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Meghana Ayyagari
Asli Demirgüç-Kunt
Vojislav Maksimovic

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Abstract

This paper takes stock of the empirical evidence on the financing challenges faced by small and medium enterprises, especially in developing countries. The paper first discusses the institutional constraints that impede access to finance, including the lack of reliable credit information, lack of suitable collateral, and weak legal institutions. It next highlights firm heterogeneity among small and medium enterprises in accessing finance. The focus is on various policies and reforms that have been shown to be effective in improving access to credit for small and medium enterprises. The paper concludes by highlighting areas where new research could be effective.

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SME Finance

Meghana Ayyagari Asli Demirgüç-Kunt Vojislav Maksimovic*

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*Meghana Ayyagari, School of Business, George Washington University, Funger Hall 401, Washington D.C. 20052, USA. Email: ayyagari@gwu.edu. Asli Demirgüç-Kunt, The World Bank, 1818 H Street NW, Washington D.C. 20433, USA. Email: ademirguckunt@worldbank.org. Vojislav Maksimovic, Robert H. Smith School of Business, University of Maryland, College Park, MD 20742, USA. Email: vmaksimovic@rhsmith.umd.edu. We are grateful to Thorsten Beck and Ross Levine for valuable comments. 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.

I. Introduction

The Small and Medium Enterprise (SME) sector has been the focus of recent academic and policy debate. On the one hand, the SME sector has been the target of systemic and targeted intervention by governments and international aid organizations around the world. Supporting this view are findings from recent studies that emphasize the role played by SMEs in employment generation and recovery from recessions in developing countries. For instance, Ayyagari, Demirgüç-Kunt and Maksimovic (2014) find that SMEs in the formal sector account for 50% of employees in developing countries. They also find that SMEs create a greater share of jobs relative to large firms even in countries that had an aggregate net job loss over their sample period.[1] Beck, Demirgüç-Kunt and Levine (2005) find a strong positive association between the share of SME labor in the total manufacturing labor force of a country and GDP per capita growth.

The above evidence is however tempered by two observations. First, the cross-country evidence shows that the relation between SMEs and growth is not very robust. Beck et al. (2005) show that there is no causal relation between SME share in an economy and economic growth. They also find no evidence that SMEs alleviate poverty or decrease income inequality. Other studies such as Van Stel et al. (2007) and Wennekers et al. (2005) show a positive relation between SME entrepreneurship and growth for developed countries and a negative relation for developing countries. Second, Ayyagari et al. (2014) show that small firms have lower productivity growth

[1] See Haltiwanger, Jarmin, and Miranda (2013) for an alternate view of SMEs in developed economies. They show that start-ups and young businesses rather than SMEs are the biggest creators of jobs in the U.S. economy.

compared to large firms. The advantages of large firms are multi-fold as emphasized by the literature. They are set up by more skilled entrepreneurs (Lucas,1978; Rauch,1991) and are better able to exploit economies of scale and undertake the costs associated with research leading to higher productivity (Pagano and Schivardi, 2003; Pack and Westphal, 1986). Brown et al. (1990) show that large firms provide higher quality jobs (more stable) than small firms, with positive spillovers for poverty alleviation.

To get a better sense of this debate and the contribution of SMEs, it is important to take stock of the financing constraints faced by SMEs. A large finance and growth literature shows that finance is critical for growth. The first-generation studies (see King and Levine, 1993; Rajan and Zingales, 1998; Demirgüç-Kunt and Maksimovic, 1998; Levine and Zervos, 1998) used aggregate data to document that financial development affects economic growth on average. Recently, the increased availability of micro data sets at the firm level has allowed for a more detailed investigation of the channels and tighter identification to establish that this relation is causal. Levine (1997, 2005) and Popov (2018) provide an in-depth and comprehensive survey of this literature. An extensive literature has also shown that better access to external finance aids in innovation,[2] and helps firms achieve larger

[2] See, for example, Benfratello, Schiantarelli, and Sembenelli (2008), Brown, Fazzari, and Petersen (2009), Ayyagari, Demirgüç-Kunt, and Maksimovic (2011a), Brown, Martinsson, and Petersen (2013), Aghion, Van Reenen, and Zingales (2013), Amore, Schneider, and _Zaldokas (2013), Chava, Oettl, Subramanian, and Subramanian (2013), Fang, Tian, and Tice (2014), Hsu, Tian, and Xu (2014), Nanda and Nichols (2014), Cornaggia, Mao, Tian, and Wolfe (2015), and Laeven, Levine, and Michalopoulos (2015).

equilibrium size, allowing them to choose potentially more efficient organizational forms (Demirgüç-Kunt, Love, and Maksimovic, 2007).

Though SMEs make up a large part of the emerging private sector in most countries, they are also more constrained in their access to financial services than large firms (Ayyagari, Beck, & Demirgüç-Kunt, 2007; Beck, Demirgüç-Kunt, and Maksimovic, 2005). Thus, one reason for the mixed evidence on SMEs and growth may be that weak legal and financial institutions in developing countries prevent SMEs from growing into large firms. A large SME sector might therefore actually reflect inefficiencies in the system that do not allow for firm growth or make it optimal for firms to stay small (Beck, Demirgüç-Kunt, and Maksimovic, 2005).

In this paper, we compile and assess the current knowledge on the role of SME finance in developing countries. In Section II, we take a close look at available data to understand the extent to which access to finance is an obstacle for SMEs. We use data from both firm-level surveys as well as surveys of bankers to gain a comprehensive understanding of both the supply and demand side issues in SMEs accessing bank finance. Next, we look at how prevalent non-bank sources of financing are for SMEs.

In Section III, we focus on the institutional constraints that affect access to finance. We begin by focusing on different market failures that impede SME access to finance. These include the lack of reliable credit information, lack of suitable collateral, and weak legal institutions. In each case we survey the latest research showing how improvement in each of these areas leads to tangible benefits for small firms. We end this section by exploring the role that large banks and foreign banks

can play in financing SMEs and the accompanying debate on the relative effectiveness of relationship and. transaction based lending mechanisms in financing SMEs.

SMEs are far from a monolith class of enterprises. There is no universal agreement even on the definition of SMEs.[3] Thus there is wide heterogeneity among SMEs both with respect to their profiles and financing needs. In section IV, we focus explicitly on this heterogeneity and differentiate between informal SMEs and formal SMEs. We also discuss the role of young small firms and gazelles in the growth of an economy. An important part of this debate is the existence of the missing middle in developing countries. We discuss the latest research that points to the existence of a missing large rather than a missing middle.

We conclude in Section V by highlighting areas where additional research would be most effective and conclude with policy implications of the existing body of theoretical and empirical evidence on SME financing in developing countries.

II. Access to finance as an obstacle for SMEs – What do the data say?

The data on financing patterns of firms are typically obtained from commercial vendors such as Thomson Reuters (e.g. Worldscope database) and drawn from the balance sheet and cash flow statements of publicly traded firms across the world. Thus, data on the sources of financing for private unlisted firms, in

[3] See Ayyagari, Beck, and Demirguc-Kunt (2007) for the different definitions of SMEs across countries.

particular SMEs, have been very limited. For some countries, commercial vendors such as Bureau van Dijk or government statistical offices provide data on private firms. However, differences in availability over time or in data collection methodologies make it difficult to obtain consistently collected data for a panel of geographically diverse firms across income categories.

To some extent, these problems with data have been mitigated by large scale multi-country firm surveys conducted by the World Bank. In particular, the World Bank's Enterprise Surveys program takes a stratified random sample of firm-level data from the universe of registered businesses in each country for over 100 countries. The core survey uses standardized survey instruments to benchmark the investment climate of individual economies across the world and to analyze firm performance. The surveys are quite exhaustive, providing information about firm financials, the obstacles they face, the level of competition and their interactions with the government and regulatory authorities. They have been used in many applications in finance, accounting and management research.

In this section, we use data from 135 countries, where each of the countries was surveyed over the period 2006-2014, to understand the financing patterns of small and medium enterprises.[4] The survey defines firms of three different sizes – small (<20 employees), medium (20-99 employees), and large firms (≥100 employees) and is largely dominated by small (57% of the sample) and medium sized firms (32% of the sample).

[4] The data used in this paper were downloaded in August 2015. Several countries have more than 1 year of survey data and we use the most recent data on each country for our analysis.

Firms in the Enterprise Surveys were asked to rank on a scale of 0 (no obstacle) to 4 (very severe obstacle), the extent to which the following factors were an obstacle to the current operations of the establishment – Corruption, Political Instability, Electricity, Tax rates, Tax administration, Practices of competitors in the informal sector, Access to financing (both availability and cost), Access to land, Inadequately educated workforce, Street crime, Customs & trade regulations, Transportation of goods, supplies, and inputs, Courts, Business licensing and permits, and Labor regulations. In addition, firms were also asked to report the biggest problem of all the perceived obstacles. Figure 1 shows that access to financing was reported as the most serious obstacle by the highest percentage of firms. Ayyagari, Demirgüç-Kunt, and Maksimovic (2008) show that although there is a distinction between firms' perception of obstacles and what actually constrains their growth, finance represents the most constraining obstacle to firm growth. Beck, Demirgüç- Kunt, and Maksimovic (2005) used an earlier version of these data to show that financing obstacles had a significant impact on firm growth and that the smallest firms were most adversely affected.

When we take a closer look at the firms reporting access to finance as a severe obstacle in Figure 2, we see that across country income groups, a higher percentage of small firms identify access to financing as a severe obstacle compared to the percentage of large firms that identify access to financing as a severe obstacle. Stein, Goland, and Schiff (2010) also report a significant credit gap for SMEs in developing countries.

Within-country evidence also points to SMEs being credit constrained. Banerjee and Duflo (2014) study variation in access to a targeted lending program in India to show that many SMEs are credit constrained and that expansion of credit leads to higher growth in sales and profit. Bhue, Prabhala, and Tantri (2017) study the same program and show that there are distortionary effects associated with targeted lending programs in that firms appear willing to forgo growth to maintain access. Zia (2008) also finds that small private non-networked yarn manufacturers in Pakistan find a significant decline in exports following the removal of subsidized credit, whereas larger firms were able to replace subsidized credit with credit at market interest rates. Overall these detailed country studies with careful identification support the cross-country evidence that SMEs are more credit constrained than large firms.

In Figure 3, we compare the use of checking and savings accounts by firms, and see that a vast majority of firms use bank accounts. The differences between SMEs and large firms are starker in their access to an overdraft facility or line of credit. 75% of large firms report having access to an overdraft facility or line of credit whereas only 50% of SMEs report having access to an overdraft facility or line of credit. Figure 4 shows that a larger percentage of SMEs in high income countries have access to bank accounts and overdraft facility/line of credit than low income countries.

Interestingly, in Figure 3 we also see a large number of firms reporting that they did not apply for a loan or line of credit in the last fiscal year because they had sufficient capital and no need for a loan. 56% of SMEs and 72% of large firms

reported not applying for a loan because they did not need one. The firms that did need a loan but did not apply for one reported the following reasons for not applying: Complex application procedures for loans or line of credit, Interest rates are not favorable, Collateral requirements for loans or line of credit are unattainable, Size of loan and maturity are insufficient, Did not think it would be approved, and Other. Figure 5 shows that a large share of both SMEs and large firms cite unfavorable interest rates as the primary reason for not applying for a loan or line of credit. Following this, a large percentage of SMEs also cite complex application procedures, collateral requirements, and unlikely to be approved, in that order, as other factors for not applying for a loan or line of credit. The reasons for large firms are similar though a higher percentage of large firms report unlikely to be approved as a reason compared to application procedures or collateral requirements.

In Figure 6 we examine if firms are able to substitute the lack of bank finance with other sources of external finance in financing their fixed asset investment. Specifically, firms in the Enterprise Surveys were asked to estimate the proportion of the purchase of fixed assets that was financed from internal funds/retained earnings, banks, non-bank financial institutions, equity (issue of stock), trade credit (both credit from suppliers and advances from customers), and other sources including moneylenders, friends, and relatives. As expected, Figure 6 shows that small and medium firms make use of bank finance to a lesser extent than large firms. We also see no evidence that these firms disproportionately substitute bank finance with other sources of external finance such as trade credit or equity finance compared to large firms.

Berger and Udell (2006) suggest that financing forms such as leasing or factoring could ease financing constraints of SMEs, as they are based on the underlying assets and cash flows rather than borrowers' financial history. But Klapper (2006) argues that these alternate financing forms also require an appropriate legal framework that supports its use. Brown, Chavis, and Klapper (2010) show that a strong institutional environment is associated with the greater use of leasing and only 6% of firms in low income countries use leasing compared with 34% of firms in high income countries. Overall, as suggested by Beck, Demirgüç-Kunt, and Maksimovic (2008), factoring, leasing and other sources of external finance do not fill the financing gap of small firms.

The firm-level evidence is complemented by data collected from banker surveys in Beck, Demirgüç-Kunt and Martinez-Peria (2007) who compile loan and deposit account data through surveys of bank regulators for a cross-section of countries. They show that there is a great variation in banking sector outreach across countries using measures of geographic and demographic branch indicators, geographic and demographic ATM indicators and loan and deposit per capita ratios. Importantly they also show that the share of small firms with bank loans is significantly correlated with branches, ATMs and loans per capita and with ATMs per sq.km

While the evidence discussed above is focused on developing countries, research based on U.S. data also suggests that firm size is the most dominant variable explaining financial constraints (Hadlock and Pierce (2010), Hoberg and Maksimovic (2015)). Brown and Earle (2017) link administrative data on all loans

made by the US Small Business Administration to data on the universe of employers in the US economy to show that credit constraints impeded growth of small businesses prior to receiving the SBA loans.

In the following section, we focus on the weaknesses in financial and legal systems that constrain small firms' access to finance in developing countries.

III. Access to finance and institutional constraints

A. Transaction Costs and Interest Rates

One of the main problems in delivering credit to SMEs is the high transaction costs of processing, monitoring, and enforcing small loans, which increase break-even interest rates for these loans. Evaluating an individual loan request entails fixed costs such as legal services, brick-and-mortar branch installations over computer system, regulatory costs, costs of payment and settlement systems, etc. that are at least partially independent of the amount of the size of the loan. As noted by Beck and de la Torre (2007) these fixed transaction costs drive a wedge between funding costs of financial institutions and the lending rate they charge borrowers. Furthermore, the high dependence on relationship between lenders and borrowers in SME lending (Berger and Udell, 1998, 2006) only increases the lending costs for SMEs.

The higher costs of lending to SMEs and the greater risks involved are often reflected in higher interest rates and fees for SMEs relative to larger firms, particularly in developing countries. Beck, Demirgüç-Kunt, and Martínez Pería (2008) show that the annual fee to maintain a checking account varies widely exceeding 20% of GDP/capita in countries like Malawi, Sierra Leone, and Uganda.

And as already discussed in Figure 5, a large fraction of firms report high interest rates as a chief obstacle in accessing finance.

B. Adverse Selection and Moral Hazard Issues

In addition to transaction costs and interest rates, SMEs are also constrained by principal agent problems associated with information asymmetry (adverse selection and moral hazard) that are less salient among large firms. Adverse selection refers to difficulties of choosing good credit risks ex-ante in the absence of information on project quality of the borrowers, while moral hazard refers to the inability of the lender to enforce effectively the agreed credit contract ex-post due to costly monitoring or incomplete contracting. SMEs either do not have adequate documents and records to successfully apply for a loan or they are unregistered and have no official documentation. In such a scenario, as shown by Stiglitz and Weiss (1981) interest rates cannot be used as screening technology because the interest rate a bank charges may itself affect the riskiness of the pool of loans, either by attracting high-risk borrowers (adverse selection effect) or by adversely affecting the incentives of borrowers (moral hazard effect).

There is an extensive literature showing that countries with better information sharing systems such as credit registries and credit bureaus have greater bank loans (Jappelli and Pagano, 2002; Detragiache, Gupta, and Tressel, 2005; Djankov, McLiesh, and Shleifer, 2007). While credit bureaus are typically created by the private sector in response to market demand for reliable credit information

(e.g. Pagano and Jappelli 1993)[5], credit registries are typically public institutions created for bank supervision (e.g. Powell et al. 2004).

There is recent evidence that policy efforts directed at introducing credit registries can reduce information asymmetries between borrowers and lenders and can improve access to finance at the firm level (Galindo and Miller 2001; Love and Mylenko 2003; Brown, Jappelli, and Pagano 2009; Love, Martinez Peria, and Singh 2014). Martinez-Peria and Singh (2014) use comprehensive data across a larger number of countries and a difference-in-difference approach to show that credit bureau reforms have a significant and robust effect on firm financing and this is more pronounced on smaller, less experienced, and more opaque firms. Ayyagari, Juarros, Martinez-Peria, and Singh (2016) use the introduction of credit bureaus as an exogenous shock to the supply of credit in over 4 million firms in 29 developing countries and find that the resulting access to finance results in higher employment growth, especially among micro, small, and medium enterprises. Finally, Beck, Lin, and Ma (2014) show that better credit information sharing systems are associated with lower tax evasion especially among smaller firms and firms requiring more external finance.

Another strand of the literature has used natural or randomized experiments to examine the implementation of credit information systems that showed variation in either the firms covered under the information system or in the use of information by lenders. Studies such as - Liberti, Seru, and Vig (2016) in Argentina, Luoto,

[5] Bruhn, Farazi, and Kanz (2012) show that bank concentration is negatively associated with the probability that a credit bureau emerges. In credit markets dominated by a few large banks, the banks try to maintain market share by holding onto information.

McIntosh, and Wydick (2007) and de Janvry, McIntosh, and Sadoulet (2010) in Guatemala; Behr and Sonnekalb (2012) in Albania; and Cheng and Degryse (2010) in China – all document the positive effects of the introduction of a new credit registry in these countries.

Overall, the finding from this literature is that additional information about borrowers from introduction or expansion of these information sharing systems leads to an improvement in the efficiency of credit allocation decisions and loan performance. There is also some evidence that public credit registries have more limited effects on the allocation of credit compared to private credit bureaus (Love and Mylenko, 2003; Djankov, McLiesh, and Shleifer, 2007; Peria and Singh, 2014). Other studies point to some adverse effects associated with public credit registries. For instance, Hertzberg, Liberti, and Paravasini (2011) use the expansion of the Public Credit Registry in Argentina in 1998 as a natural experiment to show that public information exacerbates lender coordination and increases the incidence of firm financial distress. Using the same reform, Giannetti, Liberti, and Sturgess (2016) show that banks manipulate credit ratings before being compelled to share them by the expansion of the public credit registry, thus limiting the positive effects of information sharing. We need more research into the design of public credit registries to understand what forms are most effective in improving the allocation of credit.

C. Creditor Rights and Collateral Laws

Secured loans are the most common type of loans in the formal financial sector throughout the world. The enterprise surveys show that 75% of firms

worldwide reported that the most recent loan or line of credit required some form of collateral; this number was highest in low income countries at 85% and was above 90% in 31 of the 135 countries in the sample. A related issue is the type of collateral that firms have versus that which banks can accept. For instance, Fleisig, Safavian, and Steinbuks (2006) argue that nearly 90% of movable property that could serve as collateral for a loan in the United States would be unacceptable to a lender in Nigeria where until recently movable assets could not be used as collateral for bank loans. Alvarez de la Campa (2011) reported that in developing countries, nearly 78% of the capital stock of enterprises was in the form of movable assets such as machinery, equipment, or receivables; however, inadequate legal and regulatory environments in developing countries make banks reluctant to accept movable assets as collateral. This is also seen in the data from the Enterprise Surveys where firms reported land and buildings as being the most widely used form of collateral compared to accounts receivables, inventories or machinery, equipment, and other movable assets. Liberti and Mian (2010) investigate how financial development affects costs and types of collateral and show that not only do firms in more financially developed economies use more movable assets as collateral, but also that the cost of collateral declines with improved financial development.

Since the pioneering work by La Porta et al. (1998) showing that law is an important determinant of credit market development, a number of studies have focused on reforms in creditor rights and collateral laws and their impact on access to finance. Love et. al. (2014) compare 7 countries that introduced movable collateral registries since 2002 with 59 countries that did not introduce such

registries and find that introduction of these registries increases access to bank finance in general by 8%. Importantly they show that smaller firms (5-19 employees) and younger firms benefit more from the registry than respectively larger and older firms. Campello and Larrain (2016) identify some of the mechanisms through which these collateral reforms lead to greater lending. They find that after reforms enlarging collateral menus were passed in a number of Eastern European countries to include movable assets (e.g. machinery and equipment) as collateral, firms in movable-intensive sectors borrowed more, invested more in fixed assets, hired more workers, and became more efficient and profitable.

Haselmann, Pistor, and Vig (2009) study both bankruptcy and collateral reforms in Eastern Europe and find that these reforms led to greater lending and that smaller borrowers benefit more than larger firms. While the bankruptcy reforms increase the likelihood that individual creditors can realize their claims against a debtor, the collateral reforms provide an orderly process for resolving claims after a debtor has become insolvent. The authors show that the collateral regime is of greater importance than a bankruptcy regime for lenders. Visaria (2009) studies the establishment of Debt Recovery Tribunals (DRTs) in India that empowered creditors in seizing assets of defaulting firms and finds that enforcement of lenders' rights improved the repayment behavior of delinquent borrowers.

However, there is countervailing evidence on the effect of strengthening creditor rights by negatively affecting the demand side (e.g. Acharya and Subramian (2009), Acharya, Amihud and Litov (2011)). Vig (2013) studies the passage of a

mandatory secured transactions law in India, the SARFAESI Act (Securitization and Reconstruction of Financial Assets and Enforcement of Security Interests Act 2002) and finds that strengthening creditor rights led to adverse effects with a reduction in secured debt (to evade this threat) and total debt of firms. With a strengthening of creditor rights, creditors, because of the nature of their claims, have an increased bias towards premature liquidation and hence borrowers contract away from secured debt to evade this threat. Even with the establishment of DRTs, Lilienfeld-Toal, Mookherjee, and Visaria (2012) find that strengthening enforceability led to a decline in borrowing, especially for smaller firms, and Gopalan et al. (2016) find that after implementation of a DRT in their state, firms reduce the proportion of short-term debt and this is particularly the case for small firms.

D. Importance of Banking Deregulation

The level of competition between financial intermediaries can affect credit access to start-ups, especially in developing countries that have large state dominated financial systems (Levine 1997, Cole 2009). While studies of banking deregulation in developing countries are limited, the U.S. branch banking deregulations provide a useful lens to study the effect of bank competition on entrepreneurship.

Several studies, including Jayartne and Strahan (1998), Black and Strahan (2002), Cetorelli and Strahan (2006) and Kerr and Nanda (2009), find dramatic increases in startup activity subsequent to inter-state branch banking deregulation. Kerr and Nanda (2010) also find that post deregulation firms entered at a larger size,

suggesting that the reforms also had intensive margin effects. Overall, the evidence suggests that increased competition between banks facilitated the provision of cheaper credit and better allocation of capital to new projects.

E. Role of Large Banks and Foreign Banks

Differences in the organizational structure of banks can have important consequences for SME lending. The dominant view from the literature on large banks is that decentralized banks can act on soft information, allowing them to alleviate credit constraints for small businesses. For example, Sapienza (2002) shows that small firms are less likely to borrow from banks subsequent to mergers relative to firms borrowing from banks that have not merged. Using US data, Berger, Miller, Petersen, Rajan, and Stein (2005) show that small businesses in US regions with a majority of large banks were more likely to face credit constraints than firms located close to small, decentralized banks. Mian (2006) also shows that decentralized banks lend more to small firms in markets with weak contract enforceability. However, Canales and Nanda (2012) argue that there is a darker side to decentralized banks in concentrated markets where they can exploit their market power and cherry-pick clients or charge higher interest rates to small businesses.

Foreign banks have increasingly played an important role in domestic financial intermediation. Claessens and Van-Horen (2014) provide a comprehensive database of ownership information of 5,324 banks active in 137 countries over the period 1995–2009, and document a sharp increase in foreign bank ownership over this period affecting a large number of countries. They show that although the majority of foreign banks are from OECD home countries, the number of foreign

banks owned by emerging markets and developing countries grew by 84% and 102% respectively over this period.

Despite the increasing presence of foreign banks, the role played by foreign banks in improving access especially to the SME sector has been up to debate. On the one hand, foreign banks are thought to introduce new more diverse products, use more advanced technologies and are considered more efficient and profitable than incumbent banks, which could have positive spillover effects on SME lending (e.g. Levine 1996; Cull and Martinez Peria 2011). On the other hand, foreign banks, due to their large size and lack of familiarity with local culture, lose out to smaller local banks in relationship lending to small or otherwise opaque firms (e.g. Berger et al. 2005). Ultimately it is an empirical question on whether the increase in foreign ownership leads to limited credit access to the SME sector or if the increased competition for large customers due to foreign bank entry leads to other banks serving the SME sector better and expanding access.

Using data from the World Business Environment Surveys, Clarke, Cull, and Martinez Peria (2006) found that in countries with sizeable foreign bank shares, small firms are less likely to rate high interest rates and access to long-term loans as major obstacles for growth and operations. Giannetti and Ongena (2012) trace bank relationships of unlisted firms in Eastern Europe to show that foreign bank presence enhances credit access.

There have however been studies finding more negative results on the role of foreign banks. Detragiache, Gupta, and Tressel (2008) show that the presence of foreign banks in the poorest low-income countries is associated with less credit

being extended.[6] Beck and Martinez-Peria (2010) show that the sharp increase in foreign bank participation in Mexico over the period 1997-2005 is associated with a decline in outreach as measured by deposit and loan accounts. Mian (2006) analyzes 80,000 bank loans in Pakistan over the period 1996-2002 to show that foreign owned banks were less likely to lend to small firms, firms that were not part of business groups or those without other banking relationships. Gormley (2010) also documents cherry picking by foreign banks in India, showing that they financed only a small set of very profitable firms upon entry, and finds that foreign bank entry lowers credit access overall especially for smaller firms. Beck, Ioannidou, and Schafer (2017) study firms borrowing from domestic and foreign banks in the same month in Bolivia over the period 1998 to 2003 to show differences in lending technology used by the banks. While foreign banks rely on collateral, credit ratings and shorter maturity, domestic banks rely more on relationships and soft information as lending technologies in lending to the same borrower. This in turn suggests that foreign banks may not be able to lend to SMEs especially in countries where there are poor credit histories on firms and where collateral rights are not effectively created or enforced.

Overall, the current empirical evidence suggests that opening up markets to foreign bank entry introduces competition, increases efficiency and stability and is likely to increase overall credit access. However, this varies across countries and size of the foreign banks, with the benefits likely to be greater in countries that have

[6] Cull and Martinez Peria (2008) however show that this relationship disappears once we account for acquisition of distressed banks by foreigners.

the institutional framework to facilitate transaction based lending. Cull, Martinez-Peris, and Verrier (2018) provide an in-depth discussion of these issues.

F. Do firms in developing countries grow over their lifecycle? Role of Initial Conditions

We know that size and age are closely related and are good predictors of financing constraints (Hadlock and Pierce, 2010, Hoberg and Maksimovic (2016)). However much less is known about if there is a lifecycle of firm size and what factors explain the evolution of firm size and productivity with age. Hsieh and Klenow (2014) contrast the growth trajectories of firms in India and Mexico with those in the USA and show that the plants in India and Mexico exhibit much slower growth and the difference in life cycle dynamics could account for productivity differences between developing and developed countries.

Ayyagari, Demirgüç-Kunt, and Maksimovic (2015a) however argue that there is a great deal of heterogeneity in the mix of developing countries. Using Enterprise Survey data from the World Bank on formally registered firms, they show that on average older firms are substantially larger than younger firms in developing countries. As shown in Figure 7, the average firm that is 40 years and older employs 5 times as many workers as the average firm under the age of 5 years.

More importantly, Ayyagari, Demirgüç-Kunt, and Maksimovic (2015b) examine the role of institutions and firm characteristics at the time of creation of the firm in explaining the size, growth and productivity of firms over their lifecycle using survey data from 120 developing countries. As shown in Table 1, they argue that while the institutional factors that the current literature has been examining (e.g.

legal origin, endowments, ethnic fractionalization) are first order in explaining firm lifecycles, firm-level characteristics are comparable to, and sometimes even larger than institutional factors in predicting size and growth but not productivity. In particular, size at birth plays a key role in predicting variation in firm size and growth since birth over the lifecycle, whereas country factors dominate in predicting variation in labor productivity across the lifecycle.

Using better data from the Indian census of manufacturing firms, and in more careful analysis afforded by a single country setting (India), Ayyagari, Demirgüç-Kunt, and Maksimovic (2017) show that the founding conditions of a firm, specifically the size at the start-up, are a strong predictor of persistence in firm size over the first eight years of firms' lifecycle. Start-up size is in turn determined by local institutions. Thus, institutions matter for the selection of firms. The average entrant is smaller with greater financial development, but greater financial development is also associated with higher entry rates. Subsequent to entry, however, during the early lifecycle, large and small entrants do not grow at different rates across states with different institutions or industries with differing reliance on external finance.

In summary, the evidence on the early lifecycle of firms in developing economies highlights the importance of initial conditions such as initial size in forming the blueprint for firms' relative size and growth. More research is needed to understand how initial size correlates with access to finance and managerial capital in influencing growth.

G. SMEs and Productivity – Evidence of Resource Misallocation

While the focus in the above work is on firm size and growth, a recent literature has argued that the large differences in productivity between rich and poor countries can be explained by heterogeneity in firm-level productivity, which can in turn be attributed to the resource mis-allocation in developing countries (Bartelsman, Haltiwanger, Scarpetta, (2004), Banerjee and Duflo (2005), Jeong and Townsend (2007), Restuccia and Rogerson (2008), Hsieh and Klenow (2009), Alfaro, Charlton, and Kanczuk 2008; and Midrigan and Yi Xu 2014). Bartelsman, Haltiwanger, and Scarpetta (2013) show that the within-industry covariance between size and productivity is a robust measure of this mis-allocation and that this size/productivity relationship is stronger in the more advanced economies.

