FINANCING PATTERNS AROUND THE WORLD: ARE SMALL FIRMS DIFFERENT?

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First Draft: July 2002
Revised: August 2004

Abstract: Using a firm-level survey database covering 48 countries, we investigate how financial and institutional development affects financing of large and small firms. Our database is not limited to large firms, but includes small and medium firms and data on a broad spectrum of financing sources, including leasing, supplier, development and informal finance. Small firms and firms in countries with poor institutions use less external finance, especially bank finance. Protection of property rights increases external financing of small firms significantly more than of large firms, mainly due to its effect on bank and equity finance. Small firms do not use disproportionately more leasing or trade finance compared to larger firms. Financing from these sources is positively associated with the financial development and does not compensate for lower access to bank financing of small firms in countries with underdeveloped institutions.

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Keywords: Financial Development; Financing Patterns, Small and Medium Enterprises
JEL Classification: G30, G10, O16, K40

Beck and Demirgüç-Kunt: World Bank; Maksimovic: Robert H. Smith School of Business at the University of Maryland. We would like to thank Leora Klapper, Luc Laeven, Maria Soledad Martinez-Peria and an anonymous referee for useful comments and April Knill for excellent research assistance. This paper's findings, interpretations, and conclusions are entirely those of the authors and do not necessarily represent the views of the World Bank, its Executive Directors, or the countries they represent.

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ABSTRACT

Using a firm-level survey database covering 48 countries, we investigate how financial and institutional development affects financing of large and small firms. Our database is not limited to large firms, but includes small and medium firms and data on a broad spectrum of financing sources, including leasing, supplier, development and informal finance. Small firms and firms in countries with poor institutions use less external finance, especially bank finance. Protection of property rights increases external financing of small firms significantly more than of large firms, mainly due to its effect on bank and equity finance. Small firms do not use disproportionately more leasing or trade finance compared to larger firms. Financing from these sources is positively associated with the financial development and does not compensate for lower access to bank financing of small firms in countries with underdeveloped institutions.

1. Introduction

Recent cross-country papers studying the financing patterns around the world emphasize the importance of institutional differences across countries on capital structure (Demirguc-Kunt and Maksimovic, 1999; Booth, Aivazian, Demirguc-Kunt and Maksimovic, 2001; Fan, Titman and Twite, 2003). A related literature has also shown that access to external financing is shaped by the country's legal and financial environment (La Porta, Lopez-de-Silanes, Shleifer, and Vishny (LLSV), 1997, 1998; Demirguc-Kunt and Maksimovic, 1998; Rajan and Zingales, 1998).[1] A direct implication of these studies is that in countries with weak legal systems, and consequently, weak financial systems, firms obtain less external financing and that this results in lower growth.

Due to data limitations, empirical results in the existing literature are based on analysis of the largest, and perhaps unrepresentative, firms across countries. Also, the definitions of external financing used in these studies focus on equity and external debt, and do not take into account the possibility that in some countries firms may substitute other forms of financing, such as supplier credit or government financing.

In this paper we investigate whether the financing patterns of small firms differ from those of the large firms that have been the focus of the prior literature. We also explore the relation between small firms' external financing and a country's financial and

[1] Carlin and Mayer (2003) argue that there exists a relation between a country's financial system and the characteristics of industries that prosper in the country. The importance of institutional development for investment is demonstrated by Wurgler (2000) and Love (2003), who show that the flow of capital to good investment projects increases with financial development. At the macro 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.

legal institutions and consider a broader spectrum of external financing sources that are likely to be more relevant for smaller firms.

Better understanding the financing patterns of small firms and how they change with institutional development has important policy and resource implications. Many policymakers in governmental and international aid organizations believe that small firms have inadequate access to external finance in developing countries as a result of market imperfections. In response, significant resources are being channeled into the promotion and financing of small and medium-sized enterprises (SMEs) in developing countries. For example, the World Bank Group has approved more than $10 billion in SME support programs in the past five years, $1.5 billion of it in the last year alone (World Bank Group Review of Small Business Activities, 2002).[2] There is also significant renewed interest in development banks, whose mission is to provide loans that promote development by lending to constrained borrowers in developing countries, particularly small firms. Understanding how financing patterns of small firms differ in different institutional environments is an important first step in assessing these costly policies.

We address these issues using a new data source, the World Business Environment Survey (WBES), a major cross-sectional firm level survey conducted in developed and developing countries in 1999 and led by the World Bank. The survey has information on financing choices for close to 3000 firms in 48 countries.[3] One of the important strengths of the survey is its coverage of small and medium enterprises; eighty

[2] The World Bank provides direct and indirect support to SMEs. In terms of activities, 80 percent of World Bank programs involve direct financial assistance to SMEs, while the remaining 20 percent involve indirect support such as technical assistance for SMEs and for institutions that support SME development.
[3] A detailed discussion of the database is provided in next section. Clarke, Cull and Martinez Peria (2002), Beck, Demirguc-Kunt and Maksimovic (2004, 2005) and Beck, Demirguc-Kunt, Laeven and Maksimovic (2005) also use this data set. See Graham and Harvey (2001) for a recent application of the survey methodology to corporate finance.

percent of the observations are from small and medium firms. The other advantage is that it includes information on sources of financing that are often associated with small-firm finance such as leasing, trade credit and finance from government and informal sources. Finally, the survey includes an indicator of to what extent firms consider themselves financially-constrained. This allows us to distinguish constrained firms without having to rely on proxies based on accounting data.

Our results show that, even after we control for various firm characteristics and country and institutional variables, smaller firms finance a lower *proportion of their investment* externally, particularly because they make use of bank finance to lesser extent. Further investigating the linkages between firm size and the impact of institutional development on financing patterns, we see that small firms benefit disproportionally from higher levels of property rights protection and use significantly more external finance, particularly from banks and equity markets. These results underline the importance of improving the institutional environment for increasing the access of small firms to external finance.

We would expect that small firms, facing informational asymmetries in financial markets, would substitute subsidized financing from government and financing from sources that rely on personal or commercial relationships, such as trade credit or informal finance. We would also expect that such sources would be more significant in countries with poorly functioning financial systems or weak property rights protection. [4]

[4] Biais and Gollier (1998) and Frank and Maksimovic (2001) argue that trade credit relaxes the borrowing constraints caused by asymmetries of information and costly bankruptcy proceedings. As a result, we would expect trade credit to be a substitute for bank lending to small firms in countries with poor financial and legal systems.

We do find that small firms use significantly more informal finance than large firms. However, financing from such sources is very limited. On average the proportion of investment financed using informal finance is less than two percent. Thus, the use of informal financing does little to relax financial constraints faced by small firms in developing economies.

Moreover, we find that small firms do not use disproportionately more leasing or trade finance compared to larger firms. In particular, financing from these sources does not fill in the financing gap of small firms in countries with underdeveloped institutions since the use of these financing sources is positively associated with the development of financial institutions and equity markets.

Surprisingly, small firms also finance their investment significantly less from government sources or development banks despite the fact that such programs are often politically justified as increasing financing for small firms.

These findings point out the limits to small firms' ability to compensate for the underdevelopment of their countries' financial and legal systems. In these countries, the alternative sources of finance either do not significantly fill the gap, or, in the case of trade credit, are less prevalent.

In the next section we discuss our methodology and data. The results are presented in Section 3 and we conclude in Section 4. Detailed data definitions are in the Appendix.

2. Data and Methodology

There are a number of studies that focus on cross-country comparisons of financing patterns. Rajan and Zingales (1995) explore capital structure decisions of firms

in seven developed countries and find that variables which are commonly used to explain financial structure in the U.S. are also correlated with leverage in their sample of international firms. Booth, Aivazian, Demirguc-Kunt and Maksimovic (2001) consider financing choices in a sample of ten developing countries and also show that financing decisions are affected by the same variables as in developed countries. However, they also note large fixed effects across countries, indicating that specific country factors are at work. Booth et al (2001) conclude that much remains to be done to understand the impact of different institutional features on capital structure. Demirguc-Kunt and Maksimovic (1999) examine capital structure in 30 developed and developing countries and show that differences in financing patterns are indeed mostly due to the differences in the development of stock markets and banks, as well as differences in the underlying legal infrastructure. Fan, Titman and Twite (2003) study capital structure in 39 countries and confirm earlier findings that institutional differences between countries are much more important in determining capital structure choices of firms compared to other factors, such as industry affiliation.

In a related literature, Rajan and Zingales (1998) and Demirguc-Kunt and Maksimovic (1998) both show a relation between the development of financial institutions, external financing and firm performance. Taken together, the implication of these studies is that in countries with underdeveloped institutions, firms have different financing patterns which have direct implications on their performance and growth.

All these studies rely on databases of listed firms so that even the "small" firms in their samples are relatively large. The studies also implicitly define external finance narrowly, focusing on equity finance or long-term debt. Theory suggests that firms in

countries with strong legal systems, in which property rights and in particular the rights of investors are enforced, are likely to rely on these types of external finance. In countries with weaker property rights protection, we would expect substitute forms of external finance, such as informal and supplier credit or development bank financing, to be used. Thus, a narrow definition of external financing that does not take into account other forms of financing might overstate both the constraints on external financing available to firms in less developed countries and the importance of legal development for the financing of firms in these countries.[5] Also, while these sources are not normally included in the U.S. studies of external financing, variations in leasing, supplier, and government financing may be potentially important when assessing differences in countries' financial systems.[6] Looking at all available sources of external finance is especially important when studying financing choices of small firms as we do in this paper.

We use firm level survey data to investigate the proportion of investment firms finance externally, focusing on the differences between small and large firms. We also investigate individual sources of finance, such as debt finance and equity, but also other available sources such as leasing, supplier, government and informal finance. The firm level data are from the World Business Environment Survey (WBES), a major cross-sectional survey conducted in developed and developing countries in 1999 and led by the

[5] In some countries these informal financial systems are prevalent and economically significant. For example the amount of foreign transfers through the [informal] hawala system in Pakistan, estimated by the Minister of Finance to be between $2 billion to $5 billion annually, exceeds the amount transferred through the country's banking system (*New York Times*, October 3, 2001).

[6] Frank and Maksimovic (1998) argue that the equilibrium amount of trade finance relative to bank and equity financing is influenced by a country's legal and financial system. See Demirguc-Kunt and Maksimovic (2001) for cross–country evidence.

World Bank. Information on financing patterns is available for nearly 3000 firms in 48 countries.[7]

An important strength of the 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. Notice that the sample is size-stratified for each country and there was an effort to focus on small and medium firms. Thus, the survey data have a selection bias since respondents are not necessarily a representative sample of firms from their countries. However, analysis of mostly smaller firms does represent a nice complement to earlier cross-country studies in the literature, which all inevitably include a similar, but opposite selection bias by focusing on the largest firms in their samples of diverse countries. Table AI in the Appendix reports the number of firms for each country and each size group in the sample.

The survey data also has shortcomings. While it provides information on complete financing patterns, financial information is very limited. Importantly, financing patterns are given in terms of proportions of financing, not as debt to asset ratios, as is common in the previous literature. Furthermore, we do not have a complete set of firm level variables to replicate the usual set of firm level controls used in capital structure papers, particularly profitability of firms. However, we do have information on firm employment, sales, industry, growth, ownership, and whether the firm is an exporter or

[7] The survey actually covers 80 economies, but the sample is reduced because of missing firm-level or country information.

has been receiving subsidies from national or local authorities. Most importantly, we also have information on how important firms consider financing obstacles to be in affecting the operation and growth of their business. Using this information to distinguish financially-constrained from unconstrained firms, we hope to compensate for the paucity of firm level financial information as we further discuss below.

In Table I we summarize relevant facts about the level of economic and financial development in the sample countries. Detailed variable definitions and sources are in the Appendix. Country level variables are 1995-1999 averages. For each country we present data on GDP per capita, growth rate of GDP and inflation. In addition, we present Private Credit, an indicator of financial intermediary development commonly used in the literature: the ratio of credit issued to the private sector by deposit money banks and other financial institutions to the GDP (Beck, Demirguc-Kunt and Levine, 2000). Countries with higher levels of Private Credit have been shown to grow faster (Beck, Levine and Loayza, 2000). Stock market development is captured by Value Traded, which is given by value of shares traded divided by GDP and is a good indicator of stock market liquidity. Levine and Zervos (1998) and Beck and Levine (2004) show a robust relationship between stock market liquidity and GDP per capita growth. Finally, we also present an indicator of property rights protection, Property Rights, which is an indicator compiled by Heritage Foundation. Its values vary between 1 and 5, with greater values indicating a greater level of protection of private property rights. While not an indicator of financial development, Property Rights measures a key input into the efficient operation of financial contracts and thus financial development: the degree of protection of private property rights (Beck, Demirguc-Kunt and Levine, 2003).

Inspection of Table I reveals that there is a great deal of economic and financial variation in the sample countries. Economic development ranges from Haiti, with an average GDP per capita of 369 dollars to U.S. and Germany, with per capita income of over $30,000. The countries also vary significantly in the rate of inflation, from a low of zero percent in the cases of Sweden and Argentina, up to 86 percent in the case of Bulgaria. Both financial intermediary and stock market development, Private Credit and Value Traded, are higher in more developed countries although there is still significant variation at different levels of development. Property rights protection also increases with GDP per capita in general, but there are many exceptions. For example, Chinese income per capita is higher than that of Pakistan's, but property rights protection in Pakistan is rated highly at 4, whereas Chinese rating is one of the lowest at 2. We expect firms in countries with higher levels of financial development to have better access to external finance. However, it is not clear if different sources of external finance are affected by financial development to the same extent or if firms of all sizes benefit equally.

Insert Table I here

Table II reports firm-level financing patterns averaged over all firms in each country. In the WBES, enterprise managers were asked: "Please identify the share of your firm's financing over the last year coming from each of the following sources." The sources are internal financial sources such as retained earnings or funds from family and friends[8], and external financial sources, such as equity, local commercial banks, foreign

[8] We recognize that whether funds from family and friends qualify as internal or external sources might be controversial. We also have the problem that funds from "friends and family" might be debt and equity. However this category is very limited, since no more than one or two percent of investment is financed

banks, supplier credit, leasing arrangements, development banks and other government services or informal sources, such as moneylenders. The sum of these proportions adds up to one hundred percent.[9]

We categorize the different sources of external financing into six groups. Bank Finance includes financing from local and foreign banks. Equity Finance is financing through issue of stock. Leasing Finance and Supplier Finance are funding through leasing arrangements and trade credit, respectively. Development Finance is funding from special development financing or other state services. Finally, finance from moneylenders and other traditional sources are classified as Informal Finance.

We recognize that our financing pattern variables are different that those commonly used in the literature. For example, Demirguc-Kunt and Maksimovic (1999) focus on debt maturity and analyze long term debt to total asset and long term debt to total debt ratios. In our case, we do not have information on the amount of debt or total assets. We only know the *proportion* of investment financed from a particular source over the last year, where the denominator (unavailable) is the total amount of internal and external resources used for firm financing. Firm financing refers to capital expenditures, working capital, as well as acquisitions. Unfortunately, the WBES data does not allow us to distinguish between financing of working capital versus investment.

Insert Figure 1 and Table II

As Figure 1 and the first column of Table II show, in most countries including developed ones such as the U.S., U.K. and Germany, firms use internal resources to

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using sources from friends and family. Furthermore, we are more interested in sources rather than security types in this study.

finance a significant portion of their investment. These figures are somewhat puzzling since firms in quite a few developing countries- such as Colombia, Malaysia, Poland and others – use more external finance than firms in the U.S., where financial and legal development is one of the highest rated. It is not surprising that in some transitional countries with poorly developed institutions such as Armenia and Moldova internal financing of investment can be as high as 90 percent. However, in the other extreme there are countries such as Italy and Trinidad and Tobago where internal financing is at about 30 percent.

Looking at different financing sources is informative since countries with similar overall external financing proportions can have very different financing patterns. For example, firms in Nicaragua and Chile appear to have similar financing patterns if one looks at only the external financing proportion. However, Nicaraguan firms finance a large proportion of their investment using funds from development banks and supplier credit, whereas Chilean firms use much more bank finance. More broadly, an inspection of the table indicates that in countries where bank and equity financing is more limited, firms rely more on other forms of external finance. Table II also shows that the most common source of external finance is bank finance followed by supplier credit.

Insert Table III

Patterns of finance also vary quite a bit with firm characteristics, as can be seen in Table III, which reports the sample statistics of the variables we consider and their correlations. Small firms tend to rely on internal finance to a greater extent, with lower proportions of bank finance. However, the correlations indicate that small firms also use less supplier credit and receive less credit from development banks, while relying more

[9] For a few firms, the sum were either greater or less than one hundred. These observations were omitted.

on informal finance. Subsidized firms appear to receive some of these subsidies through bank loans and development financing. Similarly, government firms seem to rely mostly on development financing. There are also differences among industries. Manufacturing firms are the greatest users of external finance, particularly bank finance. Since these firm characteristics are also correlated with size, it is important to control for them when investigating small firm financing patterns.

Finally, the WBES survey asked enterprise managers to rate the extent to which financing problems presented obstacles to the operation and growth of their business. A rating of one denotes no obstacle; two, a minor obstacle; three, a moderate obstacle; and four, a major obstacle. In the regressions this variable allows us to capture the extent to which a firm is "financially constrained" without relying on accounting data such as profits, dividends and the like.[10] The correlations in Table III B suggest that firms reporting higher financing obstacles use less equity finance but substitute external finance from other sources such as leasing, supplier, development and informal sources. The correlations also indicate that small firms report facing higher financing obstacles.

Table III also shows that the indicators of financial development are significantly correlated with external financing and different sources of finance. Financial development, as measured by any of our three indicators, is positively correlated with the proportion of investment financed externally. Financial intermediary development,

[10] Using survey data has problems in that it is possible for managers to blame financing obstacles for their own poor performance. However, this likelihood must be balanced by the likelihood that accounting data used in cross-country research are also subject to distortion. Although the auditing process provides some control, the quality of these audits tend to vary systematically across countries and firm size. While we cannot completely eliminate the possibility of bias due to un-audited self-reporting, we believe that it is unlikely to be a significant source of bias. First, Hellman et al. (2000) show that in a sub-sample of 20 countries there is a close connection between responses and measurable outcomes. They find no systematic bias in the survey responses. Second, Beck, Demirguc-Kunt, and Maksimovic (2005) show that survey

Private Credit, is highly correlated with use of bank finance and stock market development, Value Traded, is correlated with the use of equity. Finally, better protection of property rights, Property Rights, is positively correlated with bank, equity and leasing finance. However, we also note that many of the macroeconomic and financial indicators are correlated with each other.

Since Table III indicates that there is a high degree of correlation between financing patterns and institutions, as well as other firm- and country-level variables, we use multivariate regression to clarify these relationships. The dependent variables are the proportions of investment financed by external financing or through different sources of external finance. Since the observations are censored by zero and 100, we use Tobit regressions to estimate the financing patterns. To control for unobserved country-specific effects not captured by any of our country-level variables, we estimate a random effects model:

$$\text{Financing}_{i,k} = \alpha + \beta\ \text{Firm Characteristics}_i + \gamma\ \text{Macroeconomic factors}_k + \delta\ \text{Institutional factors}_k + \mu_k + \varepsilon_{i,k}\ . \quad (1)$$

The dependent variable is the proportion of investment financed by firm *i* in country *k* through external finance or different external financing sources, respectively. The regression also includes firm and country level controls. Firm level variables identify the firm's size, ownership, type of business, industry and sales growth. Specifically we include dummy variables for government-owned firms, foreign firms, exporting firms, and subsidy receivers. To control for firm size, we include dummy variables that identify the firm as a small or medium firm. We also include dummy

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responses are significantly correlated with actual outcomes after controlling for many factors and using instrumental variables to control for possible endogeneity.

variables for manufacturing firms and those in the service industry. Finally, we use financing obstacle variable reported by firms to control for financing constraints of firms.

