corruption the firms face. The survey reports what is most troubling for firms: is it the need to make additional payments, not knowing the amount of these payments, or the uncertainty that the job will be done even after the payments are made? There is also information on the proportion of revenues paid as bribes, percentage of management's time spent with regulators, and the proportion of the value of contracts that need to be paid to gain access to government contracts.

Empirical evidence based on cross-country comparisons does suggest that corruption has large, adverse effects on private investment and economic growth (Mauro, 1996). Corruption may increase the size of the unofficial economy and lower efficiency since resources that are hidden may not find their highest-value uses (Shleifer and Vishny, 1993; Johnson et al., 2000). Here, we try to see if corruption also has a significant impact in constraining firm growth.

Fourth, eighty percent of the surveyed firms are small and medium enterprises. Previous cross-country studies of financing choices have found different financing patterns for small and large firms, in the use of long-term financing and trade credit (Demirguc-Kunt and Maksimovic, 1999 and 2001). However the data bases of large listed firms do not permit a special focus on firm size.⁷ So this data base will allow us to investigate a population of firms we have not been able to study before.

In summary, using firm-level data for 54 countries, the questions we seek to answer are:

- How is firm growth affected by different financial, legal and corruption constraints?
- Which specific constraints have an effect?
- Are small and medium size firms affected differently by different constraints?
- Do constraints affect firm growth differently based on the national level of financial and legal development or corruption? In other words, are certain firms constrained everywhere in the same way or much more in countries with underdeveloped financial and legal systems and higher levels of corruption?

3. Data and Summary Statistics

The WBES firm-level data consist of firm survey responses of over 4,000 firms in 54 countries.⁸ The main purpose of the survey is to identify constraints to firm performance and growth around the world. Thus, the survey has a large number of questions on the nature of financing and legal constraints firms face, as well as corruption

⁷ Except to study determinants of firm size by looking at the largest firms around the world. See Beck, Demirguc-Kunt and Maksimovic (2001b)

⁸ The survey actually covers 80 economies. However the sample is reduced because most firm-level or country-level variables are missing for 26 countries.

issues. Information on firms is more limited but the survey includes data on firm employment, sales, industry, growth and number of competitors. The survey also has information on ownership, and whether the firm is an exporter or has been receiving subsidies from national or local authorities.

In addition to the rich detail on the constraints, one of the greatest values of this survey is its wide coverage of small and medium firms. The survey covers three groups of firms. Small firms are defined as those with 5 to 50 employees. Medium firms are those that employ 51 to 500 employees and large firms are those that employ more than 500 employees. Forty percent of our observations are from small firms, another forty percent are from medium firms and the remaining twenty percent are from large firms. Table AI in the Appendix reports the number of firms for each country in the sample. For each of the countries we also use data on GDP per capita, GDP in US dollars, growth rate of GDP and inflation. In addition, we use information on financial system development, legal development and corruption. Country level variables are 1995-1999 averages. They are compiled as discussed in Beck, Demirguc-Kunt and Levine (2000).

In Table I we summarize relevant facts about the level of economic development, firm growth and firm level constraints in the sample countries. Details of sources are in the Appendix. The countries in the sample show a great deal of variation. They range from Haiti, with an average GDP per capita of 369 dollars to U.S. and Germany, with per capita incomes of around \$30,000. We also provide the average annual growth rate of per capita GDP as a control variable. If investment opportunities in an economy are correlated, there should be a relationship between the growth rate of individual firms and the growth rate of the economy. Average inflation rate also provides an important

control in that it is an indicator of whether local currency provides a stable measure of value in contracting. The countries also vary significantly in the amount of inflation, from a low of zero percent in the cases of Sweden and Argentina, up to 86 percent in the case of Bulgaria.

Insert Table I here

Firm growth rates, reported in column 4 of Table I, are sales growth rates for individual firms averaged over all sampled firms in each country. Firm growth rates also show a wide dispersion, from negative rates of 19 percent for Armenia and Azerbaijan to a positive 34 percent for Poland.

The last three columns of Table I report firm-level financing, legal and corruption constraints averaged over all firms in each country. In the WBES, enterprise managers were asked to rate the extent to which financing, legal and corruption problems constrained the operation and growth of their businesses. The ratings were quantified by assigning them values: 1, no obstacle; 2, minor obstacle; 3, moderate obstacle; and 4, major obstacle. As Table I illustrates, in the large majority of the countries firms report financing constraints to be the most important obstacle to growth compared to other constraints. Also in general, the constraints tend to be lower in developed countries such as the U.K. and the U.S. compared to those in developing countries.

Insert Table II here

Table II contains the sample statistics of the variables we consider. In addition to the general financial, legal and corruption constraints presented above, firms were also asked more detailed questions to understand the nature of these constraints better. We also investigate these variables.

As part of assessing the importance of financing constraints, the firms were asked to rate, again on a scale of one to four, how problematic different financing issues are for the operation and growth of their business. These are: (a) collateral requirements of banks and financial institutions, (b) bank paperwork and bureaucracy, (c) high interest rates, (d) need for special connections with banks and financial institutions, (e) banks lack money to lend, (f) access to foreign banks, (g) access to non-bank equity, (h) access to export finance, (i) access to financing for leasing equipment, (j) inadequate credit and financial information on customers, and (k) access to long term loans.

Among the detailed financial constraints, high interest rates stand out at 3.24, which should be a constraint for all firms in all countries. Access to long term loans, and bank collateral and paperwork requirements also appear to be among the larger constraints.

There are also detailed questions on the legal system. Businesses were asked if (a) information on laws and regulations were available, (b) the interpretation of laws and regulations were consistent, and whether they were confident that the legal system will uphold their contract and property rights in business disputes (c) now and (d) three years ago. These are rated between (1) fully agree to (6) fully disagree. Further, businesses were asked to evaluate whether their country's courts are (a) fair and impartial, (b) honest and uncorrupt, (c) quick, (d) affordable, (e) consistent, (f) enforced decisions. These are rated from 1 (Always) to 6 (Never).⁹ Finally, businesses were asked to rate the overall quality and efficiency of courts between (1) very good to (6) very bad.

⁹ Exact ratings are: 1=Always, 2=Usually, 3=Frequently, 4=Sometimes, 5=Seldom, 6=Never.

Looking at these legal constraints, quickness of courts seems to be one of the important constraints with a value of 4.77. Other important ones include the consistency and affordability of the courts.

The final set of questions we investigate relate to the level of corruption the firms have to deal with. The questions are (a) whether corruption of bank officials creates a problem (rated from 1 to 4 as described above), if (b) firms have to make “additional payments” to get things done, (c) firms generally know what the amount of these “additional payments” are, (d) services are delivered if the “additional payments” are made as required, (e) it is possible to find honest agents to circumvent corrupt ones without recourse to unofficial payments. Others include (f) the proportion of revenues paid as bribes (increasing in payment ranked from 1 to 7)¹⁰, (g) proportion of contract value that must be paid as “unofficial payments” to secure government contracts (increasing in payment ranked from 1 to 6)¹¹, (h) proportion of management’s time in dealing with government officials about the application and interpretation of laws and regulations (increasing in time from 1 to 6). Unless specified, answers are ranked from 1 (Always) to 6 (Never).

Of the detailed corruption constraints, the need to make additional payments is the highest at 4.36. It is followed by inability to have recourse to honest officials at 3.58.

One potential problem with use of survey data is that enterprise managers may have different perceptions about constraints and may rate equivalent obstacles differently.¹²

For example, managers’ perceptions of the severity of an obstacle may be colored by the

¹⁰ Exact ratings are 1=0%, 2= less than 1%, 3=1% to 1.9%, 4=2% to 9.99%, 5=10% to 12%, 6=13% to 25%, and 7=greater than 25%.

¹¹ Exact rating are 1=0%, 2=up to 5%, 3=6% to 10%, 4=11% to 15%, 5=16% to 20%, 6= greater than 20%.

¹² Financial data used in previous studies is also subject to potential biases because country institutional factors can affect the properties of accounting data. See Ball, Kothari, and Robin (2000) and Hung (2001).

quality of local institutions, so that managers with international experience may perceive the severity of obstacles differently than those with less experience. Moreover, managers may identify several constraints, only some of which are binding. This may make it more difficult to interpret the raw data. For this reason, we examine the extent to which reported constraints affect the growth rates of firms. To do this, we obtain benchmark growth rates by controlling for firm characteristics.¹³

As firm level controls, we use indicators of firm ownership, industry, market structure and size. Since the sample includes firms from manufacturing, services, construction, agriculture and other industries, we control for industry effects by including industry dummy variables.

Ownership may also be an important determinant of how different constraints affect firm growth. We include dummy variables that identify firms as government-owned or foreign-controlled. Government-owned firms may be able to grow faster because they face fewer obstacles. For example, they may be subject to soft budget constraints or obtain funds at less stringent conditions from state-owned banks. Similarly, they may have advantages dealing with the legal system, and they may be less subject to crime or corruption. The growth rate of foreign institutions may also be different because foreign entities may find it more difficult to deal with local judiciary or corruption. However, they may be less affected by financing constraints since they could have easier access to the international financial system.

Growth rate of firms may also depend on the market structure they operate in. Therefore, we also include dummy variables to capture whether the firm is an exporting

¹³ We do not have firm-level measures of investment opportunities, such as Tobin's Q. Many firms in our sample are not publicly traded.

firm, whether it receives subsidies from local and national government, and the number of competitors it faces in its market.

Finally, firm size may be a very important factor in how the firm growth is constrained by different factors. Small firms are likely to face tougher constraints in obtaining finance, accessing legal systems or dealing with corruption (See for example, Schiffer and Weder, 2001). Here, size is a dummy variable taking the value 1 for small firms, 2 for medium firms and 3 for large firms.

In Panel B of Table II, we average general constraints by size. Small firms report the highest financing and corruption constraints, whereas large firms report the highest legal constraints. These are consistent with the results reported in Schiffer and Weder (2001). However we need to investigate *both* the level of the constraints *and* how firm growth is affected by these constraints to determine if firm size really has an impact.

Panel B also reports average constraints for countries with high and low levels of financial development, legal development and corruption. As a measure of financial development, we use Priv, given by the ratio of domestic banking credit to the private sector divided by GDP. Legal development is proxied by Laworder, which is an index of the efficiency of the legal system. It is rated between 1 and 6, with higher values indicating better legal development. Corruption is captured by Corrupt, which is an indicator of the existence of corruption, rated between 1 to 6, with higher values indicating less corruption. High values are averages for those countries that fall above the sample mean. As can be seen from the table, all constraints are higher in countries with underdeveloped financial and legal systems and high levels of corruption.

Panel C of Table II shows the correlation matrix for the variables in our study. Foreign firms and exporters have higher growth rates whereas government-owned firms have significantly lower rates of growth. Also, firms in richer, larger, and faster growing countries have significantly higher growth rates. As expected, higher financing, legal, and corruption constraints are correlated with lower firm growth rates.

Correlations also show that government-owned firms are subject to higher financing constraints, but lower corruption. Foreign-controlled firms and exporters, face lower financing constraints, as well as corruption. Financing constraints seem to be the highest for manufacturing firms, whereas firms in services industry are the least affected by all constraints. To the extent firms have greater number of competitors, they seem to face greater financing constraints and corruption.

All constraints are significantly lower in richer, larger and faster growing countries, but significantly higher in countries with higher inflation. Firms are also significantly larger in richer, larger and faster growing countries. Firm size itself is not correlated with firm growth. However, size is likely to have an indirect effect on firm growth since larger firms face significantly lower financing, legal and corruption constraints. Finally, all three constraints are highly correlated with each other so that firms that suffer from one are also likely to suffer from others.