The underlying logic behind this measure is as follows. In the absence of any distortions, the traditional models of firm size distribution (e.g. Lucas, 1978 and Melitz, 2003) predict a positive correlation between size and productivity so that larger firms are more productive. However, distortions in developing countries affect both resource mis-allocation (too many resources are devoted to small unproductive firms) and selection processes (highly productive firms may exit and low productivity firms may be allowed to operate), which lead to a great deal of variation in the size-productivity relation across countries. This variation is then captured by the cross-country variation in the covariance between size and productivity. Ayyagari, Demirgüç-Kunt, and Maksimovic (2015b) in their cross-country study using Enterprise Survey data show that the covariance term is largely negative in developing countries. They also find that the resource mis-allocation seems to decrease with age, since the average and median size-productivity appears to

increase with age, suggesting that on average the unproductive firms exit so older firms are more productive.

Overall, the declining size-productivity covariance in developing countries and the work by Hsieh and Klenow (2014) on the absence of a missing middle in firm size distributions suggest that large firms are equally constrained in the developing countries and more research is needed to understand the welfare implications of relieving the constraints faced by large firms versus small firms and the priorities for reform efforts.

IV. Heterogeneity among SMEs with respect to financing needs and profiles

A. Informal microenterprises

Informal firms play a huge role in developing countries. Using different measures of informality, La Porta and Shleifer (2008) estimate that the informal sector accounts for 30-40% of total economic activity in the poorest countries and a higher share of employment. Informality rates tend to be the highest among the smallest firms with the IFC Enterprise Finance Gap Database estimating that about 80% of microenterprises and SMEs are informal.

Research into the characteristics of these firms shows that informal enterprises are small, inefficient, run by poorly educated entrepreneurs and highly unproductive (La Porta and Shleifer (2008)). Hence, they rarely transition to formality and continue without much growth or improvement. Consistent with this, Ayyagari, Demirgüç-Kunt, and Maksimovic (2015a) find that firms in the informal manufacturing sector in India have a very different lifecycle than the firms in the

formal manufacturing sector. As shown in Figure 8 adapted from their paper, older firms in the unorganized manufacturing sector employ fewer people than firms younger than 5 years old.

Farazi (2013) analyzes the World Bank informal enterprise surveys covering 2,500 firms across 13 countries in Latin America and Sub-Saharan Africa and finds that the biggest operational challenge identified by informal firms is lack of access to finance. Relative to small firms, informal microenterprises show lower rates of use of bank accounts and rely less on banks and more on MFIs for working capital financing. The usual concerns with high operational costs relative to small loan amounts and lack of collateral that inhibits banks from lending to SMEs is further exacerbated in the case of microenterprises. de Mel, McKenzie, and Woodruff (2011) find that only about 10 percent of microenterprises receive bank loans in Sri Lanka. There is evidence that innovative lending techniques can increase lending to the informal sector. Bruhn and Love (2013) analyze the opening of Banco Azteca in Mexico, which targeted previously underserved low-income clients, by relying on synergies with a large retail chain owned by the same parent company, Grupo Elektra. Bruhn and Love show that the Banco Azteca's opening promoted the creation and survival of informal businesses and led to increase in total employment and earnings among low-income individuals.

However, their study and others (Khandker, Samad and Ali 2013; McKenzie and Woodruff 2008, Udry and Anagol 2006) show that the real returns to capital are substantially higher than market interest rates among microenterprises. The high returns suggest that these entrepreneurs should be able to grow by reinvesting profits

but the evidence on this is very mixed. While a detailed review of this literature is beyond the scope of this paper, the current empirical evidence (e.g. Cotler and Woodruff 2007, Banerjee et al. 2010, Kaboski and Townsend 2012, Karlan and Zinman 2011) suggests limited impact of microcredit on growth and investment.

One potential reason as pointed out earlier is that these enterprises are not interested in growing. For example, de Mel, McKenzie, and Woodruff (2010) and Bruhn (2013) show that 70 percent of microenterprise owners run their business to make a living while they are looking for a wage job and may not have plans for expanding the business.[7]

To summarize, the evidence on microcredit suggests limited impact on firm investment and growth and calls for more research on whether alternate instruments such as savings or insurance products could be more effective.

B. Missing middle

A large literature on firm size distributions has pointed to the contrast between the size distributions of firms in developed versus developing economies. A widely accepted idea is that firm size distributions are bimodal with a "missing middle" where a few large firms and many small and micro firms contribute to the bulk of employment and value added in the economy (e.g. Biggs and Oppenheim, 1986; Tybout, 2000; Krueger, 2013).

[7] It could also be that these enterprises want to grow but lack the necessary human capital (e.g. Bruhn, Karlan, and Schoar 2010). However, studies have found limited impact of financial and business training on microenterprise investment and growth (Drexler, Fischer, and Schoar 2011).

The literature has offered several explanations for the missing middle. One strand of this literature suggests that onerous regulation and bureaucracy associated with being formal that particularly disadvantages small firms (e.g. Rauch, 1991), coupled with weak demand and poor institutional infrastructure, to support large scale production (e.g. Tybout, 2000). The literature surveyed above on credit constraints faced by small firms also suggests that small firms face difficulties in becoming middle-sized firms especially in low income countries giving, rise to the missing middle. A second strand of the literature favors a dual-economy model of large high-productivity firms and small low-productivity firms (e.g. Harris and Todaro, 1970) and argues that large firms are subject to constraints and regulations which small firms avoid. Along these lines, Dharmapala, Slemrod, and Wilson (2010) have argued that the missing middle may be the result of optimal tax policy where the government economizes on administrative costs by exempting small firms but in turn intermediate sized firms reduce their output to tax-exempt levels.

Empirical research on the size distribution of firms in developing countries has been limited by the absence of available census data and most studies have had to rely on small survey samples. Thus, while there are several case studies analyzing the missing middle in a single country context such as Côte d'Ivoire (e.g. Sleuwaegen and Goedhuys, 2002), there has been no systematic research/data on the prevalence of the missing middle across countries. Recently however, Hseih and Olken (2014) obtain census microdata from India, Indonesia, and Mexico and argue that there is no "missing middle" in the sense of a bimodal distribution in any of these three countries. They show that the missing middle pattern emerges only when

one groups employment share distribution into three broad bins – less than 10 employees, 10-40 employees, and 50 or more employees. Focusing on just the firm size distribution in these bins of plotting the employment share distribution without grouping into bins produces a unimodal pattern.[8]

Thus, the current evidence suggests that while mid-sized firms are missing, large firms are missing too, and most firms are small in these developing countries.

C. Young firms

While the focus thus far has been on SMEs, recent empirical work in the US by Haltiwanger, Jarmin, and Miranda (2013) suggests that start-ups and young businesses are more critical for job creation than small businesses. It is not clear that these findings necessarily carry over to developing economies where firms face many institutional constraints. Ayyagari, Demirgüç-Kunt, and Maksimovic (2014) study the relationship between firm size, age, and growth across 104 developing countries and find that the small young firms have the largest job creation rates in developing countries. As seen in Figure 9 adapted from Ayyagari, Demirgüç-Kunt, and Maksimovic (2011b), even in countries that have had a net job loss, small young firms are net job creators.

The empirical evidence on the access to finance by young firms suggests challenges similar to those faced by SMEs. Hadlock and Pierce (2010) and Hoberg and Maksimovic (2015) argue that firm age (and size) are good predictors of

[8] Tybout (2014) argues that the missing middle phenomenon is not necessarily associated with bi-modality and instead one should be examining whether the share of mid-sized firms, as opposed to small or large firms, is smaller than the share one would observe in an undistorted economy assumed to be Pareto shape.

financing constraints. Analyzing data from the Enterprise surveys, Chavis, Klapper, and Love (2011) show that across countries, younger firms rely less on bank financing and more on informal financing and as firms mature they switch to using more bank finance. However, financing from informal sources which includes financing from family and friends is often "unreliable, untimely, and bearing significant non-financial costs" (Djankov, McLiesh, and Shleifer 2007). For instance, Ayyagari, Demirgüç-Kunt and Maksimovic (2010) show that while there is a large amount of informal financing in China, only bank financing is associated with higher growth rates.

Other empirical studies try to estimate financing constraints in young firms from the study of firm size distributions. Under perfect financial markets, firm growth should be independent of firm size (Gibrat's law) and firm size distributions are expected to be lognormal. However, Cabral and Mata (2003) and Angelini and Generale (2008) show that the firm size distribution for young firms is heavily skewed to the right and only becomes symmetric over time as firms age. They argue that underinvestment due to financing constraints explains the right skewness in FSDs of young firms especially in developing countries.[9] While institutions such as venture capital and angel investors in developed countries are focused on promoting start-ups (Samila and Sorenson (2011), Kerr, Lerner, and Schoar (2011)), the absence of these institutions in developing countries further exacerbates financing constraints in those countries.[10]

[9] See Quadrini (2000) and Cooley and Quadrini (2001) for structural models of firm dynamics using financing constraints.

[10] Several reasons explain why venture capital funding is not common in developing countries, including the lack of an IPO market that provides exit options to investors (e.g Hall and Lerner

Financing constraints affect the entry of new enterprises and conditional on entry, impede the ability of young firms to invest in new opportunities and grow. Paulson and Townsend (2004) show that greater financing constraints also reduce the likelihood of starting a business in Thailand. More broadly, in a cross-country study of 35 European countries Klapper, Laeven, and Rajan (2006) find that entry is higher in more financially dependent industries in countries with greater levels of financial development.

Startups in advanced economies also face financing constraints. Existing literature has shown a strong correlation between entrepreneurial wealth and the propensity to start or keep a business (Evans and Jovanovic, 1989; Evans and Leighton, 1989; Holtz-Eakin et al., 1993). Access to credit has also been shown to dramatically increase chances of survival, revenues and job creation in the US (Fracassi, Garmaise, Kogan, and Natividad, 2016). Guiso et al (2004) show that even in a well-developed financial market like Italy, regions with deeper capital markets promote the entry and growth of new firms and increase propensity to start new businesses.

More recently, there have been a number of studies studying the impact of the 2008 Great Recession on entrepreneurs. Zarutskie and Yang (2016) find that financing constraints played a key role in the diminished performance of young firms in the US during the 2008 Great Recession. Other studies establish a close relationship between housing collateral and entrepreneurial activity in the U.S.