These variables do not correspond one-to-one to more conventional firm level controls used by earlier papers. For example, papers in the literature generally include descriptors of firms' operating characteristics, or asset tangibility, such as net fixed assets to total assets and net sales to net fixed asset ratios as determinants of capital structure. Firms that operate with greater fixed assets are shown to have greater borrowing capacity, whereas those firms with higher sales to asset ratio are more likely to need more short term financing to support sales (see Demirguc- Kunt and Maksimovic, 1999). We do not have these variables available, yet we use indicators of firms' industry and type of business to capture, at least partially, the differences in its operating characteristics.

Papers in the literature also commonly include indicators of firms' growth opportunities, such as firms' market to book ratio of equity (see Rajan and Zingales,1995 and Booth et al., 2001). Again, lacking such data we include firms' sales growth rate over the last three years as an indicator of future growth opportunities. Dummy variables indicating whether the firm is owned by the government or foreigners, and whether it is an exporter or subsidy receiver are also expected to control for differences in growth opportunities.

Finally, capital structure studies cited above include indicators of firm profitability, such as return on assets, or dividend payments to total assets to capture cash constraints of firms. Higher dividend payout ratios are taken as indicators of cash surplus relative to investment needs, making the firm less likely to finance externally. While the proper interpretation of profitability ratios is much more controversial, again higher

profits are negatively associated with external financing, potentially capturing lower levels of constraints. We do not have this information, yet we use the survey responses to identify whether the firms are financially constrained or not. We expect those firms reporting higher financing obstacles to have a greater need for external finance and thus use this variable as a proxy for cash constraints of firms.

Macroeconomic control variables are the GDP per capita, its growth rate, and the rate of inflation. Finally, we include variables to capture the impact of financial development and the extent of protection of property rights in the country. These are Private Credit, Value Traded, and Property Rights. Use of similar control variables is standard in the literature (Demirguc-Kunt and Maksimovic, 1998, 1999, 2001).

Using this basic model, we explore a number of questions. First, we investigate whether a firm's total use of external financing depends on its characteristics, particularly its size, and on its country's financial institutions and protection of property rights.[11] Second, replacing the total proportion of investment financed externally with the proportion financed using a specific financing source allows us to explore financing patterns from individual sources such as bank, equity and supplier finance. As we can see in Table II, it is possible for overall external financing to be similar in countries with very different financing mixes. Third, since firm size is an important determinant of how much access firms have to external finance, we also explore the impact of different

[11] While property rights protection is an exogenous variable, papers that study the relationship between financial development and access to finance at the country level generally suffer from simultaneity issues in that it is not clear if it is the use of a particular type of financing (debt or equity) that leads to the development of debt or equity markets rather than vice versa. See for example Demirguc-Kunt and Maksimovic (1998), Rajan and Zingales (1998) and others. However, since in this paper we analyze financing patterns of individual firms the causality is much more likely to go from country level financial development to individual firm financing choices. Further, none of our dependent variables – proportion of external finance or different sources - measures the actual quantity of financing as does Private Credit or the ratio of traded shares to GDP, as does Value Traded.

institutions on the financing patterns of firms of different sizes through use of interaction terms. Finally, we explore whether the relationship between financing obstacles and financing patterns varies across firm size.

The coefficients in the Tobit regressions cannot be interpreted as marginal effects of the explanatory variable on the observed dependent variables. Rather, they are the marginal effect of the underlying unobserved variables. In the text, we therefore also discuss unconditional marginal effects of the observed dependent variable. These marginal effects do not only take into account the change in financing for firms with financing of a specific sources between zero and 100 but also changes in the probability that the financing proportion of a firm falls in this range (Maddala, 1986).

3. Results

Table IV studies firm- and country-level determinants of financing patterns. The most important variables of interest are the size dummies- Small and Medium – and indicators of financial and institutional development - Private Credit, Value Traded, and Property Rights. These are entered individually in Panels A-C and entered together in Panel D. In each panel, the first column assesses the determinants of the proportion of investment financed with external sources of finance. We define external finance as consisting of bank, equity, leasing, supplier, development, informal and other finance. The remaining six columns explore determinants of the individual external financing sources.[12]

Results in Table IV show that even after controlling for firm and country characteristics, smaller firms use on average less external finance. This differential in

[12] We do not explore other finance, since WBES does not provide any information about this residual category and since it constitutes less than one percent of external financing sources.

external financing is mainly due to the use of less bank finance and less funding from development banks and other state sources. On the other hand, we find that small firms finance themselves significantly more with informal finance, although this does not make up for the overall shortfall in external finance since the extent of informal finance is typically very limited. The relationship between firm size and use of external (bank) finance is monotonic, increasing as we go from small, to medium and to large firms, while the use of informal finance decreases as we go from small to medium to large firms.[13] The relationship is also economically significant. The marginal effects for Panel D suggest that small firms finance on average 13 percentage points less of investment with external finance than large firms, which compares with a mean External Finance of 41% and a standard deviation of 38%. The relative economic effect is even stronger for Bank Finance, where the difference between small and large firms is 12 percentage points, compared to a mean Bank Finance of 19% and a standard deviation of 28%. When we compare the use of equity finance, there is no robust evidence that the use of these financing sources varies with firm size. We find some evidence that medium-sized firms use more supplier credit and leasing finance than small and large firms.[14]

The results also indicate that firms reporting greater financing obstacles are the ones that use more external finance, from all sources except equity finance. This is consistent with prior literature which argues that those firms that are more cash constrained are more likely to finance externally, preferring to use debt financing more heavily before they use equity finance due to higher adverse selection costs in equity markets (Myers and Majluf, 1984).

[13] The difference between small and medium firms is significant at least at the 6% level.

Firms in countries with better financial and institutional development, as captured by Private Credit and Property Rights, finance a greater proportion of their investment externally. We also see that financial intermediary development, Private Credit, is associated with the use of more bank finance, while stronger property rights protection contributes to greater use of bank and equity finance. Stock market development seems to foster the use of leasing finance and, surprisingly, the use of informal finance. When we introduce all three financial variables together, we find that Value Traded is positively, while Private Credit is negatively related to the use of equity finance. The effects of both Private Credit and Property Rights on External Finance are strong. The average firm in Chile (75th percentile of Private Credit) uses 10 percentage points more external finance than the average firm in Costa Rica (25th percentile of Private Credit). The average firm in Uruguay (75th percentile of Property Rights) uses eight percentage points more external finance than the average firm in Venezuela (25th percentile of Property Rights).[15]

Insert Table IV

Turning to the country-level control variables, the results suggest that firms in richer, more developed countries rely more on external finance, particularly equity finance. Higher levels of inflation do not have a significant effect on the overall reliance on external finance but are associated with greater use of leasing and development finance. These results suggest that in high inflation environments firms may be substituting leasing and development finance for debt and equity finance. Leasing finance may provide better protection against inflation for investors. Higher inflation is also

[14] The difference between Small and Medium is significant at the 1% level for supplier credit and at 10% for leasing finance.
[15] Note that Private Credit variable is the *logarithm* of the ratio of the private credit to GDP. A more precise definition is in the Appendix.

associated with lower levels of financial development and underdeveloped debt and equity markets in general. Thus governments may be using some of the inflation tax (that represses private sources of external finance) to finance government sources of external finance, which are likely to be less efficient.

Table IV also identifies several other firm characteristics that predict differences in the way investment is funded. Government firms finance larger proportion of their investment using development finance, but less bank finance. Compared to other firms subsidized firms also finance larger proportion of their investment from government sources, which explains their higher use of external finance in general. Their heavy reliance on development finance sources also suggests that this form of financing may be a conduit for subsidies. Exporters are another group that use significantly greater external finance, but they do this through greater use of bank debt and leasing and supplier finance. Foreign-owned firms, on the other hand finance their investment relying less on leasing and supplier finance but more on equity.

Having established that both firm size and institutional development are important determinants of financing patterns across firms and countries, next we investigate if financial and institutional development affects financing patterns of different size firms differently since improving small firms' access to finance is an important policy concern in the development community.

Insert Table V

Table V replicates Table IV, but interacts each institutional variable with three size dummies, Small, Medium and Large, which take the value one if the firm is a small, medium or large firm, or zero otherwise. This allows us to see if changes in financial and

institutional development affect financing patterns of different size firms differently.[16] We also interact Financing Obstacle with the three size dummies to explore whether the relationship between financing obstacles and patterns varies across firms of different sizes. At the end of each panel, we also present tests of the differences between the effects of financial and institutional development and of financing obstacles on small and on large firms. To save space, we only report the results for the size dummies and the interactions with the indicators of financial and institutional development and financing obstacles.

The results in Table V show that institutional development, particularly better protection of property rights, affect small firms' financing patterns the most. The effect of better-developed financial intermediaries on the share of investment financed with external finance, especially bank finance, is stronger for small firms than for medium and large firms (Panel A), although the difference is not significant. Higher levels of financial intermediary development also result in small firms using significantly more bank and leasing finance, although large firms also increase their reliance on bank debt. Stock market development increases the use of equity and leasing finance for firms of all sizes, with no significant difference across firm size classes. The impact of better property right protection on the use of external finance is significantly greater for small firms than for large firms. This is due to the significantly stronger impact of property rights on the use of bank and equity finance for small compared to large firms. Unlike small firms, medium and large firms' financing patterns do not vary significantly with improvements in protection of property rights.