The last three panels of Table II present correlations of detailed constraints with general financing, legal and corruption constraints, respectively. Overall, individual constraints are highly correlated with the general ones and with each other. It is interesting to note the high correlation between the reported general corruption index and the perceived corruption of bank officials.

4. The Empirical Model

The simple statistics reported above indicate that there exist statistically significant relations between firm growth and different constraints. However, Table II also indicates that there is a high degree of correlation between variables of interest and other firm and country level controls. Next, we conduct regression analysis to clarify these relationships we observe.

The regression equations we estimate are of the form:

$$\text{Firm Growth} = \alpha + \beta_1 \text{ Government} + \beta_2 \text{ Foreign} + \beta_3 \text{ Exporter} + \beta_4 \text{ Subsidized} + \beta_5 \text{ No. of Competitors} + \beta_6 \text{ Manufacturing} + \beta_7 \text{ Services} + \beta_8 \text{ Inflation} + \beta_9 \text{ GDP per capita} + \beta_{10} \text{ GDP} + \beta_{11} \text{ Growth} + \beta_{12} \text{ Financing} + \beta_{13} \text{ Legal} + \beta_{14} \text{ Corruption} + \varepsilon. \quad (1)$$

All regressions are estimated using firm level data across 54 countries and country random effects. We introduce Financial, Legal and Corruption constraints one at a time, and finally all together. In different regressions we substitute general constraints by individual constraints.

It is important to note that there is a simultaneity issue here. A correlation between the constraints and firm growth may also be due to growing firms being subject to higher constraints. The results of this regression should not be interpreted to say that the constraints in any way “cause” firm growth. Instead, we run these regressions to explore which of the constraints firms report are really associated with their growth. While we do use phrases such as “the impact of constraints on growth,” these are simple partial correlations which allow us to isolate those constraints that are related to growth compared to those that are not.

To investigate the impact of constraints on different size firms, we create three dummy variables, small, medium, large. These variables take the value 1 if the firm is small (or medium or large) and zero otherwise. Then, we estimate different specifications where we interact the size dummies with individual constraints. For example for the financing constraints, we estimate:

$$\begin{aligned} \text{Firm Growth} = & \alpha + \beta_1 \text{ Government} + \beta_2 \text{ Foreign} + \beta_3 \text{ Exporter} + \beta_4 \text{ Subsidized} + \\ & \beta_5 \text{ No. of Competitors} + \beta_6 \text{ Manufacturing} + \beta_7 \text{ Services} + \beta_8 \text{ Inflation} + \beta_9 \text{ GDP per} \\ & \text{capita} + \beta_{10} \text{ GDP} + \beta_{11} \text{ Growth} + \beta_{12} \text{ Size} + \beta_{13} \text{ Financing Constraint} * \text{Small} + \beta_{14} \\ & \text{Financing Constraint} * \text{Medium} + \beta_{15} \text{ Financing Constraint} * \text{Large} + \epsilon. \end{aligned} \quad (2)$$

By comparing β_{13} , β_{14} , and β_{15} and evaluating them at the mean level of constraints for each group of firms, it is possible to see if financing constraints affect firm growth differently for small, medium and large firms. Notice here we also introduce size directly in the equation. Similarly, interacting size variables with the legal and corruption constraints allows us to see if these different constraints affect firm growth differently based on size.

Next, it is of interest to find out if firms are equally constrained everywhere around the world, or if these constraints are higher in developing countries where firms have to deal with underdeveloped financial and legal systems and face higher corruption. In other words, while it is interesting to see that smaller firms face higher constraints everywhere around the world, for policy advice it would be more important to know if these constraints can be relaxed through development.

To get at this issue, we include an interaction term of financing constraints with a our measure of financial development, Priv. The use of this indicator to capture financial

development is common in the literature.¹⁴ We also introduce Priv directly in the equation since our earlier work has shown that level of financial development affects firm growth (see Demirguc-Kunt and Maksimovic, 1998). Thus, to investigate financing constraints, we estimate:

$$\begin{aligned} \text{Firm Growth} = & \alpha + \beta_1 \text{ Government} + \beta_2 \text{ Foreign} + \beta_3 \text{ Exporter} + \beta_4 \text{ Subsidized} + \\ & \beta_5 \text{ No. of Competitors} + \beta_6 \text{ Manufacturing} + \beta_7 \text{ Services} + \beta_8 \text{ Inflation} + \beta_9 \text{ GDP per} \\ & \text{capita} + \beta_{10} \text{ GDP} + \beta_{11} \text{ Growth} + \beta_{12} \text{ Priv} + \beta_{13} \text{ Financing Constraint} + \beta_{14} \text{ Financing} \\ & \text{Constraint} * \text{Priv} + \varepsilon. \end{aligned} \quad (3)$$

The coefficient of the interaction term, β_{14} , indicates whether an increase in financial development has any impact on the way financial constraints affect firm growth. It is also possible to investigate if financial development relaxes financing constraints for all firms regardless of size. Then, the estimated equation becomes:

$$\begin{aligned} \text{Firm Growth} = & \alpha + \beta_1 \text{ Government} + \beta_2 \text{ Foreign} + \beta_3 \text{ Exporter} + \beta_4 \text{ Subsidized} + \\ & \beta_5 \text{ No. of Comp.} + \beta_6 \text{ Manuf.} + \beta_7 \text{ Services} + \beta_8 \text{ Inflation} + \beta_9 \text{ Gdp/cap} + \beta_{10} \text{ GDP} + \beta_{11} \\ & \text{Growth} + \beta_{12} \text{ Priv} * \text{Small} + \beta_{13} \text{ Priv} * \text{Medium} + \beta_{14} \text{ Priv} * \text{Large} + \beta_{15} \text{ Size} + \beta_{16} \text{ Financing} \\ & * \text{Small} + \beta_{17} \text{ Financing} * \text{Medium} + \beta_{18} \text{ Financing} * \text{Large} + \beta_{19} \text{ Financing} * \text{Small} * \text{Priv} + \\ & \beta_{20} \text{ Financing} * \text{Medium} * \text{Priv} + \beta_{21} \text{ Financing} * \text{Large} * \text{Priv} + \varepsilon. \end{aligned} \quad (4)$$

Then coefficients β_{19} , β_{20} and β_{21} would indicate if a marginal improvement in financial development relaxes the financing constraints of small, medium and large firms to the same extent.

We replicate the above analysis for legal constraints, by replacing Priv in equation (3) by Laworder. In the case of corruption constraints, we replace Priv in equation (3) by

¹⁴ See the discussion in Beck, Demirguc-Kunt and Levine (2000).

Corrupt. As in the case of financing constraints, we also investigate whether legal and corruption constraints are relaxed to a similar extent for different size firms for higher values of Laworder and Corrupt estimating versions of equation (4).

5. Results

Table III shows how firm growth depends on financing, legal and corruption constraints, after controlling for country and firm-specific variables. When entered individually, all constraints have a negative and significant effect on firm growth as expected. The last column in the table enters all three constraints together. The results show that financing and legal coefficients are both significant and negative, while corruption loses its significance. This indicates that both financing and legal constraints independently reduce firm growth, and that the impact of corruption is captured by the general financial and legal constraints which also incorporate corruption in the legal and financial sector. These results, obtained on a larger data set containing both public and private firms, are consistent with Demirguc-Kunt and Maksimovic (1998) who find that the proportion of firms that grow at rates requiring external finance is higher for countries with developed financial and legal systems.

Insert Table III here

Looking at other control variables, we see that the growth rates of government-owned firms are slower, and that of exporters, faster. Foreign firms also appear to grow faster, although this result is only significant at 10 percent in two specifications. We do not observe significant differences in the growth rates of firms in different industries. Inflation develops a significant and positive coefficient in two of the four specifications.

This probably reflects the fact that firm sales growth is given in nominal terms. Finally, GDP growth rate and firm growth are significantly and positively correlated, indicating that firms grow faster in an economy with greater growth opportunities. Most of the explanatory power of the model comes from between country differences as indicated by R^2 s of 25 to 28 percent.

Insert Tables IV-VI

Tables IV to VI replace the general indicators by individual indicators for financial, legal and corruption constraints, respectively. Although the regressions also include the control variables, these coefficients are not reported for brevity. Table IV shows that collateral requirements, bank paperwork and bureaucracy, high interest rates, the need to have special connections with banks, lack of money in the banking system, and access to financing for leasing equipment, all have significantly constraining effects on firm growth. It is interesting to note that while access to long term loans was rated as an important constraint by the firms, it is not significantly correlated with firm growth. This may be because it is possible to substitute short term financing that is rolled over at regular intervals for long term loans. Also, it is reassuring to see that those firms which claim to be constrained by high interest rates actually grow slower, as we expect interest rates to constrain all firms. It is also important to note that some of these factors are likely to be correlated with lack of development of the financial system. Other potential constraints, such as access to foreign banks, access to non-bank equity, access to export finance, or inadequate information on customers are not significantly correlated with firm growth.

Table V shows that while the general legal constraint has a highly significant and negative impact on firm growth, none of the other more detailed legal constraints develop significant coefficients. It appears that firms are able to work around these particular constraints although they find them annoying. Nevertheless, regressing the general constraint on the quality of the courts, their fairness, honesty, quickness, affordability, consistency, enforcement capacity, and the confidence in the legal system shows that these factors are able explain about 50 percent of the cross-country variation in the general constraint. Specifically, the affordability and consistency of the court system, enforcement capacity and the confidence in the legal system develop significant coefficients. However, using the predicted general legal indicator in the growth equation leads to positive yet insignificant results. Thus, while specific constraints are related to the general constraint, they play a minor role in affecting growth. This suggests that the usual intuitive descriptors of how a good legal system operates do a good job of predicting survey responses but do not capture the effect of the legal system on firm growth.

In Table VI we see that in addition to the general corruption constraint, the proportion of revenues paid as bribes is also a good indicator of corruption, developing a negative and highly significant coefficient. Corruption of bank officials and the percentage of senior management's time spent with government officials also reduce firm growth significantly, but only at ten percent level. Again, the need to make payments or absence of recourse to honest officials do not develop significant signs in regressions despite their high levels as constraints.

Insert Tables VII to IX

In Tables VII to IX, we investigate if financial, legal and corruption constraints affect firms differently based on their size, as described in equation (2). The first column of Table VII shows that all firms are affected by financing constraints but that the smallest ones are affected the most and the largest ones are affected the least. Multiplying the coefficients with the mean level of constraints for each group reveals that the magnitude of the effect for small firms is more significant and almost double that of large ones.¹⁵ These differences become even clearer when we look at individual financing constraints: The largest firms are barely affected, with only high interest rates developing a negative and significant coefficient at 5 percent. It is not surprising that large firms are also affected by high interest rates since we expect interest rates to affect all firms. Largest firms are completely unaffected by collateral requirements, bank bureaucracies, the need to have special connections (probably because they already have them), banks' lack of money or any of the access issues. In contrast, medium size firms and particularly small firms are significantly and negatively affected by collateral requirements, bank paperwork and bureaucracy, high interest rates, the need to have special connections with banks, banks lack of money to lend, and access to financing for leasing equipment. In addition, smallest firms are negatively affected by constraints on access to export finance. These results provide evidence that financial constraints have a much greater impact on the operation and growth of small and medium firms.¹⁶

The results in Table VIII show that the impact of legal constraints are similar. The general legal constraint leaves large bank growth unaffected, while it has a negative and significant impact on the growth rates of medium and especially small firms. This is

¹⁵ The values are 10.7, .8.7 and 6.0 percent per year for small, medium and large firms, respectively.

¹⁶ Firm size itself, never develops a significant coefficient in the regressions, consistent with simple correlations.

true regardless of the fact that the level of the constraints were highest for the largest firms. To evaluate the economic effect of the perceived constraint, we multiplied the estimated coefficient by the mean reported level of the constraint for each subsample of firms by size. The predicted effect of the constraint on annual firm growth is 2.8 percent for large firms, whereas it is 5.7 percent for medium firms, and 8.5 percent for small firms. These results indicate that large firms are able to better adjust to the inefficiencies of the legal system. This does not seem to be the case for small and medium enterprises which end up paying for the legal shortcomings in terms of slower growth. As in the case of Table V, individual constraints do not seem to capture the relevant differences as well. Nevertheless, looking at these there is even an indication that large firms may be using legal inefficiencies to their advantage, as poor enforcement of court decisions appear to contribute to large firm growth rates. However, there is insufficient evidence to make such a case. As for small firms, affordability of the court system emerges as a significant constraint, although the coefficient is significant only at 10 percent.

In Table IX we see how the impact of corruption on firm growth varies by firm size. Again, it is the small and medium firms that are negatively affected by corruption.¹⁷ None of the corruption indicators develop significant signs for large firms. The general corruption constraint is negative but significant at 10 percent for medium sized firms and negative and highly significant for small firms. When we look at individual constraints, we again see that it is the small and medium enterprises that are affected by bribes, and this time both coefficients are highly significant, although the impact on small firm growth is larger in magnitude. The percentage of senior manager's time spent with

¹⁷ The mean effects on firm growth are 1.6, .41 and 7.5 percent per year for large, medium and small firms, respectively.

officials to understand regulations reduces the growth rates of both small and medium enterprises, but only at 10 percent significance. In addition, small firms are significantly and negatively affected by variables that capture the corruption of bank officials and uncertainty that services will be delivered even after bribes are paid.

Insert Tables X-XII

Next, we address the issue whether constraints affect firms similarly in all countries or whether the impact depends on the country's level of financial and legal development and corruption. Estimation results of equation (3) for financing, legal and corruption constraints are presented in Tables X-XII. The results indicate that firms in financially and legally developed countries with lower levels of corruption are less affected by firm-level constraints in these areas. This is true because (i) in all three cases the coefficient of the general constraint remains negative and significant and its interaction with the relevant development variable develops a positive and significant coefficient;¹⁸ and (ii) as we reported in Table II, the levels of constraints are also higher in countries with underdeveloped financial and legal systems and higher levels of corruption. In Table X, in addition to the general financing constraint, the interaction term develops a positive and significant coefficient for lack of money in the banking system. In Table XI, the interaction term for the general legal constraint and consistent interpretation of laws are positive and significant. In Table XII the interaction terms for the general corruption constraint, bribes, and contract value that has to be paid to government, all develop positive and significant coefficients. Thus, in countries where

¹⁸ Priv and Laworder do not develop significant coefficients when entered together with financing and legal constraints. Corruption, on the other hand does develop a positive and significant coefficient in some specifications even when entered together with firm-level corruption constraints, indicating that lack of corruption is associated with higher firm growth.

there is less corruption, better developed financial and legal systems, firm growth is less constrained by the factors we examine.

Insert Table XIII

Taking into account firm size makes these results even stronger. For general financing, legal and corruption constraints, Table XIII reports results taking into account differences in firm size when looking at the impact of national differences on how firm level constraints affect growth (as illustrated in equation (4) for the financing constraint). Column 1 of Table XIII shows that small firms are the most severely affected by financing constraints also in this specification. However, the interaction term of the financing constraint for small firms with Priv develops a positive and significant sign which indicates that a marginal development in a country's financial system relaxes the financial constraints on small firms. In column 2 of the table, we see a similar result that marginal improvements in legal efficiency are translated into relaxing of legal constraints for small and medium firms (albeit significant at ten percent). Similarly, corruption results reported in column 3 indicate that as countries manage to reduce corruption, the constraining effect of corruption on the growth of small and medium firms diminishes.

6. Conclusions

In this paper we investigate whether different financial, legal and corruption constraints firms report actually affect their growth rates. The paper makes a number of contributions to the literature. First, by making use of a unique survey data base we are able to investigate a rich set of constraints reported by firms and directly test if any of these constraints are significantly correlated with firm growth rates. Second, the data

base also allows us to focus on differences in firm size since it has good coverage of small and medium enterprises in 54 countries. Third, we investigate if the extent to which the firms are affected by different constraints depends on the level of development of the financial and legal system and the national level of corruption. Finally, one of the categories of constraints we investigate is corruption, and its impact on firm growth has not been investigated before.

Our results indicate that the extent to which financial, legal and corruption factors constrain a firm's growth depends very much on its size. We show that it is consistently the smallest firms that are most adversely affected by all constraints. Taking into account national differences between financial and legal development and corruption, we see that those firms that operate in underdeveloped systems with higher levels of corruption are affected by all constraints to a greater extent. We also see that a marginal development in the financial and legal system and a reduction in corruption helps relax the constraints for the small and medium firms, which are the most constrained.

All three constraints – financial, legal, and corruption – do affect firm growth rates adversely. But not all individual constraints are equally important, and the ones that affect firm growth are not necessarily the highest rated by firms. Looking at individual financing constraints, we see that difficulties in dealing with banks, such as bank paperwork and bureaucracies, and the need to have special connections with them do constrain firm growth. Collateral requirements and certain access issues –such as financing for leasing equipment- also turn out to be significantly constraining. In addition, macroeconomic issues captured by high interest rates and lack of money in the banking system significantly reduce firm growth rates. These effects remain significant

even after we control for the level of financial development. Interestingly, another constraint that is rated very highly by firms- access to long term loans- does not affect their growth rates significantly, perhaps because it is possible to substitute short term funding for long term loans.

General legal constraints, and corruption, particularly the amount of bribes paid, the percentage of senior management's time spent with regulators, and corruption of bank officials also constrain firm growth significantly. However, other constraints such as the quickness of courts, or the need to make additional payments, which are both rated very highly by firms as important constraints, do not affect firm growth significantly. These results suggest that the surveys elicit all kinds of complaints which may appear equally important. However, our methodology allows us to distinguish between those constraints that are merely annoying from those that truly constrain firm performance. Two findings are of particular interest. First, the corruption of bank officials does affect firm growth. This provides evidence for the existence of "institutional failure" which has to be taken into account when modeling the monitoring role of financial institutions in overcoming market failures due to informational asymmetries. Second, the finding that the intuitive descriptors of an "efficient" legal system are not correlated with the components of the general legal constraint that do predict firm growth suggests that the mechanism by which the legal systems affects firm performance is not well understood yet.

Our results have important policy implications. Development institutions devote large amount of resources to small and medium enterprises (SMEs) because the development of the SME sector is believed to be crucial for economic growth and poverty alleviation. This paper provides evidence that indeed small and medium sized

firms face greater financial, legal and corruption constraints compared to large firms, and that the impact of constraints on firm growth is inversely related to firm size. The paper also shows that it is the small firms that stand to benefit the most from improvements in financial development and reduction in corruption. Thus, efforts in this area are well justified in promoting the development of the SME sector.

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Table I
Economic Indicators and Constraints to Firm Growth

GDP per capita is real GDP per capita in US\$. Inflation is the log difference of the consumer price index. Growth is the growth rate of GDP in current US\$. All country variables are 1995-1999 averages. Firm Growth is the percentage change in firm sales over the past three years (1996-99). Financing, Legal, and Corruption are general constraints as indicated in the firm questionnaire. They take values 1 to 4, with higher values indicating greater constraints. Firm variables are averaged over all firms in each country. Detailed variable definitions and sources are given in the appendix.

	GDP per capita	Inflation	Growth	Firm Growth	Financing Cons.	Legal Cons.	Corruption
Albania	806.78	0.15	0.03	0.25	3.04	2.76	3.40
Argentina	8000.15	0.00	0.02	0.10	3.03	2.27	2.59
Armenia	844.11	0.10	0.04	-0.19	2.48	1.51	1.99
Azerbaijan	407.75	0.03	0.05	-0.19	3.17	2.60	3.02
Bulgaria	1414.61	0.86	-0.02	0.15	3.18	2.27	2.64
Belarus	2234.91	0.71	0.07	0.09	3.31	1.55	1.88
Belize	2737.70	0.01	0.00	0.13	3.14	1.54	2.00
Bolivia	938.55	0.06	0.01	0.07	3.00	2.81	3.53
Brazil	4491.67	0.07	0.00	0.04	2.67	2.58	2.49
Canada	20548.97	0.01	0.02	0.17	2.11	1.46	1.40
Chile	5002.70	0.05	0.03	0.08	2.39	1.97	1.85
China	676.76	0.02	0.07	0.05	3.35	1.51	1.96
Colombia	2381.19	0.16	-0.01	0.04	2.71	2.41	2.87
Costa Rica	3692.47	0.12	0.04	0.25	2.63	2.24	2.59
Czech Republic	5158.04	0.07	0.00	0.10	3.17	2.18	2.07
Germany	30794.03	0.01	0.01	0.10	2.60	2.14	1.86
Dominican Republic	1712.31	0.06	0.06	0.24	2.59	2.41	2.90
Ecuador	1538.48	0.30	-0.02	-0.03	3.34	3.09	3.52
Spain	15858.03	0.02	0.03	0.26	2.22	1.97	2.08
Estonia	3663.49	0.10	0.05	0.61	2.44	1.70	1.92
France	27719.92	0.01	0.02	0.21	2.75	1.81	1.63
United Kingdom	20186.56	0.03	0.02	0.31	2.21	1.51	1.24
Guatemala	1503.25	0.08	0.01	0.14	3.06	2.58	2.68
Honduras	707.52	0.16	0.00	0.13	2.93	2.40	2.93
Croatia	3845.27	0.05	0.05	0.09	3.32	2.69	2.56
Haiti	368.73	0.14	0.00	-0.05	3.39	2.27	3.02
Hungary	4705.65	0.15	0.04	0.29	2.61	1.30	1.94
Indonesia	1045.04	0.20	-0.02	-0.06	2.82	2.26	2.67
Italy	19645.96	0.02	0.01	0.16	1.98	2.27	1.90
Kazakhstan	1315.10	0.16	0.02	0.08	3.28	2.13	2.74
Kyrgyzstan	800.34	0.22	0.04	-0.02	3.48	2.20	3.23
Lithuania	1907.93	0.09	0.03	0.08	3.00	2.24	2.44
Moldova	667.74	0.18	-0.03	-0.14	3.39	2.47	2.90
Mexico	3394.75	0.20	0.04	0.26	3.51	2.94	3.57
Malaysia	4536.23	0.03	0.01	0.01	2.67	1.66	2.09
Nicaragua	434.69	0.11	0.03	0.19	3.22	2.46	2.88
Pakistan	505.59	0.08	0.00	0.08	3.31	2.55	3.53
Panama	3123.95	0.01	0.02	0.07	2.13	2.36	2.74
Peru	2334.94	0.07	0.01	-0.01	3.10	2.55	2.85
Philippines	1125.81	0.08	0.01	0.07	2.69	2.24	3.13
Poland	3216.04	0.13	0.05	0.34	2.48	2.32	2.28
Portugal	11582.33	0.03	0.03	0.12	1.82	1.86	1.77
Romania	1372.02	0.53	-0.02	0.07	3.28	2.60	2.88
Russia	2223.57	0.35	0.00	0.28	3.21	2.18	2.62
Singapore	24948.09	0.01	0.02	0.11	1.96	1.33	1.29
El Salvador	1705.79	0.04	0.01	-0.01	2.98	2.37	2.80
Slovakia	3805.41	0.07	0.04	0.11	3.38	2.08	2.44
Slovenia	10232.73	0.08	0.04	0.29	2.30	2.29	1.64
Sweden	28258.28	0.00	0.02	0.23	1.85	1.49	1.19
Trinidad & Tobago	4526.28	0.04	0.04	0.20	2.93	1.44	1.66
Turkey	2993.89	0.58	0.01	0.10	3.11	2.28	2.86
Ukraine	866.52	0.26	-0.03	0.03	3.46	2.18	2.54
Uruguay	6113.60	0.15	0.02	0.03	2.70	1.87	1.84
United States	29250.32	0.02	0.03	0.14	2.39	1.79	1.86
Venezuela	3482.51	0.40	-0.02	-0.02	2.57	2.65	2.98

Table II
Summary Statistics and Correlations

Summary statistics are presented in Panel A and B and correlations are presented in Panel C, respectively. N refers to firm level observations for 54 countries. Firm Growth is given by the percentage change in firm sales. Government and Foreign are dummy variables that take the value 1 if the firm has government or foreign ownership and zero if not. Exporter is a dummy variable that indicates if the firm is an exporting firm. Subsidized is also a dummy variable that indicates if the firm receives subsidies from the national or local authorities. No. of Competitors is the logarithm of the number of competitors the firm has. Manufacturing and Services are industry dummies. Inflation is the log difference of the consumer price index. GDP/capita is real GDP per capita in US\$. GDP is the logarithm of GDP in millions of U.S. dollars. Growth is the growth rate of GDP. All country variables are 1995-1999 averages. The different financing, legal, and corruption issues are survey responses as specified in the firm questionnaire. Higher numbers indicate larger constraints, with the exception of “Firms have to make ‘additional payments’ to get things done” and “Firms know the amount of ‘additional payments’ in advance”. Detailed variable definitions and sources are given in the appendix.

Panel A: Summary Statistics:

	N	Mean	Std. Dev.	Min	Max
Firm Growth	4,255	0.13	0.59	-1	8
Government	4,255	0.13	0.34	0	1
Foreign	4,255	0.17	0.37	0	1
Exporter	4,255	0.35	0.48	0	1
Subsidized	4,255	0.10	0.35	0	1
Manufacturing	4,255	0.37	0.48	0	1
Services	4,255	0.47	0.50	0	1
No. of Competitors	4,255	0.80	0.33	0	1.39
Size	4,254	1.78	0.72	1	3
Inflation	54	17.41	19.30	0.11	86.05
GDP per capita	54	560	772	369	30,794
GDP (million \$)	54	24.72	1.96	20.30	29.74
Growth	54	0.02	0.03	-0.03	0.07
Financing	4,213	2.87	1.13	1	4
Legal	3,976	2.17	1.05	1	4
Corruption	4,000	2.43	1.17	1	4
Collateral requirements	3,954	2.54	1.17	1	4
Bank paperwork/bureaucracy	4,078	2.54	1.10	1	4
High interest rates	4,112	3.24	1.03	1	4
Need special connections with banks	3,958	2.19	1.09	1	4
Banks lack money to lend	3,861	2.10	1.22	1	4
Access to foreign banks	3,489	1.99	1.17	1	4
Access to non-bank equity	3,470	2.06	1.16	1	4
Access to export finance	3,017	1.99	1.19	1	4
Access to financing for leasing equipment	3,532	2.02	1.14	1	4
Inadequate credit/financial information on customers	3,712	2.21	1.13	1	4
Access to long term loans	3,937	2.63	1.27	1	4
Availability of information on laws and regulations	4,211	2.92	1.42	1	6
Interpretation of laws and regulations are consistent	4,225	3.42	1.37	1	6
Overall quality and efficiency of courts	3,521	3.73	1.31	1	6
Courts are fair and impartial	3,933	3.75	1.39	1	6
Courts are honest and uncorrupt	3,847	3.80	1.48	1	6
Courts are quick	3,991	4.77	1.22	1	6
Courts are affordable	3,910	3.92	1.45	1	6
Courts are consistent	3,918	4.04	1.36	1	6
Court decisions are enforced	3,905	3.67	1.48	1	6
Confidence in legal system to enforce contract & prop. rights	4,206	3.35	1.38	1	6
Confidence in legal system – 3 years ago	3,935	3.46	1.40	1	6
Corruption of bank officials	3,574	1.72	1.05	1	4
Firms have to make “additional payments” to get things done	3,924	4.36	1.62	1	6
Firms know the amount of “additional payments” in advance	2,310	3.38	1.59	1	6
If “additional payments” are made, services are delivered	2,269	3.01	1.53	1	6
It is possible to find honest agents to replace corrupt ones	3,602	3.58	1.75	1	6
Proportion of revenues paid as bribes	2,831	2.35	1.47	1	7
Prop. of contract value that must be paid for govt. contracts	1,733	2.51	1.73	1	6
Mgmt’s time (%) spent with officials to understand laws & regs	3,990	2.24	1.39	1	6

Panel B: Averages of General Constraints by Size, Financial and Legal Development and National level of Corruption

Small firms are firms with 5 to 50 employees, medium size firm have 51 to 500 employees and large firms have more than 500 employees. Priv is domestic bank credit to the private sector divided by GDP. Laworder is a national indicator of legal development that varies between 1 to 6 and takes higher values for greater development. Corrupt is a national indicator of corruption that varies between 1 to 6 and takes higher values in countries where corruption is lower. The cut-off points to determine high and low split are sample means, which are 0.321, 4.15 and 3.31 for Priv, Laworder and Corrupt, respectively.

	Financing	Legal	Corruption
Small	2.95	2.12	2.51
Medium	2.90	2.19	2.41
Large	2.62	2.21	2.33
High-Priv	2.74	2.05	2.30
Low-Priv	2.97	2.25	2.53
High- Laworder	2.71	2.04	2.09
Low-Laworder	2.97	2.26	2.67
High-Corrupt	2.62	1.98	2.11
Low-Corrupt	3.08	2.32	2.71

Panel C:
Correlation Matrix of Variables

	Firm Growth	Govt	Foreign	Exporter	Subsidized	Manuf.	Services	No. of comp.	Size	Inflation	GDP/capita	GDP(\$)	Growth	Financing	Legal
Govt.	-0.0245*														
Foreign	0.0390**	-0.0258*													
Exporter	0.0844***	0.1001***	0.2368***												
Subsidized	-0.0049	0.1472***	0.0006	0.081***											
Manuf.	-0.0180	0.0855***	0.1165***	0.3448***	0.0219										
Services	0.0210	-0.0846***	-0.0312**	-0.2465***	-0.0759***	-0.7302***									
No. of co.	0.0148	-0.0057	-0.1788***	-0.1211***	-0.0285*	-0.117***	0.0334**								
Size	0.0224	-0.0245*	0.0390***	0.0844***	0.0049	-0.0180	0.0210	0.0148							
Inflation	0.0010	0.1335***	-0.1231***	-0.1024***	0.0049	0.0280*	-0.1262***	0.2640***	0.0010						
GDP/cap	0.0489***	-0.0808***	0.1262***	0.1223***	0.0675***	-0.0460***	0.0739***	-0.2228***	0.0489***	-0.3655***					
GDP(\$)	0.0551***	-0.0960***	0.0799***	0.0058	0.0625***	-0.0391***	0.0559***	-0.1178***	0.0551***	-0.0789***	0.5666***				
Growth	0.0751***	0.0673***	0.0237	0.1275***	0.0404***	0.0000	0.021	0.0281*	0.0751***	-0.3608***	0.1308***	-0.1007***			
Fin. const.	-0.0821***	0.0723***	-0.1732***	-0.052***	0.0231	0.0426***	-0.1317***	0.1039***	-0.0821***	0.1784***	-0.2518***	-0.1114***	-0.1226***		
Leg. const.	-0.0676***	-0.0084	-0.0158	-0.0095	-0.0303**	0.0198	-0.0378**	0.0167	-0.0676***	0.0531***	-0.1737***	-0.0682***	-0.1411***	0.1901***	
Corruption	-0.0695***	-0.0713***	-0.0733***	-0.1025***	-0.0759***	-0.001	-0.0338**	0.0479***	-0.0695***	0.1314***	-0.3322***	-0.1635***	-0.1815***	0.2809***	0.5754***

*, **, *** indicate significance levels of 10, 5, and 1 percent respectively.

Correlation Matrix of Financing Constraints

	Financing Constraint	Collateral requirements	Bank paperwork /bureaucracy	High interest rates	Need special con. with banks	Banks lack money to lend	Access to foreign banks	Access to non-bank equity	Access to export finance	Access to financing for leasing equipment	Access to long term loans
Collateral requirements	0.3737***										
Bank paperwork /bureaucracy	0.2991***	0.5663***									
High interest rates	0.345***	0.4169***	0.4191***								
Need special con. with banks	0.3227***	0.4769***	0.5121***	0.3754***							
Banks lack money to lend	0.3521***	0.2976***	0.3024***	0.3415***	0.4323***						
Access to foreign banks	0.3216***	0.3583***	0.3306***	0.3003***	0.4518***	0.4326***					
Access to non-bank equity	0.3376***	0.3608***	0.3129***	0.2987***	0.4127***	0.4149***	0.6599***				
Access to export finance	0.3278***	0.3494***	0.3058***	0.3092***	0.3911***	0.3939***	0.5971***	0.6543***			
Access to financing for leasing equipment	0.3798***	0.3532***	0.3163***	0.3129***	0.3927***	0.3991***	0.5299***	0.5423***	0.628***		
Inadequate credit/financial information on customers	0.3062***	0.3316***	0.3325***	0.2874***	0.3680***	0.3632***	0.4315***	0.4431***	0.5118***	0.5172***	
Access to long term loans	0.4510***	0.4213***	0.3546***	0.4331***	0.4481***	0.5438***	0.5214***	0.5161***	0.5054***	0.5513***	0.4564***

*, **, *** indicate significance levels of 10, 5, and 1 percent respectively.

Correlation Matrix of Legal Constraints

	Legal constraint	Overall quality and efficiency of courts	Availability of information on laws and regulations	Interpretation of laws and regulations are consistent	Courts are fair and impartial	Courts are honest and uncorrupt	Courts are quick	Courts are affordable	Courts are consistent	Court decisions are enforced	Confidence in legal system to enforce contract & prop. rights
Overall quality and efficiency of courts	0.3245***										
Availability of information on laws and regulations	0.1426***	0.1704***									
Interpretation of laws and regulations are consistent	0.1786***	0.2245***	0.4751***								
Courts are fair and impartial	0.259***	0.3995***	0.2008***	0.2007***							
Courts are honest and uncorrupt	0.2649***	0.3797***	0.181***	0.1682***	0.7161***						
Courts are quick	0.2399***	0.3977***	0.1922***	0.2761***	0.4233***	0.408***					
Courts are affordable	0.2044***	0.2078***	0.1937***	0.1599***	0.3101***	0.3098***	0.4222***				
Courts are consistent	0.2991***	0.4106***	0.192***	0.1997***	0.6214***	0.6189***	0.4821***	0.4614***			
Court decisions are enforced	0.2248***	0.2954***	0.1556***	0.1365***	0.4341***	0.432***	0.3469***	0.3406***	0.5244***		
Confidence in legal system to enforce contract & prop. rights	0.2463***	0.3817***	0.2295***	0.2502***	0.5042***	0.4728***	0.3298***	0.2475***	0.4859***	0.4114***	
Confidence in legal system – 3 years ago	0.2566***	0.3485***	0.2051***	0.2238***	0.4815***	0.4583***	0.3258***	0.2555***	0.4696***	0.4109***	0.863***

*, **, *** indicate significance levels of 10, 5, and 1 percent respectively.

Correlation Matrix of Corruption Indicators

	General corruption indicator	Corruption of bank officials	If “additional payments” are made services are delivered	Firms know the amount of “additional payments” in advance	Firms have to make “additional payments” to get things done	It is possible to find honest agents to replace corrupt ones	Proportion of revenues paid as bribes	Prop. of contract value that must be paid for govt. contracts
Corruption of bank officials	0.4318***							
If “additional payments” are made services are delivered	0.0028	-0.0939***						
Firms know the amount of “additional payments” in advance	-0.1663***	-0.1412***	0.1572***					
Firms have to make “additional payments” to get things done	-0.3909***	-0.3026***	0.1071***	0.1996***				
It is possible to find honest agents to replace corrupt ones	0.0185	0.0617***	-0.1188***	0.0332	-0.0799***			
Proportion of revenues paid as bribes	0.3395***	0.3084***	-0.1625***	-0.1399***	-0.5743***	0.0957***		
Prop. of contract value that must be paid for govt. contracts	0.2086***	0.1382***	0.0583**	-0.0589**	-0.2793***	-0.0423*	0.3244***	
Mgmt’s time (%) spent with officials to understand laws & regs	0.0991***	0.0701***	-0.1268***	-0.0036	-0.1339***	0.0791***	0.3025***	0.0689***

*, **, *** indicate significance levels of 10, 5, and 1 percent respectively.

Table III
Firm Growth: the Impact of Constraints

The regression estimated is: Firm Growth = $\alpha + \beta_1$ Government + β_2 Foreign + β_3 Exporter + β_4 Subsidized + β_5 No. of Competitors + β_6 Manufacturing + β_7 Services + β_8 Inflation + β_9 GDP per capita + β_{10} GDP + β_{11} Growth + β_{12} Financing + β_{13} Legal + β_{14} Corruption + ϵ . Firm Growth is the percentage change in firm sales over the past three years. Government and Foreign are dummy variables that take the value 1 if the firm has government or foreign ownership and zero if not. Exporter is a dummy variable that indicates if the firm is an exporting firm. Subsidized is also a dummy variable that indicates if the firm receives subsidies from the national or local authorities. No. of Competitors is the logarithm of the number of competitors the firm has. Manufacturing and Services are industry dummies. Inflation is the log difference of the consumer price index. GPP per capita is real GDP per capita in US\$. GDP is the logarithm of GDP in millions of U.S. dollars. Growth is the growth rate of GDP. Financing, Legal, and Corruption are general constraints as indicated in the firm questionnaire. They take values of 1 to 4, where 1 indicates no obstacle and 4 indicates major obstacle. All regressions are estimated using country random effects. Firm level variables are obtained from the WBES. Detailed variable definitions and sources are given in the appendix.

	(1)	(2)	(3)	(4)
Government	-0.070*** (0.028)	-0.083*** (0.029)	-0.074*** (0.029)	-0.070** (0.030)
Foreign	0.034 (0.025)	0.045* (0.025)	0.045* (0.026)	0.037 (0.026)
Exporter	0.103*** (0.021)	0.104*** (0.022)	0.107*** (0.022)	0.105*** (0.022)
Subsidized	0.001 (0.026)	0.002 (0.027)	0.007 (0.027)	0.007 (0.027)
No. of Competitors	-0.011 (0.031)	-0.016 (0.032)	-0.001 (0.032)	-0.005 (0.033)
Manufacturing	-0.032 (0.028)	-0.023 (0.029)	-0.032 (0.030)	-0.035 (0.030)
Services	0.027 (0.027)	0.052* (0.028)	0.037 (0.028)	0.036 (0.028)
Inflation	0.002** (0.001)	0.002* (0.001)	0.002 (0.001)	0.002 (0.001)
GDP per capita	0.002 (0.003)	0.001 (0.003)	0.001 (0.003)	0.000 (0.003)
GDP (\$)	0.007 (0.011)	0.012 (0.011)	0.010 (0.011)	0.013 (0.012)
Growth	0.021*** (0.007)	0.021*** (0.007)	0.020*** (0.008)	0.019*** (0.008)
Constraints:				
Financing	-0.031*** (0.009)			-0.023*** (0.009)
Legal		-0.029*** (0.009)		-0.023** (0.011)
Corruption			-0.021*** (0.009)	-0.007 (0.011)
R ² - within	0.01	0.01	0.01	0.02
R ² - between	0.28	0.27	0.25	0.26
R ² - overall	0.02	0.03	0.02	0.03
No of firms	4204	3968	3991	3800
No of countries	54	54	54	54

*, **, *** indicate significance levels of 10, 5, and 1 percent respectively.

Table IV
Firm Growth and Individual Financing Constraints

The regression estimated is: Firm Growth = $\alpha + \beta_1$ Government + β_2 Foreign + β_3 Exporter + β_4 Subsidized + β_5 No. of Competitors + β_6 Manufacturing + β_7 Services + β_8 Inflation + β_9 GDP per capita + β_{10} GDP + β_{11} Growth + β_{12} Financing Constraints + ϵ . Firm Growth is the percentage change in firm sales over the past three years. Government and Foreign are dummy variables that take the value 1 if the firm has government or foreign ownership and zero if not. Exporter is a dummy variable that indicates if the firm is an exporting firm. Subsidized is also a dummy variable that indicates if the firm receives subsidies from the national or local authorities. No. of Competitors is the logarithm of the number of competitors the firm has. Manufacturing and Services are industry dummies. Inflation is the log difference of the consumer price index. GDP per capita is real GDP per capita in US\$. GDP is the logarithm of GDP in millions of U.S. dollars. Growth is given by the growth rate of GDP. Financing constraints range between 1-4 and take higher values for greater obstacles. They are entered one at a time. For brevity only these coefficients are reported below. All regressions are estimated using country random effects. Detailed variable definitions and sources are given in the appendix.

	General financing cnstr.	Collateral requirements	Bank paperwork/bureaucracy	High interest Rates	Need special connections with banks	Banks lack money to lend	Access to foreign banks	Access to non-bank equity	Access to export finance	Access to financing for leasing equipment	Inadequate credit/financial information on customers	Access to long term loans
	-0.031*** (0.009)	-0.027*** (0.008)	-0.028*** (0.008)	-0.032*** (0.010)	-0.023*** (0.009)	-0.029*** (0.008)	-0.009 (0.008)	0.007 (0.009)	-0.009 (0.009)	-0.022** (0.009)	0.001 (0.008)	-0.010 (0.008)
R ² - with.	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
R ² - bet.	0.28	0.25	0.26	0.26	0.26	0.26	0.24	0.25	0.29	0.26	0.27	0.25
R ² - all	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
No of firms	4204	3945	4069	4103	3949	3853	3482	3464	3007	3524	3703	3928
No of countries	54	54	54	54	54	54	54	54	54	54	54	54

*, **, *** indicate significance levels of 10, 5, and 1 percent respectively.

Table V
Firm Growth and Individual Legal Constraints

The regression estimated is: Firm Growth = $\alpha + \beta_1$ Government + β_2 Foreign + β_3 Exporter + β_4 Subsidized + β_5 No. of Competitors + β_6 Manufacturing + β_7 Services + β_8 Inflation + β_9 GDP per capita + β_{10} GDP + β_{11} Growth + β_{12} Legal Constraint + ϵ . Firm Growth is the percentage change in firm sales over the past three years. Government and Foreign are dummy variables that take the value 1 if the firm has government or foreign ownership and zero if not. Exporter is a dummy variable that indicates if the firm is an exporting firm. Subsidized is also a dummy variable that indicates if the firm receives subsidies from the national or local authorities. No. of Competitors is the logarithm of the number of competitors the firm has. Manufacturing and Services are industry dummies. Inflation is the log difference of the consumer price index. GDP per capita is real GDP per capita in US\$. GDP is the logarithm of GDP in millions of U.S. dollars. Growth is given by the growth rate of GDP. Legal constraints range between 1-6 (1-4 in the case of the general constraint) and take higher values for greater obstacles. They are entered one at a time. For brevity only these coefficients are reported below. All regressions are estimated using country random effects. Detailed variable definitions and sources are given in the appendix.

	General legal constraint	Availability of info. on laws and regulations	Interpretation of laws and regulations are consistent	Overall quality and efficiency of courts	Courts are fair and impartial	Courts are honest and uncorrupt	Courts are quick	Courts are affordable	Courts are consistent	Court decisions are enforced	Confidence in legal system to enforce contract and property rights	Confidence in legal system – 3 years ago
	-0.029*** (0.009)	0.002 (0.006)	-0.003 (0.007)	-0.003 (0.008)	-0.004 (0.007)	-0.005 (0.007)	0.005 (0.008)	-0.009 (0.007)	0.002 (0.007)	0.011 (0.007)	-0.005 (0.007)	0.004 (0.007)
R ² - with.	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
R ² - bet.	0.27	0.27	0.26	0.27	0.27	0.31	0.28	0.30	0.27	0.31	0.28	0.32
R ² - all	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.02	0.02
No of firms	3968	4202	4216	3513	3924	3838	3982	3901	3909	3896	4197	3926
No of countries	54	54	54	54	54	54	54	54	54	54	54	54

*, **, *** indicate significance levels of 10, 5, and 1 percent respectively.

Table VI
Firm Growth and Individual Corruption Indicators

The regression estimated is: Firm Growth = $\alpha + \beta_1$ Government + β_2 Foreign + β_3 Exporter + β_4 Subsidized + β_5 No. of Competitors + β_6 Manufacturing + β_7 Services + β_8 Inflation + β_9 GDP per capita + β_{10} GDP + β_{11} Growth + β_{12} Corruption Indicator + ϵ . Firm Growth is the percentage change in firm sales over the past three years. Government and Foreign are dummy variables that take the value 1 if the firm has government or foreign ownership and zero if not. Exporter is a dummy variable that indicates if the firm is an exporting firm. Subsidized is also a dummy variable that indicates if the firm receives subsidies from the national or local authorities. No. of Competitors is the logarithm of the number of competitors the firm has. Manufacturing and Services are industry dummies. Inflation is the log difference of the consumer price index. GDP per capita is real GDP per capita in US\$. GDP is the logarithm of GDP in millions of U.S. dollars. Growth is given by the growth rate of GDP. The range of the corruption indicators is indicated in parentheses after the variable name, with the first number indicating the least constraint. They are entered one at a time. For brevity only these coefficients are reported below. All regressions are estimated using country random effects. Detailed variable definitions and sources are given in the appendix.

	General corruption indicator (1-4)	Corruption of bank officials (1-4)	Firms have to make "additional payments" to get things done (6-1)	Firms know in advance the amount of "additional payments" (6-1)	If "additional payments" are made, services are delivered as agreed (1-6)	If one agent asks for payments it is possible to find others to get the correct treatment without payment (1-6)	Proportion of revenues paid as bribes – annual figure for each firm (1-7)	Proportion of contract value that must be paid as "payment" to do business with the government (1-6)	Percentage of senior management's time spent with government officials to understand laws and regulations (1-6)
	-0.021*** (0.009)	-0.017* (0.010)	-0.003 (0.006)	-0.002 (0.008)	-0.012 (0.009)	-0.002 (0.006)	-0.037*** (0.008)	0.004 (0.007)	-0.012* (0.007)
R ² - with.	0.01	0.01	0.01	0.01	0.02	0.01	0.03	0.02	0.01
R ² - bet.	0.25	0.26	0.28	0.19	0.20	0.28	0.16	0.21	0.24
R ² - all	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.04	0.02
No of firms	3991	3566	3916	2306	2266	3595	2824	1734	3981
No of countries	54	54	54	53	53	53	53	52	54

*, **, *** indicate significance levels of 10, 5, and 1 percent respectively.