(2010)), absence of an adequate legal framework to support the VC industry (e.g. Cumming, Schmidt, and Walz (2010)).

(Robb and Robinson (2013), Adelino, Schoar and Severino (2013), Fort et al. (2013), Mehrotra and Sergeyev (2014), Schmalz, Sraer, and Thesmar (2013)).

Overall the evidence points to important frictions in credit markets that prevent entrepreneurs from starting and growing a new business in both developing and developed countries.

V. Looking forward

A. Role of Direct State Intervention

Given that SMEs face a significant credit gap even in advanced economies, governments can play an important role in supporting, regulating and sometimes directly providing financial services. However, a survey of the evidence suggests that not all government intervention is effective and in some cases even counterproductive.

For instance, one important policy tool has been branching regulations to increase outreach. The most known and researched case is that of India, where the Reserve Bank imposed that a commercial bank in India was only allowed to open one new branch in a district that already had bank presence, if it opened four branches in areas without bank presence. Assessing the impact over the period 1977 to 1990 during which this policy was effective, Burgess and Pande (2005) find that the 4-1 rule led to an increase in bank branches and rural credit in less densely banked states and a decline in rural poverty. However, commercial banks incurred large losses due to the subsidized interest rates and high loan losses, suggesting potential adverse consequences in the long term. Indeed, Ayyagari, Beck and Hoseini

(2013) show that the relationship between branch expansion and rural poverty is insignificant over the period 1980 to 2005.

Overall, the government ownership of the banking sector in developing economies has been considered problematic. La Porta et al. (2002) find no evidence that the presence of state-owned banks promotes economic growth or financial development. Other individual country studies on state-owned banks provide evidence of political capture of the lending process where the state-owned banks lend to cronies especially around the time of elections (e.g. Khwaja and Mian (2005), Dinc (2005), Cole (2009), and Sapienza (2004)). Carvalho (2014)) finds that in exchange for government loans, Brazilian manufacturers expand employment and investment in politically attractive regions.

Some state-owned banks are designated as development banks or development financial institutions, to promote socioeconomic goals including fostering SMEs by providing credit, loan guarantees, other financial services and advisory and capacity building programs. Using a large survey of development banks worldwide, De Luna-Martinez and Vicente (2012) report that these banks play a countercyclical role by scaling up lending operations during crisis periods. However, there are few rigorous studies of the effectiveness of development banks. There is some evidence that employing new financial products that are less subject to political subversion could be effective in improving credit access to small firms, such as in the case of reverse factoring developed by the development bank in Mexico (Klapper 2006).

The experience of government ownership in financial services is a little more positive in the case of depositary services where the wide geographic network of government post offices makes them the tool of choice for offering basic payment and savings products in hard to bank areas (World Bank 2006).

B. Role of Credit Guarantee Schemes

Credit guarantee schemes (CGSs) provide partial guarantees on loans to borrowers by covering a share of the default risk of the loan and are used in many developed and developing economies to alleviate financing constraints of SMEs. Beck, Demirgüç-Kunt and Martinez Peria (2008) report that banks view guarantee schemes as the most common and effective government program to support SME financing in developed and developing countries, ahead of directed credit and interest rate or regulatory subsidies. Gozzi and Schmukler (2016) provide a brief overview of the use of CGSs around the world and the design features of these schemes.

Honohan (2010) outlines potential sources of welfare improvements from use of CGSs. First, SMEs commonly do not have the kind of collateral that bankers require, and this problem is especially acute for certain borrowers such as those in poor geographical areas. In this scenario CSGs could alleviate the collateral requirements and allow firms that would have otherwise been excluded from the lending market to access financing. Second, CSGs could help correct market failure related to adverse selection that may result in lending being rationed and undersupplied relative to the social optimum. Finally, there are infant industry or

learning-by-doing arguments wherein CGSs could foster informational spillovers in markets where SME lending is not well developed because lenders do not have the skill/experience and the stock of credit information to lend to SMEs.

While the use of CGSs has been increasing all around the world, there have been very few rigorous evaluations undertaken largely due to the challenges in identifying an appropriate control group, so that firms which have accessed guaranteed loans can be analyzed against other firms which have not benefited from guarantees. The key question related to the impact of CGSs is whether they lead to *additionality,* that is, whether they generate additional loans for targeted firms and allow them to borrow at better terms. Most empirical studies find evidence of financial additionality as seen in the case of Chile's FOGAPE (Cowan, Drexler, and Yañez (2015)), Canada (Riding, Madill, and Haines, 2007), the Special Credit Guarantee Program in Japan (Wilcox and Yasuda, 2008), the Small Firms Loan Guarantee in the U.K. (Cowling, 2010), and the U.S. Small Business Administration (Hancock, Peek, and Wilcox, 2007).

A case in point is the Mullins and Toro (2017) analysis of Chile's credit guarantee scheme for bank loans to small and medium enterprises (SMEs). They carefully use a regression discontinuity around the eligibility cutoff and find that credit guarantees have large positive effects on firms' total borrowing without large increases in default rates. They also find that the scheme has a strong amplification effect: firms increase borrowing from other banks in the 18 months following a loan guarantee; firms receiving guarantees build new bank relationships; and firms use the credit increase to expand their operations. Since Chile's scheme has many

features in common with schemes in many OECD countries, these results are likely to apply beyond Chile.

Lelarge, Sraer, and Thesmar (2010) study the effect of OSEO's guarantee scheme in France (earlier named SOFARIS) over 1989-2000 that targeted small start-up companies, and find that the scheme increased the volume of the loans, while reducing interest payments of beneficiary SMEs. Furthermore, the improved access to finance translated into higher growth rates of firms. They also show that most of the effects take place at the 'intensive margin,' that is, by helping existing new firms to grow, rather than by allowing new firms to be created. However, they also show that the French loan guarantee program greatly increased the probability of default, potentially reflecting the riskier investments made by firms because of the loans. Bach (2014) analyzes the CODEVI program in France that provided targeted loans to SMEs and thus functioned as upfront financial aid to firms deemed to be financially constrained rather than as a public guarantee scheme that operates only in time of default. Bach finds that the program had positive effects on credit growth with no evidence of substitution between subsidized and unsubsidized finance, and in contrast to the research on CGSs, he shows that the targeted loan program in France led to no increase in default risk.

In terms of financial sustainability, the performance of public credit guarantee schemes has been mixed at best. While studies such as de la Torre, Gozzi, and Schmukler (2015) show that Chile's FOGAPE covers all its costs through fees and interest income, others show that credit guarantee schemes require additional

government support to be sustainable (Beck, Klapper, and Mendoza 2010; Beck, Demirgüç-Kunt, and Honohan 2008)).

In summary, while CGSs can be useful mechanisms for increasing access to SMEs, it is a challenge to design and manage these initiatives especially in countries with weak institutional frameworks.

C. Alternative Financing Instruments

While traditional bank finance is still the dominant source of financing for SMEs, there has been an increase in the use of alternative financing instruments to close the credit gap.

In the case of asset-based finance such as asset-based lending, factoring and leasing, a firm obtains credit based on the value that a particular asset generates in the course of its business. However, as discussed in section II, asset based lending relies greatly on the existence of a supporting legal framework.

Other instruments include alternative debt instruments such as corporate bonds, securitized debt and covered bonds where investors in capital markets provide financing for SMEs. One such innovation has been the emergence of "mini-bonds" in parts of Europe (e.g. Italy, Greece, etc.) where unlisted SMEs can issue debt traded on regulated markets or specialized trading faculties. However, according to OECD (2015), few SMEs are able to issue corporate bonds due to the high costs of bond issuance and difficulties in meeting regulations, and thus while these are promising instruments for SME finance, they are yet to be widely adopted.

In the case of SME loan securitization, the originator bank extends loans to its SME customers, pools the loan in a portfolio and sells the portfolio to capital

market investors through a Special Purpose Vehicle (SPV) backed by the loan portfolio. Through the securitization process, assets are taken off the balance sheet of the originator, thus reducing the bank's exposure to credit risk, which is transferred to the capital market. This also has important implications in the light of Basel III regulations as it helps to improve the capital to risk-weighted asset ratios of the bank. Kraemer-Eis et al. (2010) note that securitization of SME loans can be especially important for smaller banks, as they have a competitive edge in lending to smaller companies and transferring risk to capital markets increases their lending capacity.

However, much of the securitization we see today is restricted to the U.S. and especially Europe where securitization of SME loans represents about 10% of total SME outstandings (e.g. Altomonte and Bussoli (2014)). More research is needed on the US and European experience to understand how to develop these markets in developing countries, what types of SME loans can be securitized, and to what extent this can substitute intermediated finance for SMEs.

Equity finance could be another beneficial source of financing for SMEs especially during early stages when debt finance is not an option. To enable this, some developed and emerging markets have established second-tier SME stock exchanges such as the Over-the-Counter-Exchange of India established in 1992 as a platform where SMEs could generate equity capital. However, lack of institutional participation sees very few listed companies on these exchanges and in other cases, developing countries lack the necessary scale, demand, and infrastructure to establish these exchanges.

Private rather than public equity might be a more promising route to providing access to equity finance to SMEs. However, much of the research on the effect of private equity investment is in developed countries, primarily the U.S., and the few studies analyzing private equity and venture capital contracts in developing countries suggest systematic differences in the type of contracts (Lerner and Schoar (2005)), control and liquidation rights (Kaplan, Martel, and Stromberg (2007), although Cumming and Johan (2011) suggest that the legal experience of the VCs is more important than the legal regime of the country of the VC fund in structuring the contracts.

D. Role of Human/Managerial Capital

While the discussion thus far has focused on access to external finance as an important determinant of entrepreneurship and SME growth, a number of recent papers argue that business skills or managerial capital is an import driver of firm growth and productivity (e.g. Bloom and Van Reenen (2007, 2010), Bruhn, Karlan and Schoar (2010)). Improving managerial capital could lead to identifying better marketing or pricing strategies and also improve the way firms use financing, leading to greater impacts of the access to finance. However, there is a large variation in the quality of managerial capital across countries, with firms in non-OECD countries scoring significantly below firms in OECD countries on a measure of management practices (Bloom and Van Reenen, 2010).[11]

[11] Gennaioli, La Porta, Lopez-de-Silanes, and Shleifer (2013) find that human capital measured by education is the most consistent determinant of regional income and productivity of regional establishments.

