

# Small and Medium-Size Enterprises:

## Access to Finance as a Growth Constraint

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This draft: February 2006

**Abstract:** This paper presents recent research on access to finance by Small and Medium-Size Enterprises (SMEs). SMEs form a large part of private sector in many developed and developing countries. While cross-country research sheds doubt on a causal link between SMEs and economic development, there is substantial evidence that small firms face larger growth constraints and have less access to formal sources of external finance, potentially explaining the lack of SMEs' contribution to growth. Financial and institutional development helps alleviate SMEs' growth constraints and increase their access to external finance and thus levels the playing field between firms of different sizes. Specific financing tools such as leasing and factoring can be useful in facilitating greater access to finance even in the absence of well-developed institutions, as can systems of credit information sharing and a more competitive banking structure.

Keywords: Small and Medium-Size Enterprises; Business Environment; Economic Development

JEL Classification: L11; O1; O4

Beck and Demirgüç-Kunt: World Bank. We thank Robert Cull and Luc Laeven for helpful suggestions and April Knill for outstanding 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.

## 1. Introduction

Numerous studies have discussed that Small and Medium Enterprises (SMEs) are financially more constrained than large firms and are less likely to have access to formal finance. Until recently, however, there was little cross-country evidence on the extent to which size is a decisive factor in determining growth obstacles or access to finance. Further, little cross-country evidence has been accumulated on the policies to overcome SMEs growth obstacles and foster their access to finance. Recently compiled cross-country firm-level databases have facilitated more detailed research and have enhanced our understanding of policies to foster SMEs' access to finance.<sup>1</sup>

Efforts targeted at the SME sector are based on the premises that (i) SMEs are the engine of economic development, but (ii) market and institutional failures impede their growth, thus justifying government interventions. Despite the growing interest of the development community in subsidizing SMEs, however, there are skeptical views that question the efficacy of pro-SME policies. Specifically, many critics stress the importance of the business environment facing all firms, large and small. From this perspective, low entry and exit barriers, well-defined property rights, effective contract enforcement, and firm access to finance characterize a business environment that is conducive to competition and private commercial transactions. Section 2 of this overview discusses cross-country evidence that shows while there is a robust partial correlation between the importance of SMEs in manufacturing and economic development, there is no causal impact of SMEs. This does not mean that SMEs do not deserve policy makers' attention. Rather, it implies a change in focus, away from size-oriented policies to policies that improve the playing field between firms of different sizes.

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<sup>1</sup> Some of this research was presented at a recent conference at the World Bank in Washington D.C. See [http://www.worldbank.org/research/projects/sme\\_conference.htm](http://www.worldbank.org/research/projects/sme_conference.htm) for conference agenda and papers.

Section 3 discusses recent cross-country evidence on the growth constraints faced by SMEs and the role of financial and institutional development to overcome these constraints. We review evidence that financing obstacles are more growth-constraining for small firms and they prevent all firms from reaching their optimal size. This is also reflected in financing patterns: small firms finance a smaller share of their investment and working capital with formal financial sources than large firms. We conclude this section with a historical comparison between developing countries today and the North Atlantic core in the 19<sup>th</sup> century and a discussion on the extent to which ethnic networks in Sub-Saharan Africa replace formal financial markets.

Section 4 discusses the importance of financial market structure for easing SMEs' access to finance and specific financing tools to overcome small firms' financing constraints. Traditionally, relationship banking and thus the presence of small banks have been considered the characteristics of an SME-conducive financial system. The introduction of transaction-based SME financing tools, such as factoring and credit scoring, however, has underlined the advantages of large banks in providing finance to small opaque firms. Section 5 concludes.

## **2. SMEs, business environment and growth**

Efforts targeted at the SME sector are often based on the premises that (i) SMEs are the engine of growth, but (ii) market imperfections and institutional weaknesses impede their growth. Skeptics question the efficacy of this policy and point to empirical evidence either in favor of large firms or of a size-blind policy approach (see Biggs, 2002 for an overview). While many country-level and microeconomic studies have assessed the importance of SMEs in the economic development and industrialization process (Snodgrass and Biggs, 1996), Beck, Demirguc-Kunt and Levine (2005a) provide the first cross-country evidence on the links

between SMEs, economic growth, and poverty alleviation, using a new database compiled by Ayyagari, