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International Differences in Entrepreneurial Finance

Larry Chavis, Leora Klapper, and Inessa Love[1]

This note uses the standardized Enterprise Survey datasets to systematically study the use of different financing sources for young firms. We find that in all countries, younger firms rely less on bank financing and more on informal financing. However, we also find that younger firms have better access to bank finance, relative to older firms, in countries with stronger rule of law and better credit information, and that the reliance of young firms on informal finance decreases with the availability of credit information. Overall, our results suggest that improvements to the legal environment and availability of credit information are disproportionately beneficial for promoting access to formal finance by young firms.

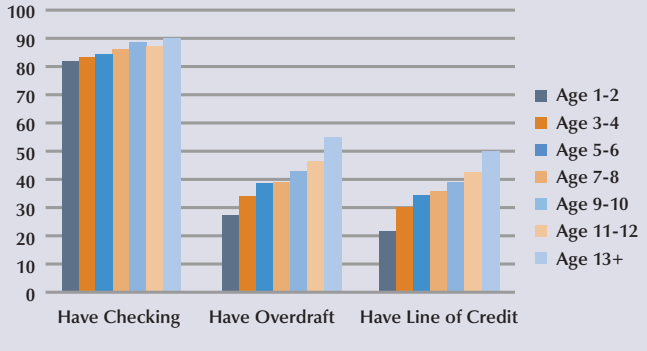
Access to finance is necessary for the efficient allocation of capital and firm growth. However, most surveys find that current and potential entrepreneurs report access to finance as one of the biggest hurdles to starting and growing a new business. For instance, in the World Bank's Enterprise Surveys' standardized dataset for 2006-2009, 31 percent of firm owners around the world report access to finance as a major constraint to current operations of the firm, while this figure is 40 percent for firms under three years of age.

In this note we address two types of questions: (1) the relationship between firm age and sources of external financing, and (2) the differential impact of business environment on access to financing by young versus old firms. To summarize, we find systematic differences in the use of different financing sources for new and young firms. We find that in all countries, younger firms rely less on bank financing and more on informal financing. However, we also find that younger firms have better access to bank finance, relative to older firms, in countries with stronger rule of law and better credit information and that the reliance of young firms on informal finance decreases with the availability of credit information.

We use data from the Enterprise Survey dataset, which includes more than 100,000 randomly sampled firm-level observations collected in cross-sectional surveys in 123 countries. The sample includes firms across multiple sectors, such as manufacturing, services, and construction. The Enterprise Surveys provide valuable information on a number of variables related to firms' access to finance.[2]

We use the year that the firm began operations in the country as our measure of firm age, with the caveat that this is not necessarily the year that the firm registered or began operating as a formal business. We find that about 10 percent of the total sample is three years old or younger, while about 60 percent of all firms are twelve years or younger.

Figure 1 Percentage of Firms that Use Various Banking Services



Source: Enterprise Surveys.

First, we examine the percentage of firms that use various banking services, distributed by age. We find an increase in usage of checking and/or savings accounts as firms grow older, although the differences between young and old firms are not that large (figure 1). The difference between young and old firms is most pronounced in usage of credit products—overdraft and line of credit. For instance, a firm over thirteen years of age is more than twice as likely to have an overdraft facility or line of credit than a firm under two years of age. We also see no significant effect of income level on the use of checking and/or savings accounts, although firms in low-income countries are significantly less likely to have an overdraft facility or line of credit. This highlights two important points: first, even in low-income countries, formally registered businesses are likely to have deposit accounts for financial safekeeping and transactions; second, the vast majority of new firms do not have access to short-term financing.

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Next, we examine the complete distribution of sources for working capital and new investment financing by firm age (figure 2). We focus on three distinct categories of external financing sources: foreign and domestic bank financing ("Bank Finance"); informal sources, and family and friends ("Informal Finance"); and inter-firm supplier financing ("Trade Credit").[3] About 20 percent of all young firms use bank financing, though only about 15 percent of firms in low-income countries. Across all income groups, the percentage of firms using bank financing increases as firms mature and almost doubles by the time firms reach thirteen years, relative to new firms.

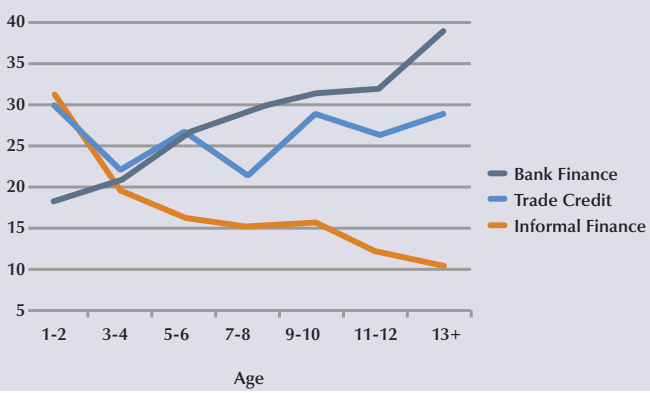
The relationship between age and informal financing runs in the opposite direction. Not only does the likelihood of using informal financing decrease over time, but there is also a sharp decrease in these sources during the first few years after a firm begins operations. In comparison, for all income groups, trade credit appears constant over the life of the firm.

The relationship between these three main categories of external finance and age described above is analyzed more formally in Chavis, Klapper, and Love (2009).[4] This paper finds that bank finance is gradually increasing with age, while informal finance is gradually decreasing with age, even after controlling for other firm and country characteristics. The tests show that these patterns are not driven by different composition of firms across countries, or different country-level characteristics.

Furthermore, Chavis et al. (2009) examines the relationship between firm age and country-level institutional characteristics (World Bank, 2009).[5] For instance, bank finance is used more often in countries with stronger rule of law and greater credit information, while the reverse is found for informal finance. This suggests that firms in countries with better investment climates are more likely to enter into formal credit contracts, and hence less likely to rely on informal contracts. Furthermore, in countries with weak rule of law and credit information, younger firms use less bank finance, relative to older firms, than in countries with stronger investment climates. It might also be the case that older firms in weaker business environments can rely on alternative mechanisms, such as higher visibility, track record, and reputation, to obtain formal credit.

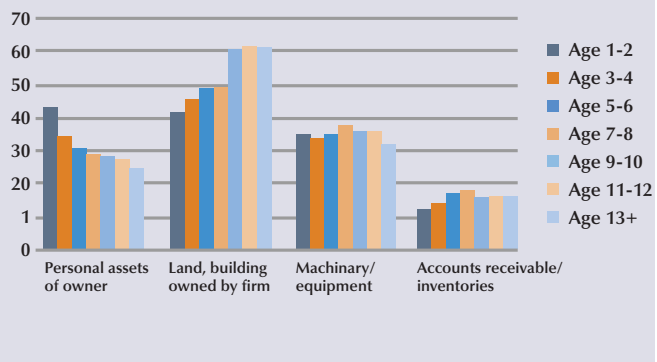
It is also interesting to note the real effect of barriers to credit in countries with weak rule of law, as measured by new investment decisions, which we calculate as the percentage of firms that report using bank financing to buy fixed assets in the past twelve months. Relative to new firms, older firms in the top three quartiles of rule of law are 50 percent more likely to use bank financing to invest in fixed assets. This difference is magnified in countries with the weakest rule of law, as older firms in the bottom quartile are more than three times more likely to use bank

Figure 2 Percentage of Firms Using Financing Types by Firm Age



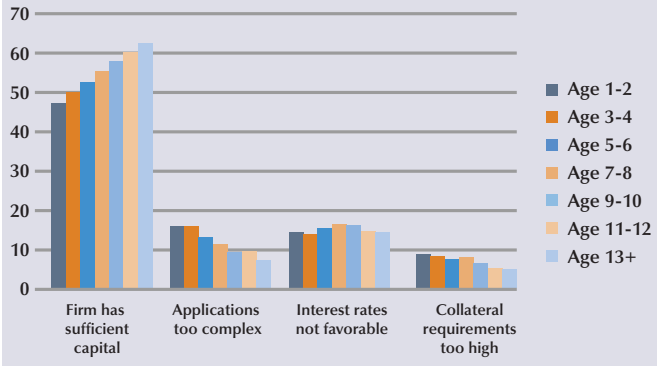
Source: Enterprise Surveys.