Related to this, an emerging literature argues that initial founding conditions are an important determinant of entrepreneurial success. Ayyagari, Demirgüç-Kunt, and Maksimovic (2017) use Indian census data and show that initial size (proxy for initial skills) is a key determinant of how large a firm is during the early lifecycle. Using US data, Maksimovic, Phillips and Yang (2013) show that initial size and productivity predict subsequent acquisition activity and the decision to go public. Ayyagari and Maksimovic (2017) also show that the initial skill of an establishment strongly predicts the future skill and growth of US manufacturing establishments.

Business training has emerged as one of the most common forms of capacity building provided to small firms around the world, but until recently there has been very little rigorous impact evaluation of these training programs. Bloom et al. (2013) run a field experiment where they provide free consulting on modern management practices to a randomly chosen set of Indian textile firms, and find that adoption of these practices increases productivity. Drexler, Fischer, and Schoar (2014) show that for micro entrepreneurs, simple rule of thumb training had a bigger impact on firms' financial practices and revenues compared to standard accounting training.

To summarize, these studies provide suggestive results that managerial capital can be a limiting factor in the growth of firms in developing countries, and that this managerial capital could be transmitted through consulting services. Greater research is needed to understand what specific types of managerial capital are important for SMEs and how to overcome market failures that are preventing more SMEs from availing these services.

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Figure 1: Business Constraints