Table VII
Firm Growth and Individual Financing Constraints: Large vs. Small Firms

The regression estimated is: Firm Growth = $\alpha + \beta_1$ Government + β_2 Foreign + β_3 Exporter + β_4 Subsidized + β_5 No. of Competitors + β_6 Manufacturing + β_7 Services + β_8 Inflation + β_9 GDP per capita + β_{10} GDP + β_{11} Growth + β_{12} LSize + β_{13} Financing Constraint*Small + β_{14} Financing Constraint*Medium + β_{15} Financing Constraint*Large + ϵ . Firm Growth is the percentage change in firm sales over the past three years. Government and Foreign are dummy variables that take the value 1 if the firm has government or foreign ownership and zero if not. Exporter is a dummy variable that indicates if the firm is an exporting firm. Subsidized is also a dummy variable that indicates if the firm receives subsidies from the national or local authorities. No. of Competitors is the logarithm of the number of competitors the firm has. Manufacturing and Services are industry dummies. Inflation is the log difference of the consumer price index. GDP per capita is real GDP per capita in US\$. GDP is the logarithm of GDP in millions of U.S. dollars. Growth is given by the growth rate of GDP. Financing constraints range between 1-4 and take higher values for greater obstacles. LSize is given by logarithm of firm sales. Constraints are multiplied by a vector of size dummy variables, small, medium and large. They take the value 1 if a firm is small (or medium or large) and 0 otherwise. Small firms employ 5 to 50 employees (average sales=127 million US\$), medium size firms employ 51 to 500 employees (average sales=136 million US\$) and large firms employ more than 500 employees (average sales 237 million US\$). These size dummies are interacted with the constraints. For brevity only these coefficients (β_{13} - β_{15}) are reported below. All regressions are estimated using country random effects. Detailed variable definitions and sources are given in the appendix.

	General financing constraint	Collateral requirements	Bank paperwork/bureaucracy	High interest Rates	Need special connections with banks	Banks lack money to lend	Access to foreign banks	Access to non-bank equity	Access to export finance	Access to financing for leasing equipment	Inadequate credit/financial information on customers	Access to long term loans
Large	-0.023** (0.012)	-0.019 (0.012)	-0.012 (0.012)	-0.024** (0.012)	-0.007 (0.013)	-0.020 (0.013)	-0.002 (0.013)	-0.004 (0.014)	0.005 (0.014)	-0.006 (0.014)	0.012 (0.013)	0.000 (0.011)
Medium	-0.031*** (0.009)	-0.025*** (0.009)	-0.027*** (0.009)	-0.031*** (0.010)	-0.021** (0.010)	-0.029*** (0.009)	0.000 (0.010)	0.002 (0.010)	-0.006 (0.010)	-0.023** (0.010)	-0.001 (0.010)	-0.012 (0.009)
Small	-0.034*** (0.009)	-0.031*** (0.009)	-0.031*** (0.009)	-0.037*** (0.010)	-0.028*** (0.010)	-0.034*** (0.010)	-0.002 (0.010)	0.000 (0.011)	-0.019* (0.011)	-0.027*** (0.011)	-0.001 (0.010)	-0.012 (0.009)
R ² - with.	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
R ² - bet.	0.29	0.25	0.26	0.27	0.27	0.28	0.26	0.28	0.30	0.30	0.28	0.27
R ² - all	0.03	0.03	0.03	0.03	0.02	0.03	0.02	0.02	0.03	0.03	0.02	0.02
No of firms	4182	3926	4048	4083	3928	3832	3463	3444	2990	3504	3682	3907
No of countries	54	54	54	54	54	54	54	54	54	54	54	54

*, **, *** indicate significance levels of 10, 5, and 1 percent respectively.

Table VIII
Firm Growth and Individual Legal Constraints: Large vs. Small Firms

The regression estimated is: Firm Growth = $\alpha + \beta_1$ Government + β_2 Foreign + β_3 Exporter + β_4 Subsidized + β_5 No. of Competitors + β_6 Manufacturing + β_7 Services + β_8 Inflation + β_9 GDP per capita + β_{10} GDP + β_{11} Growth + β_{12} LSize + β_{13} Legal Constraint*Small + β_{14} Legal Constraint*Medium + β_{15} Legal Constraint*Large + ϵ . Firm Growth is the percentage change in firm sales over the past three years. Government and Foreign are dummy variables that take the value 1 if the firm has government or foreign ownership and zero if not. Exporter is a dummy variable that indicates if the firm is an exporting firm. Subsidized is also a dummy variable that indicates if the firm receives subsidies from the national or local authorities. No. of Competitors is the logarithm of the number of competitors the firm has. Manufacturing and Services are industry dummies. Inflation is the log difference of the consumer price index. GDP per capita is real GDP per capita in US\$. GDP is the logarithm of GDP in millions of U.S. dollars. Growth is given by the growth rate of GDP. Legal constraints range between 1-6 (1-4 in the case of the general constraint) and take higher values for greater obstacles. LSize is given by logarithm of firm sales. Constraints are multiplied by a vector of size dummy variables, small, medium and large. They take the value 1 if a firm is small (or medium or large) and 0 otherwise. Small firms employ 5 to 50 employees (average sales=127 million US\$), medium size firms employ 51 to 500 employees (average sales=136 million US\$) and large firms employ more than 500 employees (average sales 237 million US\$). These size dummies are interacted with the constraints. For brevity only these coefficients (β_{13} - β_{15}) are reported below. All regressions are estimated using country random effects. Detailed variable definitions and sources are given in the appendix.

	General legal constr.	Availability of info. on laws and regulations	Interpretation of laws and regulations are consistent	Overall quality and efficiency of courts	Courts are fair and impartial	Courts are honest and uncorrupt	Courts are quick	Courts are affordable	Courts are consistent	Court decisions are enforced	Confidence in legal system to enforce contract and property rights	Confidence in legal system – 3 years ago
Large	-0.013 (0.013)	0.016 (0.010)	0.006 (0.009)	0.012 (0.010)	0.011 (0.010)	0.009 (0.009)	0.013 (0.009)	-0.003 (0.009)	0.014 (0.009)	0.024*** (0.009)	0.010 (0.010)	0.017* (0.009)
Medium	-0.026*** (0.010)	0.002 (0.007)	-0.005 (0.007)	-0.002 (0.008)	-0.001 (0.008)	-0.002 (0.007)	0.006 (0.008)	-0.007 (0.007)	0.003 (0.007)	0.010 (0.007)	-0.003 (0.008)	0.006 (0.008)
Small	-0.040*** (0.011)	-0.002 (0.007)	-0.005 (0.008)	-0.091 (0.008)	-0.010 (0.008)	-0.011 (0.008)	0.002 (0.008)	-0.013* (0.007)	-0.004 (0.008)	0.007 (0.007)	-0.010 (0.008)	-0.003 (0.008)
R ² - with.	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
R ² - bet.	0.26	0.28	0.27	0.26	0.27	0.31	0.29	0.30	0.27	0.31	0.28	0.32
R ² - all	0.03	0.02	0.02	0.02	0.02	0.03	0.02	0.02	0.02	0.03	0.02	0.03
No of firms	3946	4180	4295	3496	3902	3816	3960	3880	3888	3874	4175	3905
No of countries	54	54	54	54	54	54	54	54	54	54	54	54

*, **, *** indicate significance levels of 10, 5, and 1 percent respectively.

Table IX
Firm Growth and Individual Corruption Indicators: Large vs. Small Firms

The regression estimated is: Firm Growth = $\alpha + \beta_1$ Government + β_2 Foreign + β_3 Exporter + β_4 Subsidized + β_5 No. of Competitors + β_6 Manufacturing + β_7 Services + β_8 Inflation + β_9 GDP per capita + β_{10} GDP + β_{11} Growth + β_{12} LSize + β_{13} Corruption Indicator*Small + β_{14} Corruption Indicator*Medium + β_{15} Corruption Indicator*Large + ϵ . Firm Growth is the percentage change in firm sales over the past three years. Government and Foreign are dummy variables that take the value 1 if the firm has government or foreign ownership and zero if not. Exporter is a dummy variable that indicates if the firm is an exporting firm. Subsidized is also a dummy variable that indicates if the firm receives subsidies from the national or local authorities. No. of Competitors is the logarithm of the number of competitors the firm has. Manufacturing and Services are industry dummies. Inflation is the log difference of the consumer price index. GDP per capita is real GDP per capita in US\$. GDP is the logarithm of GDP in millions of U.S. dollars. Growth is given by the growth rate of GDP. The range of the corruption indicators is indicated in parentheses after the variable name, with the first number indicating the least constraint. LSize is given by logarithm of firm sales. Constraints are multiplied by a vector of size dummy variables, small, medium and large. They take the value 1 if a firm is small (or medium or large) and 0 otherwise. Small firms employ 5 to 50 employees (average sales=127 million US\$), medium size firms employ 51 to 500 employees (average sales=136 million US\$) and large firms employ more than 500 employees (average sales 237 million US\$). These size dummies are interacted with the constraints. For brevity only these coefficients ($\beta_{13} - \beta_{15}$) are reported below. All regressions are estimated using country random effects. Detailed variable definitions and sources are given in the appendix.

	General corruption Indicator (1-4)	Corruption of bank Officials (1-4)	Firms have to make “additional payments” to get things done (6-1)	Firms know in advance the amount of “additional payments” (6-1)	If “additional payments” are made, services are delivered as agreed (1-6)	If one agent asks for payments it is possible to find others to get the correct treatment without payment (1-6)	Proportion of revenues paid as bribes – annual figure for each firm (1-7)	Proportion of contract value that must be paid as “payment” to do business with the government (1-6)	Percentage of senior management’s time spent with government officials to understand laws and regulations (1-6)
Large	-0.007 (0.012)	-0.007 (0.016)	0.017 (0.011)	0.018 (0.014)	0.004 (0.014)	0.011 (0.009)	-0.013 (0.015)	0.020 (0.014)	-0.003 (0.011)
Medium	-0.017* (0.010)	-0.012 (0.012)	-0.001 (0.007)	-0.002 (0.009)	-0.005 (0.011)	-0.001 (0.007)	-0.033*** (0.010)	0.006 (0.009)	-0.014* (0.008)
Small	-0.030*** (0.010)	-0.024** (0.011)	-0.011 (0.007)	-0.009 (0.009)	-0.018* (0.011)	-0.009 (0.007)	-0.053*** (0.009)	-0.001 (0.009)	-0.017* (0.009)
R ² - with.	0.01	0.01	0.01	0.02	0.02	0.01	0.03	0.02	0.01
R ² - bet.	0.25	0.28	0.28	0.20	0.21	0.29	0.23	0.21	0.26
R ² - all	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.05	0.02
No of firms	3969	3545	3896	2293	2255	3581	2805	1712	3963
No of countries	54	54	53	53	53	53	53	52	54

*, **, *** indicate significance levels of 10, 5, and 1 percent respectively.

Table X
Firm Growth and Individual Financing Constraints: Impact of Financial Development

The regression estimated is: Firm Growth = $\alpha + \beta_1$ Government + β_2 Foreign + β_3 Exporter + β_4 Subsidized + β_5 No. of Competitors + β_6 Manufacturing + β_7 Services + β_8 Inflation + β_9 GDP per capita + β_{10} GDP + β_{11} Growth + β_{12} Priv + β_{13} Financing Constraint + β_{14} Financing Constraint*Priv + ϵ . Firm Growth is the percentage change in firm sales over the past three years. Government and Foreign are dummy variables that take the value 1 if the firm has government or foreign ownership and zero if not. Exporter is a dummy variable that indicates if the firm is an exporting firm. Subsidized is also a dummy variable that indicates if the firm receives subsidies from the national or local authorities. No. of Competitors is the logarithm of the number of competitors the firm has. Manufacturing and Services are industry dummies. Inflation is the log difference of the consumer price index. GDP per capita is real GDP per capita in US\$. GDP is the logarithm of GDP in millions of U.S. dollars. Growth is given by the growth rate of GDP. Priv is domestic bank credit to the private sector divided by GDP. Financing constraints range between 1-4 and take higher values for greater obstacles. They are interacted with the variable Priv, which proxies financial development. For brevity only these coefficients are reported below. All regressions are estimated using country random effects. Detailed variable definitions and sources are given in the appendix.