[16] We do not include the panel with all three indicators interacted with size dummies simultaneously because of concerns of multi-collinearity.

The effect of Property Rights on closing the "external financing gap" between small and large firms is relatively large. Small firms in Uruguay (75th percentile of Property Rights) finance 9 percentage points more investment with external finance than small firms in Venezuela (25th percentile of Property Rights), while the difference is only three percentage points for large firms.

The results also indicate that the relationship between financing obstacles and patterns holds for large, but not for small firms. As we have seen before, large firms that report higher financing obstacles tend to use external financing significantly more, from most sources except equity. However, the interaction of financing obstacles with the small firm dummy only enters in the External Finance regression and mostly at the 10% significance level. This suggests that while larger, cash-constrained firms are more likely to meet their external financing need and obtain financing from different sources, the ability of smaller cash-constrained firms to obtain external financing is more limited and thus the statistical relationships we observe are weaker.

4. Conclusions

We investigate how firm financing patterns differ around the world for large versus small firms. Using a unique firm-level survey database in 48 countries, we find that firm size, financial development and property rights protection are important factors in explaining the observed variation in financing patterns. In contrast to earlier literature, eighty percent of our sample is composed of small- and medium-sized firms. We examine a broader spectrum of external financing sources which not only includes debt and equity finance, but also leasing and supplier finance, development bank and informal finance.

Our results indicate that firm size plays an important role in understanding financing patterns. Small firms use less external finance, especially bank finance. But small firms also benefit the most from better protection of property rights and financial intermediary development, and even stock market development in terms of accessing formal sources of external finance. Interestingly, finance from development banks and other government sources are used to a greater extent by larger firms. Similarly, leasing and supplier finance does not fill in the financing gap of small firms in countries with underdeveloped institutions since smalls firms are only able to increase their use of this financing source as financial institutions and equity markets develop. Thus, the most effective way of improving small firms' access to external finance appears to be through institutional reforms addressing the weaknesses in legal and financial systems.

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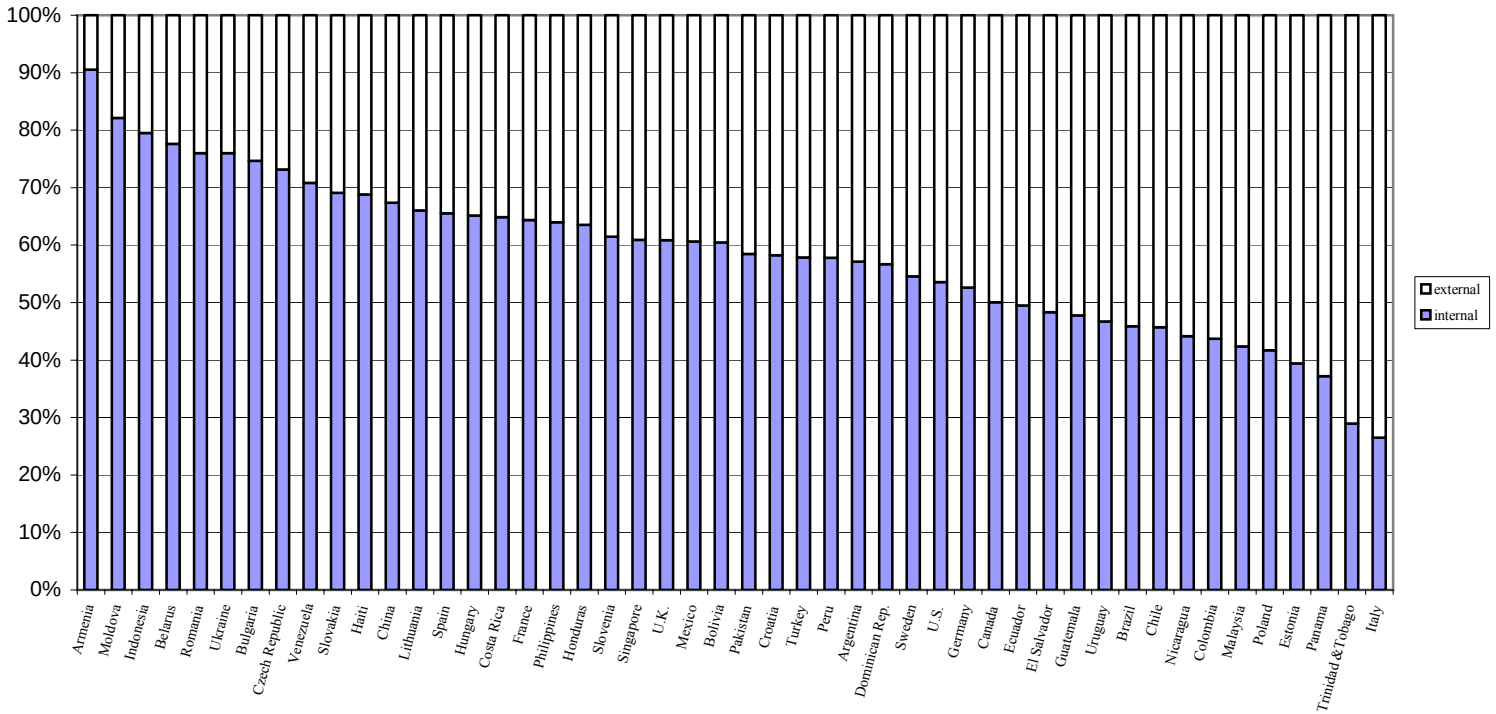

Figure 1. Financing Patterns Around the World. Internal finance is the proportion of investment financed by retained earnings and from family and friends. All other financing are considered external. Values reported are firm averages by country. Countries are ranked in descending order according to internal financing.

Table I
Economic, Financial and Institutional Indicators

GDP per capita is real GDP per capita in US$. Inflation is the log difference of the Consumer Price Index. Growth is the growth rate of GDP in US$. Private credit is financial sector credit to private sector divided by GDP. Value Traded is the value of shares traded to GDP. Property Rights is rating from 1-5 of the degree to which property rights are protected in a nation. All country variables are 1995-1999 averages. Detailed variable definitions and sources are given in the appendix.

	GDP/capita	Inflation	Growth	Private	Value Traded	Property Rights
Argentina	8000.15	0.00	0.02	0.21	0.04	4
Armenia	844.11	0.10	0.04	0.06	0.00	3
Belarus	2234.91	0.71	0.07	0.06	0.00	3
Belize	2737.70	0.01	0.00	0.43	0.00	4
Bolivia	938.55	0.06	0.01	0.51	0.00	3
Brazil	4491.67	0.07	0.00	0.32	0.17	3
Bulgaria	1414.61	0.86	-0.02	0.14	0.00	3
Canada	20548.97	0.01	0.02	0.83	0.49	5
Chile	5002.70	0.05	0.03	0.68	0.11	5
China	676.76	0.02	0.07	0.85	0.27	2
Colombia	2381.19	0.16	-0.01	0.36	0.02	3
Costa Rica	3692.47	0.12	0.04	0.15	0.00	3
Croatia	3845.27	0.05	0.05	0.00	0.00	2
Czech Republic	5158.04	0.07	0.00	0.58	0.11	4
Dominican Republic	1712.31	0.06	0.06	0.24	0.00	2
El Salvador	1705.79	0.04	0.01	0.36	0.00	3
Estonia	3663.49	0.10	0.05	0.16	0.12	4
France	27719.92	0.01	0.02	0.84	0.28	4
Germany	30794.03	0.01	0.01	1.06	0.43	5
Guatemala	1503.25	0.08	0.01	0.18	0.00	3
Haiti	368.73	0.14	0.00	0.12	0.00	1
Honduras	707.52	0.16	0.00	0.26	0.03	3
Hungary	4705.65	0.15	0.04	0.22	0.02	4
Indonesia	1045.04	0.20	-0.02	0.52	0.13	3
Italy	19645.96	0.02	0.01	0.57	0.19	4
Lithuania	1907.93	0.09	0.03	0.11	0.01	3
Malaysia	4536.23	0.03	0.01	1.30	1.14	4
Mexico	3394.75	0.20	0.04	0.22	0.12	3
Moldova	667.74	0.18	-0.03	0.06	0.06	3
Nicaragua	434.69	0.11	0.03	0.31	0.00	2
Pakistan	505.59	0.08	0.00	0.23	0.13	4
Panama	3123.95	0.01	0.02	0.78	0.00	3
Peru	2334.94	0.07	0.01	0.18	0.06	3
Philippines	1125.81	0.08	0.01	0.50	0.23	4
Poland	3216.04	0.13	0.05	0.12	0.04	4
Romania	1372.02	0.53	-0.02	0.09	0.01	2
Singapore	24948.09	0.01	0.02	1.11	0.61	5
Slovak Republic	3805.41	0.07	0.04	0.30	0.08	3
Slovenia	10232.73	0.08	0.04	0.26	0.02	3
Spain	15858.03	0.02	0.03	0.79	0.66	4
Sweden	28258.28	0.00	0.02	0.82	0.66	4
Trinidad and Tobago	4526.28	0.04	0.04	0.40	0.02	5
Turkey	2993.89	0.58	0.01	0.16	0.28	4
Ukraine	866.52	0.26	-0.03	0.02	0.00	3
United Kingdom	20186.56	0.03	0.02	1.16	0.73	5
United States	29250.32	0.02	0.03	1.84	1.12	5
Uruguay	6113.60	0.15	0.02	0.27	0.00	4
Venezuela, RB	3482.51	0.40	-0.02	0.10	0.02	3

Table II
Financing Patterns Around the World

Figures given are firm averages for each country and they are the proportion of investment financed by each source. External finance includes financing from banks, equity, operations and other finance. Bank finance includes financing from domestic as well as foreign banks. Development banks is both development and public sector banks. Informal is money lenders.

	External Finance	Bank	Equity	Leasing	Supplier Credit	Development Bank	Informal
Argentina	43.45	29.99	2.81	0.75	7.48	1.60	0.82
Armenia	11.42	4.53	0.00	1.08	0.88	3.58	0.68
Belarus	20.36	5.73	1.09	0.90	3.13	9.40	0.12
Belize	38.93	20.36	13.57	0.00	3.21	1.79	0.00
Bolivia	38.97	27.02	0.00	0.00	8.26	0.29	0.74
Brazil	51.80	23.06	6.88	4.65	11.37	4.20	0.40
Bulgaria	26.78	6.03	1.38	3.45	6.47	3.82	2.87
Canada	48.55	23.45	8.39	2.39	3.39	5.93	5.00
Chile	57.34	41.34	0.26	2.57	7.71	0.48	1.00
China	29.93	10.17	2.41	1.63	2.41	4.63	5.93
Colombia	55.22	29.18	0.37	1.97	12.45	4.78	0.00
Costa Rica	37.92	21.13	0.19	0.15	7.54	2.08	1.35
Croatia	41.31	19.79	3.02	0.31	8.19	6.23	2.47
Czech Republic	32.50	13.90	0.66	3.90	3.75	6.84	3.46
Dominican Republic	42.58	25.32	0.56	0.08	10.40	0.95	1.77
El Salvador	55.00	32.03	4.59	0.54	9.19	3.92	0.14
Estonia	60.14	20.81	14.71	9.46	6.96	3.07	3.35
France	30.91	6.76	5.76	4.30	7.36	1.42	1.67
Germany	54.29	16.84	23.13	0.74	0.94	8.52	4.13
Guatemala	57.34	28.38	1.09	2.78	18.72	2.63	0.63
Haiti	24.17	10.83	0.24	0.24	2.38	10.24	0.24
Honduras	44.33	29.17	1.00	0.00	9.00	2.67	2.50
Hungary	35.86	13.99	6.96	2.41	5.06	6.05	1.39
Indonesia	21.83	17.17	0.00	1.67	0.67	1.67	0.00
Italy	77.71	49.67	6.88	1.67	5.83	1.17	4.17
Lithuania	39.60	12.42	11.74	4.08	5.24	1.32	4.79
Malaysia	40.62	13.81	4.76	3.48	13.81	4.05	0.71
Mexico	34.33	6.83	7.00	0.33	11.17	5.33	3.50
Moldova	20.07	10.11	0.49	2.01	4.40	2.22	0.83
Nicaragua	56.70	19.32	1.36	0.91	15.23	7.61	3.18
Pakistan	43.13	29.96	5.63	1.50	2.92	1.04	2.08
Panama	64.02	47.15	2.07	1.22	5.00	1.17	0.24
Peru	35.53	20.90	0.50	0.50	9.08	1.68	0.88
Philippines	36.55	17.49	1.96	1.41	10.84	4.49	0.36
Poland	58.60	15.44	27.58	4.50	4.60	4.33	1.72
Romania	25.91	11.53	3.01	2.44	4.09	2.67	2.16
Singapore	45.17	28.06	7.67	1.16	6.14	0.58	0.00
Slovak Republic	30.84	9.26	1.17	10.23	4.00	3.45	2.60
Slovenia	38.55	16.99	3.51	2.88	8.27	4.61	1.04
Spain	39.78	23.00	0.67	8.04	4.22	2.62	1.22
Sweden	43.42	19.70	8.33	1.22	6.16	3.43	1.12
Trinidad and Tobago	71.35	40.00	12.73	0.85	15.18	1.85	0.00
Turkey	43.98	20.41	9.68	4.85	1.42	6.21	1.17
Ukraine	25.80	7.21	2.53	1.01	7.84	4.45	2.71
United Kingdom	36.12	13.14	11.56	2.91	7.47	0.58	0.47
United States	47.12	21.47	3.24	6.09	6.62	6.76	2.94
Uruguay	54.04	39.79	1.38	0.74	8.30	2.77	0.00
Venezuela, RB	28.73	14.80	3.05	0.50	5.88	1.75	0.25

Table III
Summary Statistics and Correlations

Summary statistics and correlation matrices are presented. N refers to firm level observations for 48 countries. Bank finance, Equity, Leasing Supplier credit, Development bank, and Informal are financing proportions that stand for the proportion of investment financed externally, by bank debt, equity, leasing, supplier credit, development and public sector banks and money lenders, respectively. Firm size-small takes the value 1 if the firm is a small firm and 0 otherwise. Firm size – medium takes the value 1 if the firm is a medium firm and 0 otherwise. Manufacturing takes the value 1 for firms in manufacturing and 0 otherwise. Similarly, Services takes the value 1 for firms in the services sector and 0 otherwise. Firm growth is given by percent change in 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. GDP/ capita is real GDP per capita in thousands of US$. Inflation is the log difference of the Consumer Price Index. Growth is the growth rate of GDP in US$. Financing Obstacles is an index which measures how problematic financing is to the operation and growth of a business. Private Credit is the financial sector credit to the private sector divided by GDP. Value Traded is the value of shares traded to GDP. Property Rights is rating from 1-5 of the degree to which property rights are protected in a nation. All country variables are 1995-1999 averages. Detailed variable definitions and sources are given in the appendix.

Panel A: Summary Statistics

Variable	N	Mean	Std. Dev.	Min	Max
External Finance	2935	40.90	38.03	0	100
Bank Finance	2935	19.00	28.13	0	100
Equity Finance	2935	5.57	17.39	0	100
Leasing	2935	2.63	10.22	0	100
Supplier Credit	2935	6.72	15.92	0	100
Development Bank	2935	3.82	13.91	0	100
Informal	2935	1.67	8.63	0	100
Firm Size - small	2935	0.39	0.49	0	1
Firm Size - medium	2935	0.42	0.49	0	1
Manufacturing	2935	0.40	0.49	0	1
Services	2935	0.47	0.50	0	1
Firm Growth	2935	0.14	0.56	-1	8
Subsidized	2935	0.12	0.32	0	1
Government	2935	0.13	0.33	0	1
Foreign	2935	0.19	0.39	0	1
Exporter	2935	0.41	0.49	0	1
Financing Obstacle	2935	2.83	1.13	1	4
GDP/capita	48	6848	8880	369	30794
Inflation	48	2.83	1.14	1	4
Growth	48	0.02	0.02	-0.03	0.07
Private Credit	48	0.43	0.39	0.00	1.84
Value Traded	48	0.14	0.23	0.00	1.14
Property Rights	48	3.41	0.89	1	5

Panel B: Correlation Matrix of Dependent and Independent Variables

	External Finance	Bank Finance	Equity Finance	Leasing	Supplier Credit	Development Bank	Informal	Firm Size - small	Firm Size - medium	Manufacturing	Services
External Finance	1										
Bank Finance	0.6154***	1									
Equity Finance	0.3467***	-0.0876***	1								
Leasing	0.2181***	-0.0453**	-0.0102	1							
Supplier Credit	0.3693***	-0.014	-0.0416**	-0.0019	1						
Development Bank	0.2469***	-0.0988***	-0.0396**	-0.0094	-0.0322*	1					
Informal	0.1531***	-0.0741***	-0.0097	-0.0016	0.0022	-0.0219	1				
Firm Size - small	-0.1773***	-0.1905***	0.0158	0.0088	-0.035*	-0.0981***	0.0621***	1			
Firm Size - medium	0.0663***	0.044**	0.0044	0.0101	0.0458**	0.0642***	-0.0112	-0.6802***	1		
Manufacturing	0.0564***	0.1136***	-0.0537***	-0.0205	0.0281	0.0011	-0.0177	-0.2154***	0.0971***	1	
Services	-0.0312*	-0.081***	0.0267	0.0353*	-0.0074	-0.0111	0.0134	0.204***	-0.1191***	-0.7663***	1
Firm Growth	0.0484***	0.0073	0.0565***	0.0276	-0.0048	0.0227	-0.0252	-0.0143	0.0145	-0.0269	0.0298
Subsidized	0.0993***	0.0364**	0.0049	0.0152	-0.0213	0.1788***	-0.0255	-0.1526***	0.0581***	0.03	-0.0686***
Government	0.0515***	-0.0288	0.0008	0.01	-0.0178	0.2045***	-0.029	-0.2511***	0.1581***	0.0992***	-0.0902***
Foreign	0.0678***	0.0865***	0.0301	-0.0443**	-0.0143	-0.0136	-0.026	-0.2049***	0.0104	0.1104***	-0.0365**
Exporter	0.1306***	0.138***	0.0233	0.0359*	0.0301	0.014	-0.0203	-0.2477***	0.0813***	0.3616***	-0.2888***
GDP/capita	0.0743***	0.0591***	0.0785***	0.0172	-0.0224	-0.009	0.0083	-0.0291	0.0266	-0.0774***	0.0717***
Inflation	-0.0869***	-0.1081***	-0.053***	0.0215	0.0104	0.0341*	0.0173	0.0781***	-0.0126	-0.0154	-0.0401***
Growth	0.1037***	0.0359*	0.1356***	0.0495***	-0.022	0.0185	0.0164	-0.0135	0.0273	-0.0043	0.0188
Financing Obstacle	0.0256	-0.01	-0.048***	0.0437**	0.0434**	0.053***	0.0614***	0.0609***	0.0283	0.0539***	-0.1089***
Private Credit	0.0862***	0.107***	0.0026	0.0152	0.0026	-0.0217	0.0071	-0.0119	-0.0436**	-0.0319*	0.0678***
Value Traded	0.0406**	0.0234	0.0503***	0.0531***	-0.0192	-0.002	0.0081	0.0127	0.0011	-0.0653***	0.0605***
Property Rights	0.1566***	0.1249***	0.1723***	0.0569***	-0.0124	-0.0309*	-0.0136	0.0099	0.0199	-0.1034***	0.0754***

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

	Firm Growth	Subsidized	Government	Foreign	Exporter	GDP/capita	Inflation	Growth	Financing Obsatacle	Private Credit	Value Traded	Property Rights
Firm Growth	1											
Subsidized	0.0043	1										
Government	-0.036*	0.1838***	1									
Foreign	0.0458**	0.0207	-0.0171	1								
Exporter	0.0895***	0.1164***	0.1259***	0.2069***	1							
GDP/capita	0.0658***	0.0822***	-0.0729***	0.1036***	0.0886***	1						
Inflation	-0.0837***	-0.0678***	-0.0036	-0.1249***	-0.1518***	-0.36***	1					
Growth	0.1299***	0.0463**	0.0826***	0.0216	0.1393***	0.1325***	-0.2423***	1				
Financing Constraints	-0.0998***	-0.0065	0.0707***	-0.1456***	-0.0284	-0.2339***	0.2469***	-0.1363***	1			
Private Credit	0.0179	0.063***	-0.1535***	0.1368***	0.0454**	0.7404***	-0.3129***	0.113***	-0.1999***	1		
Value Traded	0.0255	0.0676***	-0.1168***	0.0725***	0.033*	0.7541***	-0.2232***	0.0767***	-0.1825***	0.8411***	1	
Property Rights	0.0845***	0.0657***	-0.1144***	0.0519***	0.0769***	0.5751***	-0.2576***	0.1457***	-0.2102***	0.5339***	0.5353***	1

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

Table IV
Determinants of Financing Patterns

The estimated panel random-effects Tobit model is (1) Financing Source = $\alpha + \alpha_1$ Government + α_2 Foreign +α_3 Exporter +α_4Subsidized + α_5Manuf. + α_6 Services +α_7 Firm Growth +α_8 Small +α_9 Medium + α_{10} GDP per capita + α_{11} Inflation+ α_{12} Growth + α_{13} Private credit/Property Rights/Value Traded/All +ε. Financing proportions are the proportion of investment financed externally, bank debt, by equity, leasing supplier credit, development banks or money lenders (informal). External finance is given by sum of bank, equity, operations and other finance. Bank financing includes domestic and foreign bank financing. Development bank is that provided by both development banks and the public sector. Government and Foreign are dummy variables that take the value 1 if the firm has government or foreign ownership, respectively. 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. Manufacturing takes the value 1 for firms in manufacturing sector and 0 otherwise. Similarly, Services takes the value 1 for firms in the services sector and 0 otherwise. Firm growth is given by sales growth. Small takes the value 1 if the firm is a small firm and 0 otherwise. Medium takes the value 1 if the firm is a medium firm and 0 otherwise. Financing Obstacles is an index which measures how problematic financing is to the operation and growth of a business. GDP per capita is real GDP per capita in US$. Inflation is the log difference of the Consumer Price Index. Growth is the growth rate of GDP in US$. Private credit is the financial institutions' credit to the private sector divided by GDP. Value Traded is the value of shares traded to GDP. Property Rights is rating from 1-5 of the degree to which property rights are protected in a nation. Detailed variable definitions and sources are given in the appendix.

Panel A: Private Credit

	External finance	Bank	Equity	Lease	Supplier Credit	Development Bank	Informal
Government	4.265	-8.054**	1.53	-1.924	-4.052	33.719***	-6.495
	[4.022]	[3.743]	[6.330]	[4.039]	[3.870]	[5.290]	[7.439]
Foreign	-0.632	-2.005	21.204***	-8.986**	-6.018**	1.225	-0.352
	[3.222]	[2.894]	[4.979]	[3.506]	[3.027]	[5.009]	[6.078]
Exporter	6.175**	6.881***	-0.148	5.339*	6.124**	-4.015	0.532
	[2.745]	[2.504]	[4.408]	[2.771]	[2.563]	[4.318]	[4.851]
Subsidized	10.662***	-0.674	3.23	5.575	0.159	38.409***	-1.766
	[3.742]	[3.417]	[5.850]	[3.679]	[3.522]	[5.048]	[7.044]
Manufacturing	1.016	6.156*	-12.539**	1.22	6.857*	-7.12	-2.545
	[3.925]	[3.639]	[6.198]	[4.148]	[3.792]	[5.910]	[6.746]
Services	0.505	-1.343	-5.133	7.524*	5.128	-4.089	0.047
	[3.774]	[3.537]	[5.814]	[3.937]	[3.687]	[5.685]	[6.326]
Firm Growth	1.476	1.014	1.55	1.277	0.27	5.943*	0.174
	[2.188]	[2.028]	[3.248]	[2.069]	[2.108]	[3.316]	[3.705]
Small	-25.416***	-27.599***	-6.874	-3.67	-2.192	-19.469***	28.339***
	[3.810]	[3.421]	[6.181]	[4.072]	[3.540]	[5.836]	[7.686]
Medium	-8.946***	-11.147***	-6.738	1.478	5.064	-2.172	19.660***
	[3.373]	[2.977]	[5.440]	[3.635]	[3.133]	[4.912]	[7.297]
Financing Obstacle	5.871***	4.027***	2.99	2.407**	2.868***	4.788***	8.544***
	[1.152]	[1.062]	[1.860]	[1.187]	[1.093]	[1.844]	[2.160]
GDP per capita	5.917	2.812	16.382***	6.109**	1.778	1.023	-0.839
	[3.778]	[2.553]	[5.148]	[2.417]	[2.167]	[2.049]	[2.236]
Inflation	0.376	-1.22	-0.415	2.831**	-0.023	4.840**	-1.211
	[1.294]	[1.157]	[2.041]	[1.333]	[1.193]	[1.966]	[2.130]
Growth	57.387	75.121	-95.215	76.415	-14.096	88.175	161.149**
	[133.900]	[79.725]	[157.944]	[82.509]	[84.708]	[71.336]	[79.195]
Private Credit	3.740**	5.220***	-0.657	2.968	0.922	2.231	0.984
	[1.679]	[1.079]	[4.235]	[1.919]	[1.334]	[1.403]	[1.554]
Constant	-17.199	-15.258	-213.867***	-117.800***	-60.107***	-105.584***	-123.190***
	[32.879]	[21.160]	[48.760]	[23.138]	[19.776]	[21.920]	[25.079]
Observations	2935	2935	2935	2935	2935	2935	2935
Number of country	48	48	48	48	48	48	48
Chi-squared	159***	168***	48***	40***	33***	156***	37***
Small-Middle	0.000***	0.000***	0.977	0.074*	0.007***	0.000***	0.067*

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

Panel B: Value Traded

	External finance	Bank	Equity	Lease	Supplier Credit	Development Bank	Informal
Government	4.19	-8.284**	1.545	-1.919	-4.694	31.406***	-6.475
	[3.882]	[3.664]	[6.161]	[4.025]	[3.855]	[5.076]	[7.292]
Foreign	-0.513	-2.008	21.144***	-8.958**	-5.828*	1.845	-1.265
	[3.220]	[2.860]	[4.969]	[3.532]	[3.025]	[4.997]	[6.093]
Exporter	5.906**	6.977***	-0.263	5.280*	6.071**	-4.348	0.25
	[2.750]	[2.479]	[4.382]	[2.778]	[2.567]	[4.316]	[4.817]
Subsidized	10.571***	-0.933	3.135	5.198	0.402	38.780***	-2.346
	[3.726]	[3.380]	[5.834]	[3.672]	[3.527]	[5.057]	[7.026]
Manufacturing	1.201	5.949*	-12.819**	1.163	7.046*	-6.709	-2.734
	[3.899]	[3.608]	[6.198]	[4.161]	[3.796]	[5.905]	[6.720]
Services	0.441	-1.541	-5.363	7.225*	5.339	-3.84	-0.751
	[3.753]	[3.504]	[5.811]	[3.943]	[3.694]	[5.703]	[6.318]
Firm Growth	1.382	0.965	1.553	1.636	0.161	5.829*	0.256
	[2.174]	[2.021]	[3.245]	[2.072]	[2.114]	[3.305]	[3.681]
Small	-25.212***	-27.358***	-7.033	-4.013	-2.281	-19.751***	27.386***
	[3.736]	[3.385]	[6.138]	[4.097]	[3.533]	[5.844]	[7.686]
Medium	-8.847***	-11.167***	-6.974	1.245	4.995	-2.621	18.915***
	[3.337]	[2.956]	[5.408]	[3.628]	[3.135]	[4.911]	[7.291]
Financing Obstacle	5.945***	4.131***	2.94	2.391**	2.804**	4.527**	8.505***
	[1.154]	[1.037]	[1.855]	[1.190]	[1.091]	[1.833]	[2.156]
GDP per capita	10.310***	7.110***	12.483***	1.716	4.242*	1.8	-3.499
	[3.431]	[2.078]	[4.387]	[2.591]	[2.516]	[2.329]	[2.474]
Inflation	0.284	-1.454	-0.628	2.663**	0.008	4.674**	-1.38
	[1.249]	[1.123]	[2.047]	[1.324]	[1.194]	[1.962]	[2.137]
Growth	66.031	5.97	-121.52	131.591	-27.95	85.417	160.464**
	[78.245]	[59.915]	[160.567]	[113.474]	[93.202]	[71.936]	[79.411]
Value Traded	0.146	-1.532*	2.027	3.983***	-1.208	0.142	2.193**
	[0.921]	[0.789]	[1.655]	[0.995]	[0.955]	[0.817]	[0.927]
Constant	-61.598*	-61.164***	-173.354***	-70.139***	-86.300***	-113.302***	-92.430***
	[31.859]	[19.392]	[43.057]	[25.227]	[24.262]	[25.150]	[27.464]
Observations	2935	2935	2935	2935	2935	2935	2935
Number of country	48	48	48	48	48	48	48
Chi-squared	162***	159***	53***	53***	34***	155***	41***
Small-Middle	0.000***	0.000***	0.990	0.073*	0.007***	0.000***	0.073*

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

Panel C: Property Rights

	External finance	Bank	Equity	Lease	Supplier Credit	Development Bank	Informal
Government	3.832	-8.926**	1.798	-2.539	-4.438	31.750***	-8.103
	[3.935]	[3.727]	[6.283]	[4.003]	[3.838]	[5.101]	[7.328]
Foreign	-0.445	-1.803	20.938***	-8.663**	-5.928*	1.929	-0.195
	[3.194]	[2.882]	[4.962]	[3.514]	[3.027]	[5.002]	[6.050]
Exporter	6.133**	6.712***	0.376	5.128*	6.055**	-4.354	0.312
	[2.729]	[2.492]	[4.385]	[2.768]	[2.562]	[4.316]	[4.830]
Subsidized	10.690***	-0.723	2.692	5.618	0.226	38.689***	-1.149
	[3.747]	[3.421]	[5.837]	[3.680]	[3.522]	[5.052]	[7.014]
Manufacturing	1.424	6.723*	-12.352**	1.563	6.942*	-6.426	-2.638
	[3.936]	[3.637]	[6.209]	[4.150]	[3.795]	[5.913]	[6.743]
Services	0.432	-1.043	-4.611	7.714*	5.199	-3.67	-0.058
	[3.792]	[3.538]	[5.847]	[3.943]	[3.690]	[5.684]	[6.324]
Firm Growth	1.573	0.781	1.557	1.227	0.256	5.760*	0.184
	[2.177]	[2.033]	[3.264]	[2.078]	[2.104]	[3.307]	[3.700]
Small	-25.898***	-28.073***	-7.289	-3.999	-2.342	-19.850***	28.234***
	[3.756]	[3.467]	[6.221]	[4.069]	[3.534]	[5.846]	[7.655]
Medium	-9.523***	-11.377***	-6.796	1.203	4.958	-2.687	19.428***
	[3.326]	[3.012]	[5.413]	[3.622]	[3.130]	[4.911]	[7.258]
Financing Obstacle	5.771***	4.127***	2.955	2.406**	2.826***	4.614**	8.369***
	[1.153]	[1.053]	[1.850]	[1.190]	[1.091]	[1.840]	[2.160]
GDP per capita	3.65	3.913	5.638	6.511**	1.982	0.991	0.945
	[3.308]	[2.960]	[3.864]	[2.786]	[2.832]	[2.468]	[2.756]
Inflation	0.482	-1.048	-0.276	2.745**	-0.034	4.693**	-1.258
	[1.357]	[1.189]	[2.094]	[1.344]	[1.194]	[1.964]	[2.124]
Growth	150.870*	-23.49	95.825	41.192	-2.136	88.234	157.322**
	[90.993]	[80.404]	[134.019]	[99.572]	[92.913]	[71.533]	[79.108]
Property Rights	8.440**	6.652**	20.312***	2.334	0.536	1.942	-2.438
	[4.165]	[2.916]	[4.807]	[3.498]	[3.471]	[2.827]	[3.237]
Constant	-39.309*	-53.684**	-194.530***	-132.482***	-65.016***	-114.559***	-129.637***
	[21.823]	[22.949]	[31.747]	[20.876]	[18.525]	[21.246]	[24.175]
Observations	2935	2935	2935	2935	2935	2935	2935
Number of country	48	48	48	48	48	48	48
Chi-squared	153***	150***	75***	36***	32***	155***	37***
Small-Middle	0.000***	0.000***	0.917	0.071*	0.006***	0.000***	0.063*

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

Panel D: All Variables

	External finance	Bank	Equity	Lease	Supplier Credit	Development Bank	Informal
Government	6.22	-8.521**	1.478	-2.005	-4.012	33.769***	-7.403
	[3.898]	[3.710]	[6.159]	[4.082]	[3.862]	[5.294]	[7.463]
Foreign	-0.715	-2.039	21.168***	-8.930**	-5.963**	1.267	-2.186
	[3.187]	[2.881]	[4.986]	[3.526]	[3.028]	[5.017]	[6.152]
Exporter	6.412**	6.891***	-0.137	5.231*	6.208**	-3.982	0.506
	[2.714]	[2.486]	[4.393]	[2.787]	[2.566]	[4.322]	[4.844]
Subsidized	9.957***	-0.792	3.097	5.226	0.298	38.472***	-2.023
	[3.734]	[3.411]	[5.854]	[3.675]	[3.525]	[5.055]	[7.037]
Manufacturing	1.014	6.504*	-12.602**	1.097	6.990*	-6.932	-3.638
	[3.885]	[3.638]	[6.215]	[4.160]	[3.803]	[5.937]	[6.757]
Services	-0.039	-0.962	-4.636	7.183*	5.313	-3.845	-1.263
	[3.734]	[3.531]	[5.820]	[3.944]	[3.697]	[5.715]	[6.323]
Firm Growth	2.198	0.95	2.163	1.607	0.193	5.922*	0.327
	[2.176]	[2.038]	[3.236]	[2.077]	[2.110]	[3.319]	[3.694]
Small	-23.844***	-27.973***	-7.834	-4.061	-2.088	-19.391***	27.819***
	[3.712]	[3.417]	[6.140]	[4.144]	[3.539]	[5.850]	[7.719]
Medium	-7.951**	-11.212***	-7.322	1.311	5.156	-2.113	19.208***
	[3.343]	[2.977]	[5.425]	[3.644]	[3.141]	[4.924]	[7.331]
Financing Obstacle	5.717***	4.041***	2.509	2.387**	2.865***	4.814***	8.186***
	[1.133]	[1.048]	[1.845]	[1.185]	[1.091]	[1.846]	[2.156]
GDP per capita	1.432	4.021	0.407	2.509	3.44	1.116	-1.253
	[2.301]	[2.735]	[3.663]	[2.838]	[2.804]	[2.590]	[2.831]
Inflation	0.562	-1.16	-0.803	2.653**	0.081	4.861**	-1.389
	[1.251]	[1.161]	[2.048]	[1.330]	[1.195]	[1.967]	[2.134]
Growth	-30.465	-28.964	367.219***	111.697	-39.112	85.482	147.107*
	[72.475]	[69.837]	[111.703]	[96.012]	[83.620]	[72.197]	[79.652]
Private Credit	0.985	3.747***	-6.282***	0.663	1.839	2.292	0.275
	[1.058]	[1.168]	[2.379]	[1.990]	[1.990]	[1.523]	[1.650]
Property Rights	13.484***	5.588**	23.342***	-2.358	1.078	0.799	-5.574
	[3.373]	[2.804]	[4.503]	[3.860]	[3.642]	[3.113]	[3.508]
Value Traded	-0.649	-1.499	3.720**	4.149***	-1.684	-0.355	2.643***
	[0.960]	[0.958]	[1.790]	[1.135]	[1.033]	[0.886]	[1.025]
Constant	-26.238	-49.290*	-157.260***	-66.411***	-83.030***	-110.758***	-87.558***
	[23.394]	[25.646]	[40.231]	[25.474]	[24.267]	[25.459]	[27.636]
Observations	2935	2935	2935	2935	2935	2935	2935
Number of country	48	48	48	48	48	48	48
Chi-squared	162***	166***	199*	53***	35***	156***	43***
Small-Middle	0.000***	0.000***	0.911	0.068*	0.007***	0.000***	0.068*

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

Table V. Determinants of Financing Patterns: Impact of Firm Size

The estimated panel random-effects Tobit model is (1) Financing Source = $\alpha + \alpha_1$ Government + α_2 Foreign +α_3 Exporter +α_4Subsidized + α_5Manuf. + α_6 Services +α_7 Firm Growth +α_8 Small +α_9 Medium + α_{10} GDP per capita + α_{11} Inflation+ α_{12} Growth + α_{13} Private credit/Property Rights/Value Traded/All * Small + α_{14} Private credit/Property Rights/Value Traded/All * Medium + α_{15} Private credit/Property Rights/Value Traded/All * Large +ε. Financing proportions are the proportion of investment financed externally, bank debt, by equity, leasing, supplier credit, development banks and money lenders (informal). External finance is given by sum of bank, equity, operations and other finance. Bank financing includes domestic and foreign bank financing. Development bank is that provided by both development banks and the public sector. Government and Foreign are dummy variables that take the value 1 if the firm has government or foreign ownership, respectively. 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. Manufacturing takes the value 1 for firms in manufacturing sector and 0 otherwise. Similarly, Services takes the value 1 for firms in the services sector and 0 otherwise. Firm growth is given by sales growth. Small takes the value 1 if the firm is a small firm and 0 otherwise. Medium takes the value 1 if the firm is a medium firm and 0 otherwise. Financing Obstacles is an index which measures how problematic financing is to the operation and growth of a business. GDP per capita is real GDP per capita in US$. Inflation is the log difference of the Consumer Price Index. Growth is the growth rate of GDP in US$. Private credit is the financial institutions' credit to the private sector divided by GDP. Value Traded is the value of shares traded to GDP. Property Rights is rating from 1-5 of the degree to which property rights are protected in a nation. Difference Significance (Small – Large) are p-values for the chi-squared distribution of the test statistic. Detailed variable definitions and sources are given in the appendix.

Panel A: Private Credit

	External Finance	Bank	Equity	Lease	Supplier Credit	Development Bank	Informal
Small	-9.707	-13.543	5.112	13.91	9.627	13.251	57.051
	[8.896]	[8.087]	[13.906]	[9.790]	[8.649]	[14.802]	[25.469]*
Medium	-2.85	-5.748	-11.618	2.212	19.137	7.859	45.759
	[8.282]	[7.372]	[13.322]	[9.287]	[7.960]*	[13.306]	[25.473]
Financing Obstacle * Small	3.761	1.79	-1.251	-0.052	2.934	-0.266	5.483
	[1.817]*	[1.730]	[2.887]	[1.830]	[1.768]	[3.149]	[2.911]
Financing Obstacle * Medium	6.285	4.054	5.796	3.261	1.285	5.811	9.307
	[1.694]**	[1.539]**	[2.747]*	[1.710]	[1.566]	[2.641]*	[3.310]**
Financing Obstacle * Large	8.479	7.272	5.216	4.771	5.78	8.567	23.28
	[2.403]**	[2.126]**	[3.872]	[2.725]	[2.325]*	[3.735]*	[7.255]**
Private Credit * Small	5.636	5.02	-0.731	6.618	2.366	5.653	-2.828
	[1.936]**	[1.702]**	[3.778]	[2.702]*	[1.777]	[3.053]	[2.182]
Private Credit * Medium	4.195	3.634	1.186	1.329	0.672	2.212	2.826
	[0.000]	[1.412]*	[3.492]	[2.131]	[1.518]	[1.836]	[2.267]
Private Credit * Large	3.8	5.577	3.354	3.124	-0.592	0.585	18.203
	[2.280]	[1.867]**	[4.240]	[3.001]	[1.973]	[2.503]	[7.771]*
Observations	2935	2935	2935	2935	2935	2935	2935
Number of country	48	48	48	48	48	48	48
Chi-squared	.	163***	55***	46***	38***	159***	38***
Small-Large	0.440	0.797	0.296	0.284	0.178	0.191	0.009***
Small-Large (GCF)	0.110	0.041**	0.170	0.135	0.321	0.067*	0.021**

Panel B: Value Traded

	External Finance	Bank	Equity	Lease	Supplier Credit	Development Bank	Informal
Small	-6.694	-11.877	5.887	11.886	11.268	11.007	48.399
	[9.301]	[8.452]	[14.254]	[10.026]	[9.140]	[15.348]	[25.453]
Medium	-4.231	-6.421	-15.485	-1.344	18.763	7.272	35.538
	[8.797]	[7.850]	[13.750]	[9.562]	[8.539]*	[14.082]	[25.481]
Financing Obstacle * Small	4.244	2.141	-0.821	0.31	3.108	-0.124	5.477
	[1.831]*	[1.731]	[2.883]	[1.864]	[1.771]	[3.157]	[2.916]
Financing Obstacle * Medium	5.889	4.023	5.112	2.933	0.962	5.416	9.167
	[1.663]**	[1.512]**	[2.722]	[1.691]	[1.564]	[2.621]*	[3.315]**
Financing Obstacle * Large	8.629	6.825	5.481	5.034	6.083	8.718	20.553
	[2.362]**	[2.083]**	[3.863]	[2.697]	[2.282]**	[3.650]*	[7.002]**
Value Traded * Small	1.762	0.092	5.34	5.939	-0.269	1.065	0.689
	[1.415]	[1.133]	[2.131]*	[1.294]**	[1.097]	[1.351]	[1.230]
Value Traded * Medium	-0.506	-1.395	3.926	2.377	-1.786	-0.156	2.431
	[1.304]	[1.099]	[1.983]*	[1.130]*	[1.063]	[1.067]	[1.307]
Value Traded * Large	0.16	-0.854	6.647	4.715	-1.693	-0.349	7.51
	[1.456]	[1.225]	[2.389]**	[1.479]**	[1.215]	[1.461]	[2.751]**
Observations	2935	2935	2935	2935	2935	2935	2935
Number of country	48	48	48	48	48	48	48
Chi-squared	152***	160***	71***	62***	40***	158***	40***
Small-Large	0.178	0.375	0.553	0.425	0.199	0.448	0.020**
Small-Large (GCF)	0.135	0.078*	0.182	0.142	0.294	0.063*	0.044**

Panel C: Property Rights

	External Finance	Bank	Equity	Lease	Supplier Credit	Development Bank	Informal
Small	-55.976	-47.278	-9.842	21.671	-31.33	-12.118	78.296
	[16.420]**	[15.010]**	[28.788]	[19.785]	[15.771]*	[26.724]	[38.540]*
Medium	-4.315	-13.984	16.588	29.92	12.593	-2.253	48.32
	[15.957]	[14.171]	[27.645]	[19.332]	[15.100]	[24.853]	[39.438]
Financing Obstacle * Small	4.823	2.762	-0.457	-0.047	3.413	0.022	5.55
	[1.833]**	[1.748]	[2.887]	[1.841]	[1.772]	[3.183]	[2.940]
Financing Obstacle * Medium	5.376	4.233	4.79	3.148	0.761	5.642	9.063
	[1.692]**	[1.542]**	[2.730]	[1.730]	[1.568]	[2.654]*	[3.359]**
Financing Obstacle * Large	7.774	6.4	4.636	5.428	5.551	8.548	19.327
	[2.370]**	[2.098]**	[3.854]	[2.737]*	[2.278]*	[3.675]*	[6.944]**
Property Rights * Small	15.584	13.398	16.304	3.309	6.236	4.473	-3.991
	[4.927]**	[3.205]**	[5.923]**	[4.140]	[3.784]	[4.438]	[4.141]
Property Rights * Medium	5.013	7.545	5.396	-0.09	-1.981	1.853	-0.902
	[4.948]	[3.023]*	[5.620]	[3.861]	[3.676]	[3.683]	[4.317]
Property Rights * Large	4.585	5.102	12.101	6.334	-3.703	-0.375	-1.575
	[5.136]	[3.432]	[6.670]	[4.669]	[4.097]	[4.559]	[7.301]
Observations	2935	2935	2935	2935	2935	2935	2935
Number of country	48	48	48	48	48	48	48
Chi-squared	171***	163***	56***	41***	46***	158***	35***
Small-Large	0.002***	0.011**	0.497	0.477	0.004***	0.398	0.755
Small-Large (GCF)	0.315	0.175	0.281	0.092*	0.451	0.076*	0.065*

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

Appendix Table AI
Number of Firms in Each Country and Size Group

The data source is WBES. 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.

	Total Number of Firms	Number of Small Firms	Number of Medium Firms	Number of Large Firms
Argentina	73	23	32	18
Armenia	74	49	21	4
Belarus	78	22	48	8
Belize	14	7	6	1
Bolivia	62	21	21	20
Brazil	112	14	79	19
Bulgaria	87	49	31	7
Canada	56	14	30	12
Chile	65	23	20	22
China	54	26	16	12
Colombia	76	13	24	39
Costa Rica	48	13	18	17
Croatia	81	18	45	18
Czech Republic	68	43	18	7
Dominican Republic	62	11	23	28
El Salvador	37	11	12	14
Estonia	98	44	44	10
France	33	8	18	7
Germany	31	9	18	4
Guatemala	32	10	12	10
Haiti	42	14	15	13
Honduras	30	15	8	7
Hungary	79	46	25	8
Indonesia	30	12	12	6
Italy	24	4	11	9
Lithuania	62	49	11	2
Malaysia	21	10	6	5
Mexico	30	10	13	7
Moldova	72	24	40	8
Nicaragua	44	22	11	11
Pakistan	24	8	13	3
Panama	41	5	13	23
Peru	40	12	13	15
Philippines	69	20	37	12
Poland	163	65	81	17
Romania	88	53	28	7
Singapore	64	28	17	19
Slovak Republic	77	46	28	3
Slovenia	96	26	61	9
Spain	45	15	26	4
Sweden	67	29	27	11
Trinidad and Tobago	55	21	24	10
Turkey	103	40	50	13
Ukraine	164	75	72	17
United Kingdom	43	24	17	2
United States	34	17	9	8
Uruguay	47	7	25	15
Venezuela, RB	40	15	8	17

Appendix : Variables and Sources

Variable	Definition	Original source
Growth	Growth of 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
Inflation rate	Log difference of Consumer Price Index, average 1995-99	International Financial Statistics (IFS), line 64
Private Credit	{(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 and other financial institutions to the private sector (lines 22d + 42d), GDP is line 99b, P_e is end-of period CPI (line 64) and P_a is the average CPI for the year.	Beck, Demirguc-Kunt and Levine (2000)
Value Traded	The value of shares traded divided by GDP, average 1995-1999.	Beck, Demirguc-Kunt and Levine (2000)
Property Rights	An index from 1(less) to 5(more) measuring the degree to which property rights are protected in an economy, averaged over 1995-1999.	Heritage Foundation
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)
Agriculture	Dummy variable that takes on the value one if firm is in agriculture, zero otherwise.	World Business Environment Survey (WBES)

Construction	Dummy variable that takes on the value one if firm is in construction, zero otherwise.	World Business Environment Survey (WBES)

Variable	**Definition**	**Original source**
Firm size	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. Size is a vector of dummy variables, Small, Medium and Large that indicate firm size. Small (or Medium or Large) takes the value 1 if a firm is small (or medium or large) and 0 otherwise.	World Business Environment Survey (WBES)
Financing Obstacle	How problematic is financing for the operation and growth of your business: no obstacle (1), a minor obstacle (2), a moderate obstacle (3), a major obstacle (4)?	World Business Environment Survey (WBES)
Equity finance	Share (percentage) of firm's financing over the last year coming from equity, sale of stocks	World Business Environment Survey (WBES)
Bank finance	Share (percentage) of firm's financing over the last year coming from local and foreign commercial banks.	World Business Environment Survey (WBES)
Leasing finance	Share (percentage) of firm's financing over the last year coming from leasing arrangements.	World Business Environment Survey (WBES)
Supplier finance	Share (percentage) of firm's financing over the last year coming from supplier credit arrangements	World Business Environment Survey (WBES)
Development finance	Share (percentage) of firm's financing over the last year coming from development and public sector banks.	World Business Environment Survey (WBES)
Informal finance	Share (percentage) of firm's financing over the last year coming from informal money lenders.	World Business Environment Survey (WBES)
External finance	Bank finance + Equity finance + Leasing finance + Supplier finance + development finance + informal finance	World Business Environment Survey (WBES)