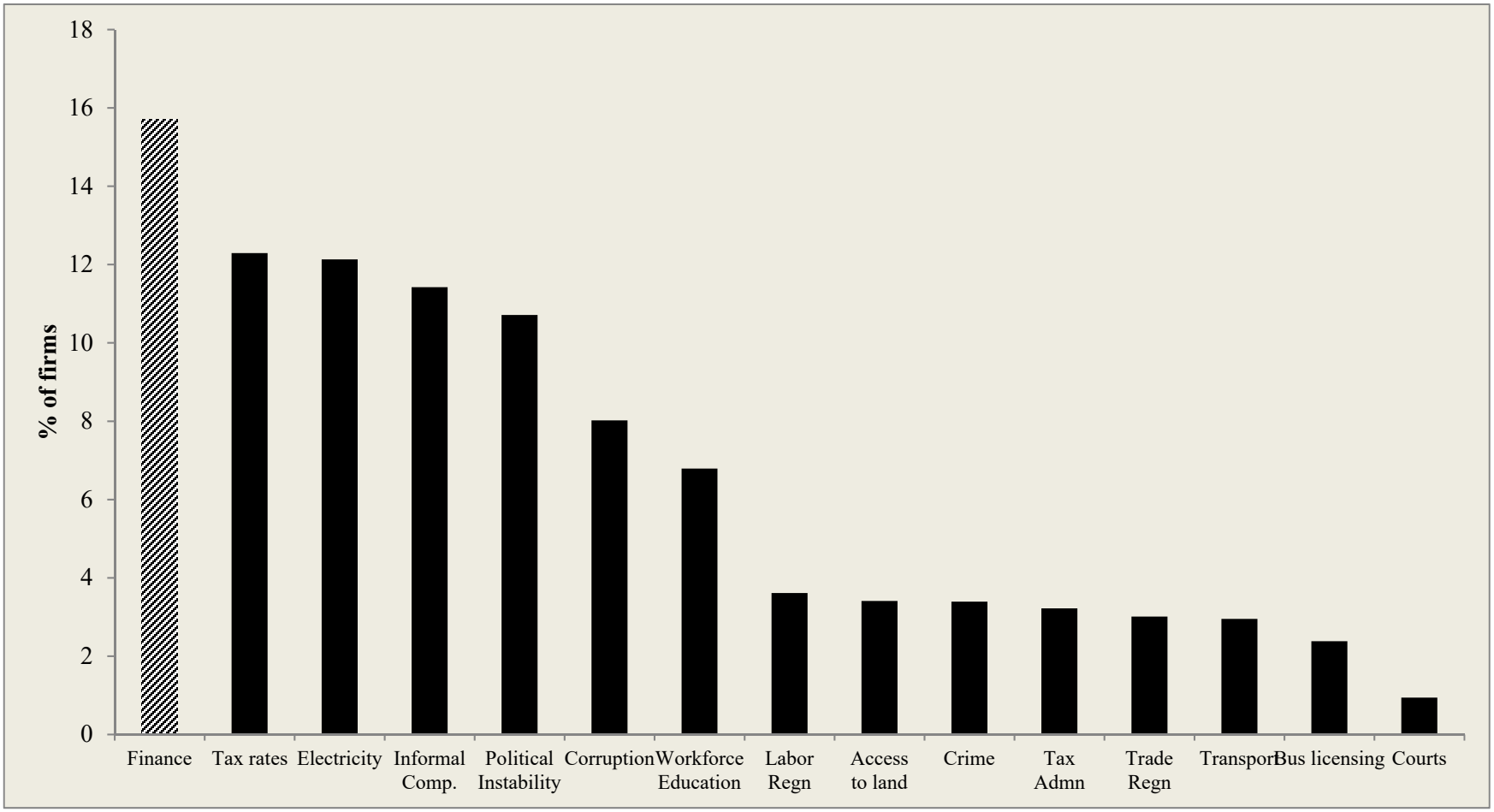


Figure 2: Percentage of firms that rank access to finance as a severe obstacle

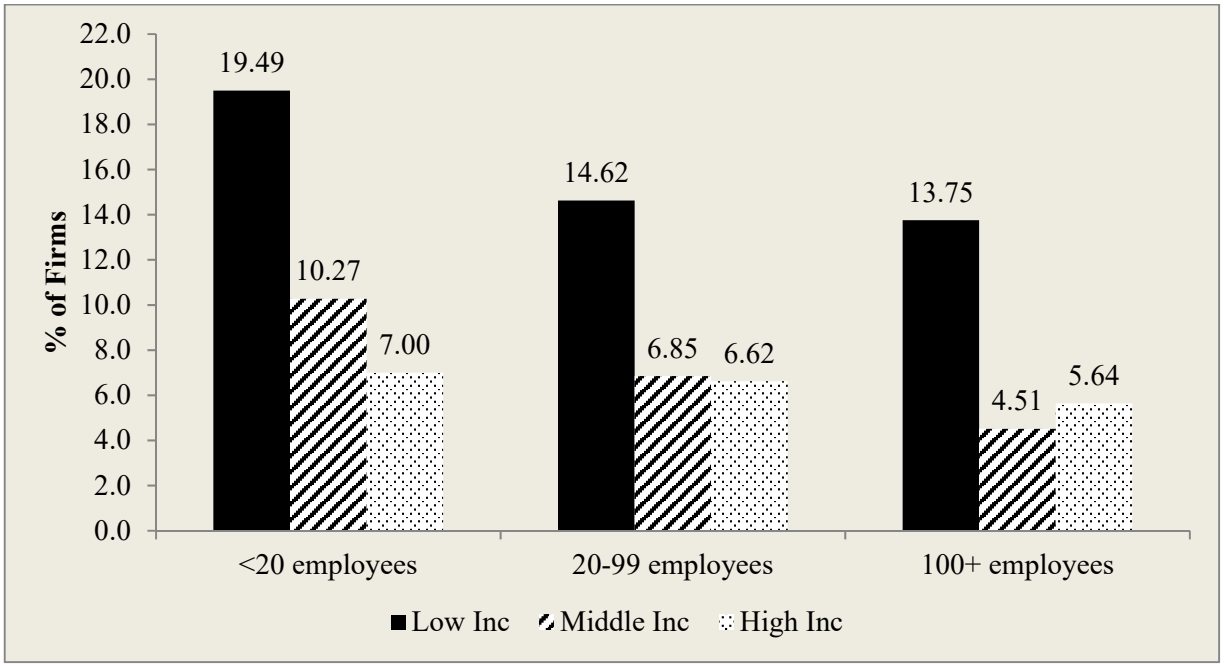


Figure 3: Use of bank accounts by SMEs vs. Large firms

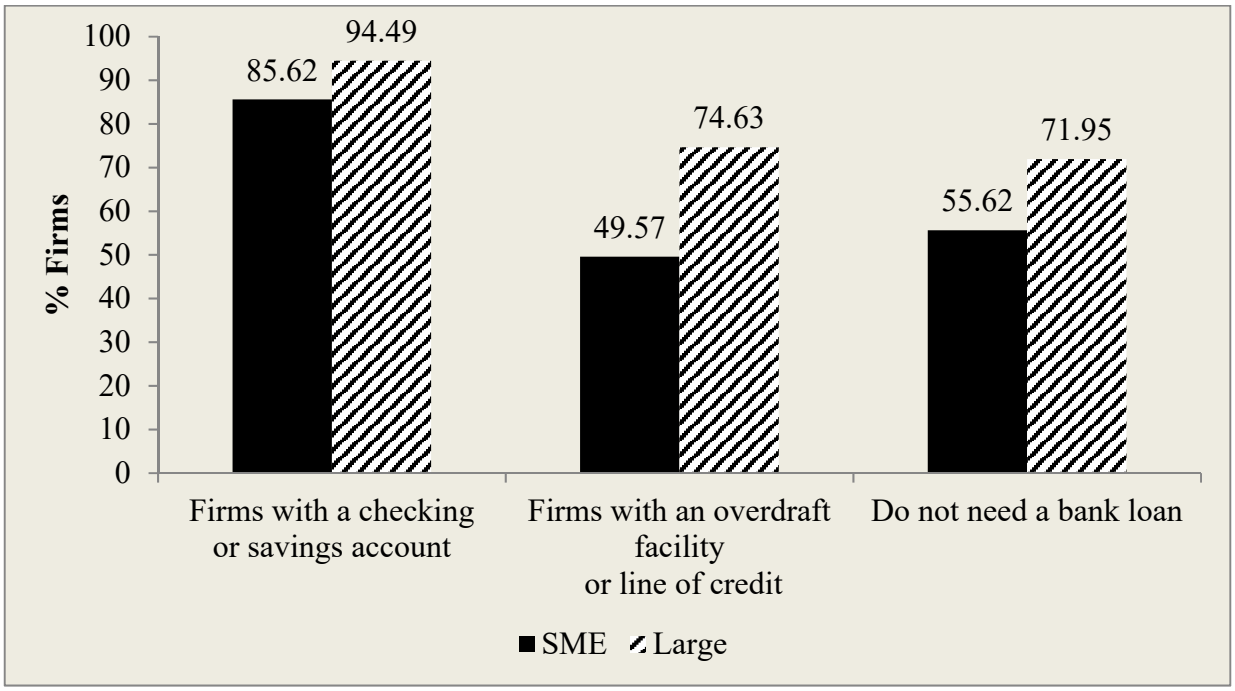


Figure 4: SMEs' Access to bank accounts across country income groups

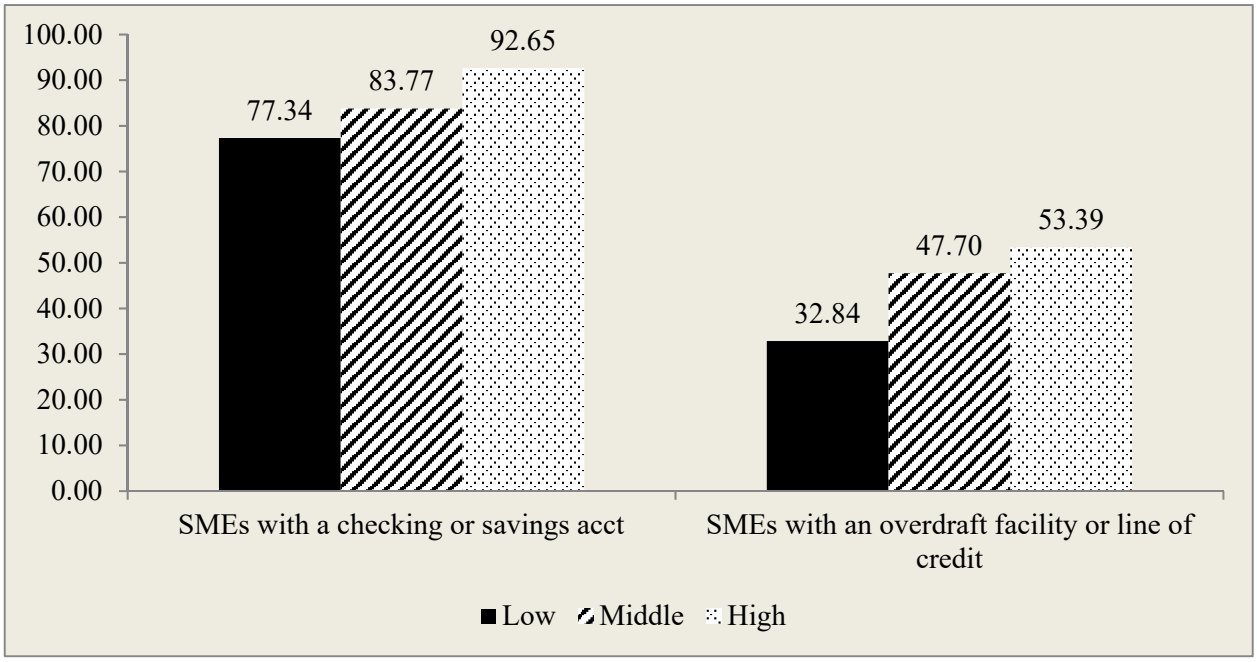


Figure 5: Why firms do not apply for loan?