Figure 3 Source of Collateral for Most Recent Loan or Line of Credit



Source: Enterprise Surveys.
Firms can provide multiple sources for this survey question. This figure represents the percentage of firms reporting.

Figure 4 Firm's Reason for Not Applying for a Loan



Source: Enterprise Surveys.
Firms provide only the main reason for this survey question. This figure represents the percentage of firms reporting.

financing for new investments. In other words, young firms are relatively even more disadvantaged than older ones in countries with weakest rule of law.

Next, we examine differences in collateral requirements across firm age for the sample of firms with an existing loan or line of credit. We find no differences across age categories in the percentage of loans that require collateral (an average of 75 percent) or the value of the collateral as a percentage of the loan (127 percent) (Chavis, Klapper, and Love, 2010).[6]

However, we do find differences in the sources of collateral used across age categories (figure 3). Importantly, we find across income groups that new firms are almost twice as likely as older firms to use personal assets of the owner as collateral (43 percent and 24 percent, respectively), which is consistent with results found among U.S. firms. We find that the reverse is true for commercial real estate (60 percent for older firms versus 40 percent for new firms), which might be explained by the fact that older firms are more likely than younger firms to own their property. Furthermore, the use of machinery/equipment and accounts receivables is not associated with firm age.

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Finally, subjective information on the reasons that firms did not apply for loans in the past year suggests that new firms are more likely to be credit constrained (figure 4). The reason reported by 55 percent of firms is that the firm has sufficient capital and does not need credit. However, this explanation increases monotonically across firm age; 47 percent of new firms reply that they do not need new capital, versus 63 percent of older firms. In comparison, the percentage of firms that report that the "application is too complex" decreases over firm age: 16 percent of firms under age four versus 7 percent of firms thirteen and older. Younger firms are also more likely to say that collateral requirements are too high, and this is monotonically decreasing with age (although the differences are not economically large). Finally, there is little variation in the percentage of firms reporting that interest rates are not favorable, which likely have a similar impact on firms of all ages.

An important caveat to our analysis is the issue of survival bias. In other words, it might be the case of "survival of the fittest," i.e., older firms might survive the longest because they are of the highest quality. For instance, older firms might have greater access to finance because they are better firms, relative to younger firms. We can address this issue by looking at a question included in only five Latin American countries asking: "The percentage of start-up funding from commercial banks." The average for the complete sample is 25 percent, or conditional on currently using external financing is 64 percent. We do not find that the use of commercial bank financing at startup is related to firm age; yet if selection bias were a significant problem related to financing, we might expect older firms to have more bank financing at start-up. This is certainly not a guarantee that our analysis

does not suffer from such problems, but it gives us some indication that older firms and younger firms were similar at start-up with regards to financing options.

Overall, these results suggest that improvements to the legal environment and availability of credit information are disproportionately beneficial for promoting access to formal finance by young firms. Furthermore, the increase in the use of bank financing for new investment in fixed assets as the firm ages is relatively higher in countries with stronger business environments. Taken together, the data suggests that legal and regulatory reforms improve the potential for "high-growth" entrepreneurship that could lead to job creation and growth.

Notes

1. Chavis is assistant professor at the Kenan-Flagler Business School at the University of North Carolina-Chapel Hill; Klapper and Love are both Senior Economists in the Development Research Group at the World Bank. Contact Leora Klapper: telephone: (202) 473-8738; email: lklapper@worldbank.org.

2. There are some differences in the questions asked in the various country surveys. We take due care in ensuring cross-country comparability of the variables used in this note.

3. We exclude "Leasing," which is not available in many countries, and "New Equity," which includes equity, grants, and other sources. The categories do not equal 100 percent, since most firms use more than one source of financing.

4. Chavis, Larry, Leora Klapper, and Inessa Love. 2009. The Impact of the Business Environment on Young Firm Financing. World Bank Working Paper No. WPS5322.

5. World Bank. 2009. Doing Business in 2008. Washington, D.C. Available at www.doingbusiness.org.

6. Chavis, Larry, Leora Klapper, and Inessa Love. Access to Bank Financing and New Investment: Evidence From Europe. Forthcoming in *The Economics of Small Businesses. An International Perspective*. Edited by Giorgio Calcagnini and Ilario Favaretto. New York: Springer Publishing.

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