	General financing constraint	Collateral requirements	Bank paperwork/bureaucracy	High interest Rates	Need special connections with banks	Banks lack money to lend	Access to foreign banks	Access to non-bank equity	Access to export finance	Access to financing for leasing equipment	Inadequate credit/financial information on customers	Access to long term loans
Constraint	-0.043*** (0.013)	-0.026** (0.012)	-0.033*** (0.012)	-0.039*** (0.015)	-0.026** (0.012)	-0.051*** (0.012)	-0.007 (0.012)	0.008 (0.013)	-0.014 (0.013)	-0.021* (0.013)	-0.000 (0.013)	-0.020* (0.012)
Constr x Priv	0.045* (0.029)	-0.004 (0.029)	0.023 (0.031)	0.031 (0.032)	0.007 (0.030)	0.063** (0.031)	0.005 (0.034)	-0.028 (0.034)	0.012 (0.034)	0.016 (0.034)	-0.007 (0.031)	0.021 (0.029)
R ² - with.	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
R ² - bet.	0.17	0.14	0.15	0.16	0.17	0.15	0.14	0.14	0.17	0.15	0.13	0.14
R ² - all	0.02	0.02	0.02	0.02	0.02	0.03	0.02	0.02	0.02	0.02	0.02	0.02
No of firms	3596	3418	3507	3531	3402	3340	3050	3000	2626	3087	3242	3406
No of countries	50	50	50	50	50	50	50	50	50	50	50	50

*, **, *** indicate significance levels of 10, 5, and 1 percent respectively.

Table XI
Firm Growth and Individual Legal Constraints: Impact of Legal Development

The regression estimated is: Firm Growth = $\alpha + \beta_1$ Government + β_2 Foreign + β_3 Exporter + β_4 Subsidized + β_5 No. of Competitors + β_6 Manufacturing + β_7 Services + β_8 Inflation + β_9 GDP per capita + β_{10} GDP + β_{11} Growth + β_{12} Laworder + β_{13} Legal Constraint + β_{14} Legal Constraint*Laworder + ϵ . Firm Growth is the percentage change in firm sales over the past three years. Government and Foreign are dummy variables that take the value 1 if the firm has government or foreign ownership and zero if not. Exporter is a dummy variable that indicates if the firm is an exporting firm. Subsidized is also a dummy variable that indicates if the firm receives subsidies from the national or local authorities. No. of Competitors is the logarithm of the number of competitors the firm has. Manufacturing and Services are industry dummies. Inflation is the log difference of the consumer price index. GDP per capita is real GDP per capita in US\$. GDP is the logarithm of GDP in millions of U.S. dollars. Growth is given by the growth rate of GDP. Laworder is a national indicator (1-6) that takes higher values for legal systems that are more developed. Legal constraints (firm level) range between 1-6 (1-4 in the case of the general constraint) and take higher values for greater obstacles. They are interacted with Laworder. For brevity only these coefficients are reported below. All regressions are estimated using country random effects. Detailed variable definitions and sources are given in the appendix.

	General legal constr.	Availability of info. on laws and regulations	Interpretation of laws and regulations are consistent	Overall quality and efficiency of courts	Courts are fair and impartial	Courts are honest and uncorrupt	Courts are quick	Courts are affordable	Courts are consistent	Court decisions are enforced	Confidence in legal system to enforce contract and property rights	Confidence in legal system – 3 years ago
Constraint	-0.085** (0.027)	-0.026 (0.025)	-0.052** (0.027)	-0.024 (0.030)	-0.016 (0.028)	0.002 (0.027)	-0.001 (0.033)	-0.002 (0.026)	-0.012 (0.028)	0.025 (0.027)	-0.011 (0.027)	-0.004 (0.026)
Constr. x Laworder	0.014* (0.009)	0.007 (0.006)	0.012* (0.006)	0.005 (0.007)	0.003 (0.007)	-0.002 (0.006)	0.002 (0.007)	-0.001 (0.006)	0.004 (0.006)	-0.003 (0.006)	0.002 (0.006)	0.002 (0.006)
R ² - with.	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
R ² - bet.	0.26	0.27	0.28	0.28	0.27	0.31	0.29	0.30	0.27	0.32	0.28	0.32
R ² – all	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
No of firms	3923	4135	4149	3470	3873	3773	3930	3853	3859	3850	4130	3870
No of countries	53	53	53	53	53	53	53	53	53	53	53	53

*, **, *** indicate significance levels of 10, 5, and 1 percent respectively.

Table XII
Firm Growth and Individual Corruption Indicators: Impact of National Corruption

The regression estimated is: Firm Growth = $\alpha + \beta_1$ Government + β_2 Foreign + β_3 Exporter + β_4 Subsidized + β_5 No. of Competitors + β_6 Manufacturing + β_7 Services + β_8 Inflation + β_9 GDP per capita + β_{10} GDP + β_{11} Growth + β_{12} Corrupt + β_{13} Corruption Indicator + β_{14} Corruption Indicator*Corrupt + ϵ . Firm Growth is the percentage change in firm sales over the past three years. Government and Foreign are dummy variables that take the value 1 if the firm has government or foreign ownership and zero if not. Exporter is a dummy variable that indicates if the firm is an exporting firm. Subsidized is also a dummy variable that indicates if the firm receives subsidies from the national or local authorities. No. of Competitors is the logarithm of the number of competitors the firm has. Manufacturing and Services are industry dummies. Inflation is the log difference of the consumer price index. GDP per capita is real GDP per capita in US\$. GDP is the logarithm of GDP in millions of U.S. dollars. Growth is given by the growth rate of GDP. Corrupt is a corruption indicator at the national level which takes higher values in countries where corruption is lower. The range of the corruption indicators (firm-level) is indicated in parentheses after the variable name, with the first number indicating the least constraint. They are interacted with Corrupt. For brevity only these coefficients are reported below. All regressions are estimated using country random effects. Detailed variable definitions and sources are given in the appendix.

	General corruption Indicator (1-4)	Corruption of bank Officials (1-4)	Firms have to make “additional payments” to get things done (6-1)	Firms know in advance the amount of “additional payments” (6-1)	If “additional payments” are made, services are delivered as agreed (1-6)	If one agent asks for payments it is possible to find others to get the correct treatment without payment (1-6)	Proportion of revenues paid as bribes – annual figure for each firm (1-7)	Proportion of contract value that must be paid as “payment” to do business with the government (1-6)	Percentage of senior management’s time spent with government officials to understand laws and regulations (1-6)
Constraint	-0.084*** (0.026)	-0.024 (0.030)	-0.020 (0.019)	0.026 (0.026)	0.018 (0.028)	-0.006 (0.018)	-0.099*** (0.025)	-0.037* (0.023)	-0.025 (0.022)
Constr x Corrupt	0.020*** (0.008)	0.002 (0.010)	0.006 (0.006)	-0.009 (0.008)	-0.011 (0.009)	0.001 (0.005)	0.021*** (0.008)	0.011* (0.006)	0.005 (0.007)
R ² - with.	0.01	0.01	0.01	0.01	0.01	0.01	0.03	0.01	0.01
R ² - bet.	0.36	0.37	0.36	0.34	0.34	0.37	0.33	0.28	0.36
R ² - all	0.03	0.03	0.02	0.03	0.04	0.02	0.04	0.04	0.02
No of firms	3939	3531	3860	2263	2224	3544	2779	1709	3924
No of countries	53	53	52	52	52	52	52	51	53

*, **, *** indicate significance levels of 10, 5, and 1 percent respectively.

Table XIII
Firm Growth and the Impact of Constraints: Firm Size and National Differences

The regression estimated is: Firm Growth = $\alpha + \beta_1$ Government + β_2 Foreign + β_3 Exporter + β_4 Subsidized + β_5 No. of Competitors + β_6 Manufacturing + β_7 Services + β_8 Inflation + β_9 GDP per capita + β_{10} GDP + β_{11} Growth + β_{12} Priv*Size + β_{13} Laworder*Size+ β_{14} Corrupt*Size+ β_{15} LSize+ β_{16} Financing*Size + β_{17} Financing*Size*Priv + β_{18} Legal*Size+ β_{19} Legal*Size*Laworder + β_{20} Corruption*Size + β_{21} Corruption*Size*Corrupt+ ϵ . Firm Growth is the percentage change in firm sales over the past three years. Government and Foreign are dummy variables that take the value 1 if the firm has government or foreign ownership and zero if not. Exporter is a dummy variable that indicates if the firm is an exporting firm. Subsidized is also a dummy variable that indicates if the firm receives subsidies from the national or local authorities. No. of Competitors is the logarithm of the number of competitors the firm has. Manufacturing and Services are industry dummies. Inflation is the log difference of the consumer price index. GDP percapita is real GDP per capita in US\$. GDP is the logarithm of GDP in millions of U.S. dollars. Growth is the growth rate of GDP. Priv is domestic bank credit to the private sector divided by GDP. Laworder is a national indicator (1-6) that takes higher values for legal systems that are more developed. Corrupt is a corruption indicator (1-6) at the national level which takes higher values in countries where corruption is lower. Financing, Legal, and Corruption are general firm-level constraints as indicated in the firm questionnaire. They take values of 1 to 4, where 1 indicates no obstacle and 4 indicates major obstacle. LSize is given by logarithm of firm sales. Priv, Laworder, Corrupt and constraints are multiplied by a vector of size dummy variables, small, medium and large. They take the value 1 if a firm is small (or medium or large) and 0 otherwise. Small firms employ 5 to 50 employees (average sales=127 million US\$), medium size firms employ 51 to 500 employees (average sales=136 million US\$) and large firms employ more than 500 employees (average sales 237 million US\$). Further, financing constraints are interacted with Priv, legal constraints are interacted with Laworder, and corruption constraints are interacted with corrupt. Only these interaction terms are reported for brevity. All regressions are estimated using country random effects. Firm level variables are obtained from the WBES. Detailed variable definitions and sources are given in the appendix.

	(1)	(2)	(3)
Gen. financing constraint:			
Large	-0.023 (0.016)		
Medium	-0.031** (0.014)		
Small	-0.058*** (0.014)		
Large x Priv	-0.039 (0.051)		
Medium x Priv	0.021 (0.038)		
Small x Priv	0.097*** (0.039)		
Gen. legal constraint:			
Large		-0.060 (0.046)	
Medium		-0.092** (0.040)	
Small		-0.104*** (0.044)	
Large x Laworder		0.009 (0.013)	
Medium x Laworder		0.018* (0.010)	
Small x Laworder		0.015* (0.010)	
Gen. corruption constr.			
Large			-0.020 (0.037)
Medium			-0.067** (0.028)
Small			-0.117*** (0.029)
Large x Corrupt			0.002 (0.013)
Medium x Corrupt			0.018** (0.009)
Small x Corrupt			0.026*** (0.009)
R ² - within	0.02	0.02	0.02
R ² - between	0.34	0.26	0.43
R ² - overall	0.04	0.03	0.04
No of firms	3579	3906	3922
No of countries	50	53	53

*, **, *** indicate significance levels of 10, 5, and 1 percent respectively.

Appendix Table AI Number of Firms in Each Country

The data source is WBES.