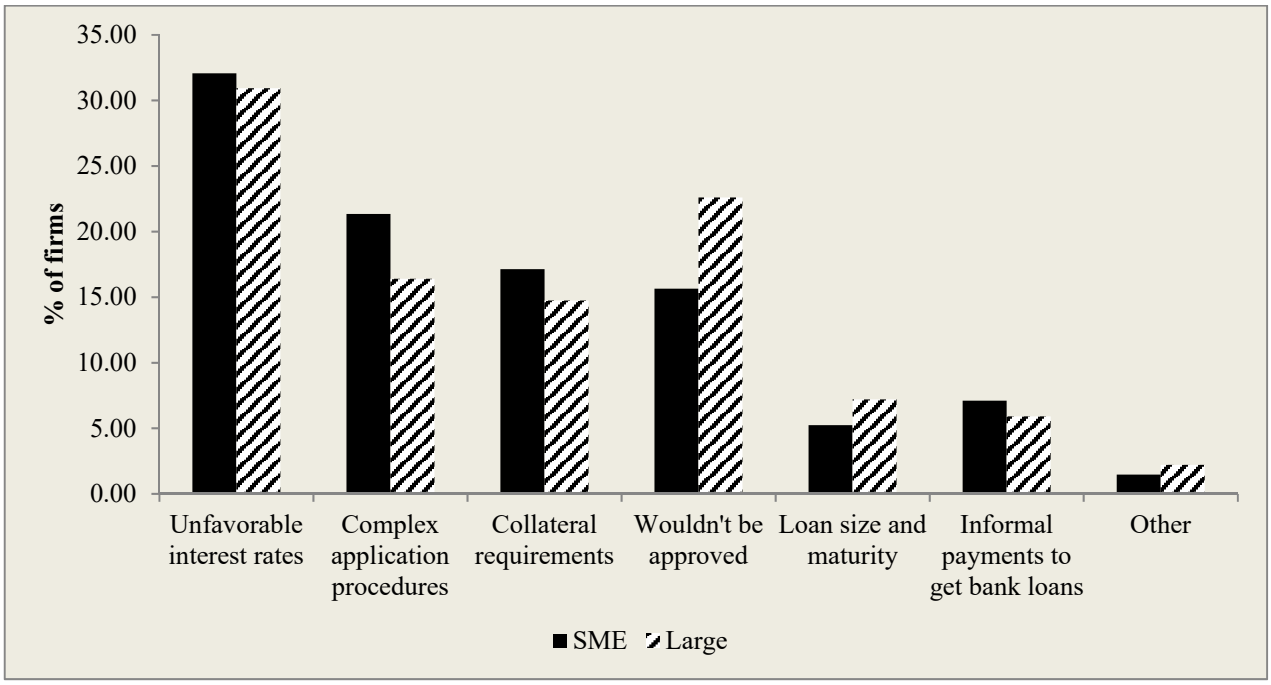


Figure 6: Financing of fixed assets

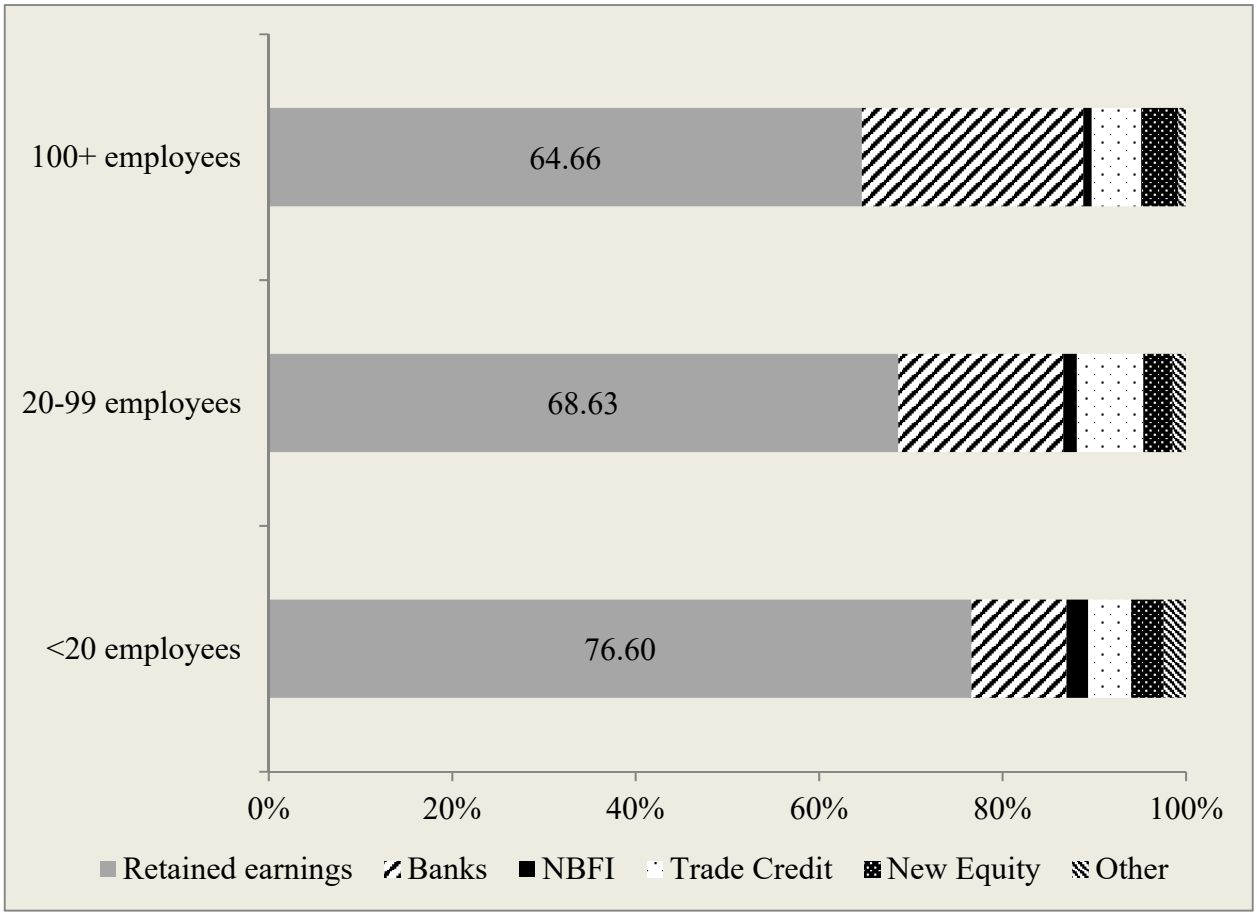
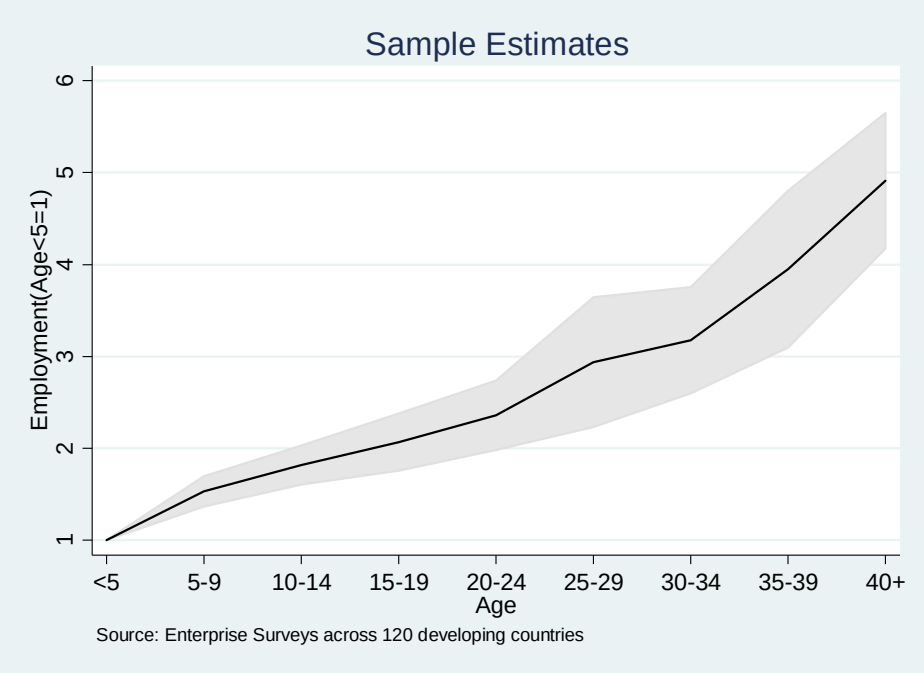
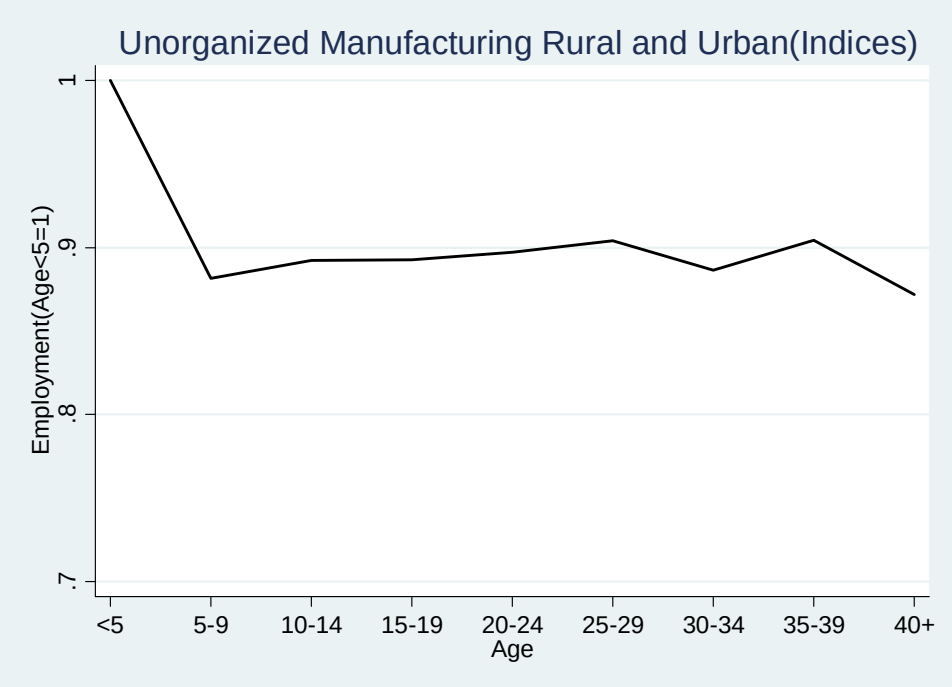


Figure 7: Firm Employment by Age – Estimates in 120 Developing Countries



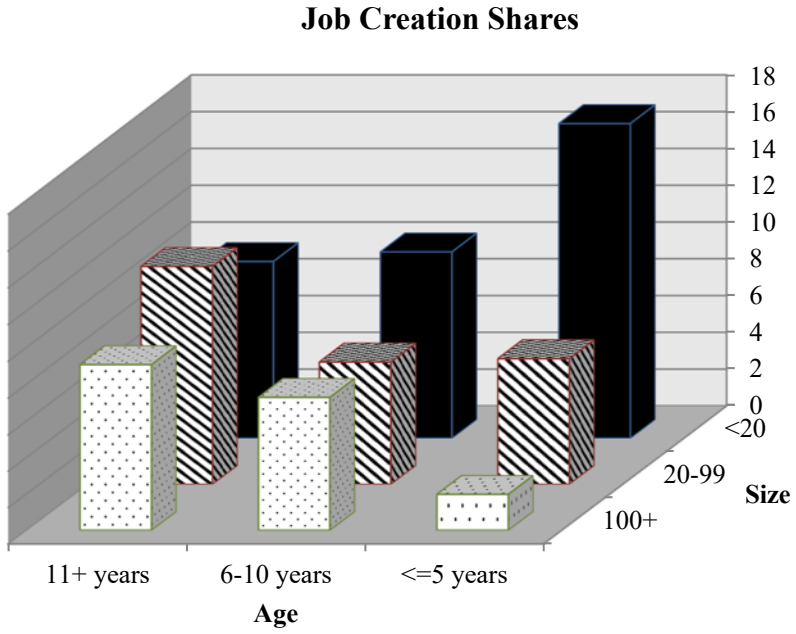
Source: Ayyagari, Demirgüç-Kunt, and Maksimovic (2015a)

Figure 8: Lifecycle of Informal Firms



Source: Ayyagari, Demirgüç-Kunt, and Maksimovic (2015a)

Figure 9: Job Creation Shares across countries by Size and Age
In Countries with net job gain (85 countries)



In Countries with net job loss (18 countries)

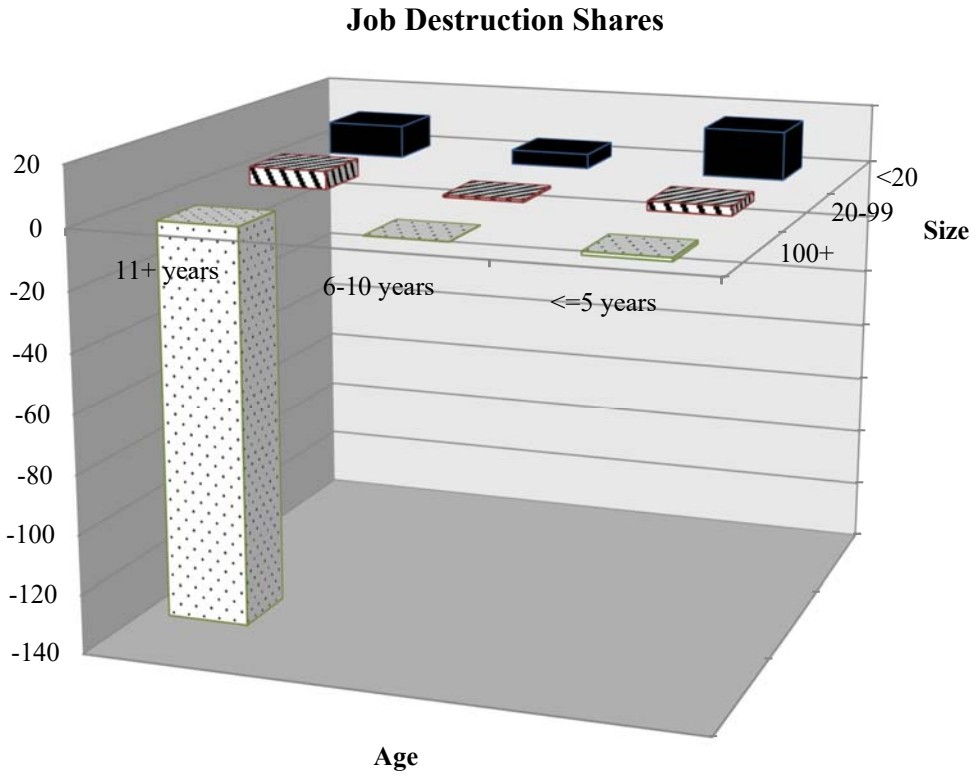


Table 1: Firm Size and Lifecycle – Analysis of Variance

		1	2	3	4	5	6
Age Groups	All	Young (<5)	Mid-Age (5-19)	Old (20-39)	Young (<5)	Mid-Age (5-19)	Old (20-39)
Country characteristics							
Country Dummies	0.092	0.125	0.089	0.092	0.187	0.105	0.059
Legal Origin	0.008	0.018	0.017	0.014	0.056	0.04	0.015
Ethnic Fractionalization	0.023	0.037	0.021	0.009	0.097	0.041	0.009
Latitude	0.004	0.018	0.009	0.01	0.035	0.01	0.001
Settler Mortality					0.044	0.024	0.016
Legal Origin, Latitude, Ethnic Fractionalization	0.029	0.045	0.033	0.022			
	31.52%	36.00%	37.08%	23.91%			
Legal Origin, Latitude, Ethnic Fractionalization, Settler Mortality					0.127	0.075	0.037
					67.91%	71.43%	62.71%
Firm-level characteristics							
Age	0.068						
Sector Dummies	0.046	0.051	0.041	0.026	0.069	0.033	0.017
Location (City Size) Dummies	0.005	0.002	0.002	0.01	0.014	0.009	0.008
Ownership Dummies	0.039	0.05	0.044	0.026	0.084	0.052	0.038
Legal Organization Dummies	0.101	0.05	0.086	0.154	0.097	0.104	0.148
Log(Size at birth)	0.357	0.522	0.373	0.272	0.577	0.429	0.273
All together	0.423	0.511	0.389	0.346	0.62	0.487	0.37
N	33982	6119	20144	5724	2234	8352	3896

Source: Ayyagari, Demirgüç-Kunt, and Maksimovic (2015b)