	Number of Firms
Albania	85
Argentina	76
Armenia	90
Azerbaijan	66
Bulgaria	100
Belarus	95
Belize	14
Bolivia	61
Brazil	132
Canada	73
Chile	67
China	69
Colombia	77
Costa Rica	49
Czech Republic	78
Germany	59
Dominican Republic	73
Ecuador	46
Spain	64
Estonia	103
France	55
United Kingdom	53
Guatemala	52
Honduras	46
Croatia	91
Haiti	42
Hungary	91
Indonesia	67
Italy	54
Kazakhstan	85
Kyrgyzstan	62
Lithuania	66
Moldova	78
Mexico	35
Malaysia	33
Nicaragua	51
Pakistan	55
Panama	47
Peru	65
Philippines	84
Poland	169
Portugal	49
Romania	95
Russia	372
Singapore	72
El Salvador	48
Slovakia	86
Slovenia	101
Sweden	68
Trinidad & Tobago	59
Turkey	112
Ukraine	165
Uruguay	55
United States	61
Venezuela	54

Appendix : Variables and Sources

Variable	Definition	Original source
GDP	GDP in current U.S. dollars, average 1995-99	World Development Indicators
GDP per capita	Real per capita GDP, average 1995-99	World Development Indicators
Growth	Growth rate of GDP, average 1995-99	World Development Indicators
Inflation rate	Log difference of Consumer Price Index	International Financial Statistics (IFS), line 64
Priv	$\{(0.5)*[F(t)/P_e(t) + F(t-1)/P_e(t-1)]\}/[GDP(t)/P_a(t)]$, where F is credit by deposit money banks to the private sector (lines 22d), GDP is line 99b, P_e is end-of period CPI (line 64) and P_a is the average CPI for the year.	IFS
Laworder	Measure of the law and order tradition of a country. It is an average over 1995-97. It ranges from 6, strong law and order tradition, to 1, weak law and order tradition.	International Country Risk Guide (ICRG).
Corrupt	Measure of corruption in government. It ranges from 1 to 6 and is an average over 1995-97. Lower scores indicate that "high government officials are likely to demand special payments" and "illegal payments are generally expected throughout lower levels of government" in the form of "bribes connected with import and export licenses, exchange controls, tax assessment, policy protection, or loans."	International Country Risk Guide (ICRG).
Firm Growth	Estimate of the firm's sales growth over the past three years.	World Business Environment Survey (WBES)
Government	Dummy variable that takes on the value one if any government agency or state body has a financial stake in the ownership of the firm, zero otherwise.	World Business Environment Survey (WBES)
Foreign	Dummy variable that takes on the value one if any foreign company or individual has a financial stake in the ownership of the firm, zero otherwise.	World Business Environment Survey (WBES)
Exporter	Dummy variable that takes on the value one if firm exports, zero otherwise.	World Business Environment Survey (WBES)
Subsidized	Dummy variable that takes on value one if firm receives subsidies (including tolerance of tax arrears) from local or national government.	World Business Environment Survey (WBES)
Manufacturing	Dummy variable that takes on the value one if firm is in the manufacturing industry, zero otherwise.	World Business Environment Survey (WBES)
Services	Dummy variable that takes on the value one if firm is in the service industry, zero otherwise.	World Business Environment Survey (WBES)
No. of Competitors	Regarding your firm's major product line, how many competitors do you face in your market?	World Business Environment Survey (WBES)

Firm size dummies	A firm is defined as small if it has between 5 and 50 employees, medium size if it has between 51 and 500 employees and large if it has more than 500 employees.	World Business Environment Survey (WBES)
Size	Logarithm of firm sales	World Business Environment Survey (WBES)
Financing Constraint	How problematic is financing for the operation and growth of your business: no obstacle (1), a minor obstacle (2), a moderate obstacle (3) or a major obstacle (4)?	World Business Environment Survey (WBES)
Legal Constraint	How problematic is functioning of the judiciary for the operation and growth of your business: no obstacle (1), a minor obstacle (2), a moderate obstacle (3) or a major obstacle (4)?	World Business Environment Survey (WBES)
Corruption	How problematic is corruption for the operation and growth of your business: no obstacle (1), a minor obstacle (2), a moderate obstacle (3) or a major obstacle (4)?	World Business Environment Survey (WBES)
Collateral requirements	Are collateral requirements of banks/financial institutions no obstacle (1), a minor obstacle (2), a moderate obstacle (3) or a major obstacle (4)?	World Business Environment Survey (WBES)
Bank paperwork/bureaucracy	Is bank paperwork/bureaucracy no obstacle (1), a minor obstacle (2), a moderate obstacle (3) or a major obstacle (4)?	World Business Environment Survey (WBES)
High interest rates	Are high interest rates no obstacle (1), a minor obstacle (2), a moderate obstacle (3) or a major obstacle (4)?	World Business Environment Survey (WBES)
Need special connections with banks	Is the need of of special connections with banks/financial institutions no obstacle (1), a minor obstacle (2), a moderate obstacle (3) or a major obstacle (4)?	World Business Environment Survey (WBES)
Banks lack money to lend	Is banks' lack of money to lend no obstacle (1), a minor obstacle (2), a moderate obstacle (3) or a major obstacle (4)?	World Business Environment Survey (WBES)
Access to foreign banks	Is the access to foreign banks no obstacle (1), a minor obstacle (2), a moderate obstacle (3) or a major obstacle (4)?	World Business Environment Survey (WBES)
Access to non-bank equity	Is the access to non-bank equity/investors/partners no obstacle (1), a minor obstacle (2), a moderate obstacle (3) or a major obstacle (4)?	World Business Environment Survey (WBES)
Access to export finance	Is the access to specialized export finance no obstacle (1), a minor obstacle (2), a moderate obstacle (3) or a major obstacle (4)?	World Business Environment Survey (WBES)
Access to financing for leasing equipment	Is the access to lease finance for equipment no obstacle (1), a minor obstacle (2), a moderate obstacle (3) or a major obstacle (4)?	World Business Environment Survey (WBES)
Inadequate credit/financial information on costumers	Is inadequate credit/financial information on costumers no obstacle (1), a minor obstacle (2), a moderate obstacle (3) or a major obstacle (4)?	World Business Environment Survey (WBES)

Access to long-term loans	Is the access to long-term finance no obstacle (1), a minor obstacle (2), a moderate obstacle (3) or a major obstacle (4)?	World Business Environment Survey (WBES)
Availability of information on laws and regulations	In general, information on the laws and regulations affecting my firm is easy to obtain: (1) fully agree, (2) agree in most cases, (3) tend to agree, (4) tend to disagree, (5) disagree in most cases, (6) fully disagree.	World Business Environment Survey (WBES)
Interpretation of laws and regulations are consistent	In general, interpretation of regulations affecting my firm are consistent and predictable: (1) fully agree, (2) agree in most cases, (3) tend to agree, (4) tend to disagree, (5) disagree in most cases, (6) fully disagree.	World Business Environment Survey (WBES)
Overall quality and efficiency of courts	Overall quality and efficiency of the judiciary/courts: (1) very good, (2) good, (3) slightly good, (4) slightly bad, (5) bad, (6) very bad.	World Business Environment Survey (WBES)
Courts are fair and impartial	In resolving business disputes, do you believe your country's courts to be fair and impartial: (1) always, (2) usually, (3) frequently, (4) sometimes, (5) seldom, (6) never.	World Business Environment Survey (WBES)
Courts are honest and uncorrupt	In resolving business disputes, do you believe your country's courts to be fair and impartial: (1) always, (2) usually, (3) frequently, (4) sometimes, (5) seldom, (6) never.	World Business Environment Survey (WBES)
Courts are quick	In resolving business disputes, do you believe your country's courts to be quick: (1) always, (2) usually, (3) frequently, (4) sometimes, (5) seldom, (6) never.	World Business Environment Survey (WBES)
Courts are affordable	In resolving business disputes, do you believe your country's courts to be affordable: (1) always, (2) usually, (3) frequently, (4) sometimes, (5) seldom, (6) never.	World Business Environment Survey (WBES)
Courts are consistent	In resolving business disputes, do you believe your country's courts to be consistent: (1) always, (2) usually, (3) frequently, (4) sometimes, (5) seldom, (6) never.	World Business Environment Survey (WBES)
Court decisions are enforced	In resolving business disputes, do you believe your country's courts to enforce decisions: (1) always, (2) usually, (3) frequently, (4) sometimes, (5) seldom, (6) never.	World Business Environment Survey (WBES)
Confidence in legal system to enforce contract and property rights	I am confident that the legal system will uphold my contract and property rights in business disputes: (1) fully agree, (2) agree in most cases, (3) tend to agree, (4) tend to disagree, (5) disagree in most cases, (6) fully disagree.	World Business Environment Survey (WBES)
Confidence in legal system - 3 years ago	I am confident that the legal system will uphold my contract and property rights in business disputes: three years ago - (1) fully agree, (2) agree in most cases, (3) tend to agree, (4) tend to disagree, (5) disagree in most cases, (6) fully disagree.	World Business Environment Survey (WBES)

Corruption of bank officials	Is the corruption of bank officials no obstacle (1), a minor obstacle (2), a moderate obstacle (3) or a major obstacle (4)?	World Business Environment Survey (WBES)
Firms have to make "additional payments" in advance	It is common for firms in my line of business to have to pay some irregular "additional payments" to get things done: (1) always, (2) mostly, (3) frequently, (4) sometimes, (5) seldom, (6) never.	World Business Environment Survey (WBES)
Firms know the amount of "additional payments" in advance	Firms in my line of business usually know in advance about how much this "additional payment" is: (1) always, (2) mostly, (3) frequently, (4) sometimes, (5) seldom, (6) never.	World Business Environment Survey (WBES)
If "additional payments" are made, services are delivered	If a firm pay the required "additional payments", the service is usually also delivered as agreed: (1) always, (2) mostly, (3) frequently, (4) sometimes, (5) seldom, (6) never.	World Business Environment Survey (WBES)
It is possible to find honest agents to replace corrupt ones	If a government agent acts against the rules, I can usually go to another official or to his superior and get the correct treatment without recourse to unofficial payments: (1) always, (2) mostly, (3) frequently, (4) sometimes, (5) seldom, (6) never.	World Business Environment Survey (WBES)
Proportion of revenues paid as bribes	On average, what percentage of revenues do firms like your typically pay per year in unofficial payments to public officials: (1) 0%, (1) less than 1%, (3) 1% to 1.99%, (4) 2% to 9.99%, (5) 10% to 12%, (6) 13% to 25%, (7) over 25%.	World Business Environment Survey (WBES)
Proportion of contract value that must be paid for government contracts	When firms in your industry do business with the government, how much of the contract value must they offer in additional or unofficial payments to secure the contract: (1) 0 %, (1) up to 5%, (3) 6% to 10%, (4) 11% to 15%, (5) 16% to 20%, (6) over 20 %.	World Business Environment Survey (WBES)
Management's time (%) spent with officials to understand laws and regulations	What percentage of senior management's time per year is spent in dealing with government officials about the application and interpretation of laws and regulations?	World Business Environment Survey (WBES)
Sources of investment - retained earnings	Share (percentage) of firm's financing over the last year coming from internal funds or retained earnings.	World Business Environment Survey (WBES)
Sources of investment - equity	Share (percentage) of firm's financing over the last year coming from equity, sale of stocks	World Business Environment Survey (WBES)
Sources of investment - domestic banks	Share (percentage) of firm's financing over the last year coming from local commercial banks.	World Business Environment Survey (WBES)
Sources of investment - foreign banks	Share (percentage) of firm's financing over the last year coming from foreign banks	World Business Environment Survey (WBES)
Sources of investment - family/friends	Share (percentage) of firm's financing over the last year coming from family and friends	World Business Environment Survey (WBES)
Sources of investment - other sources	Share (percentage) of firm's financing over the last year coming from other sources than banks, equity, retained earnings and family and friends.	World Business Environment Survey (WBES)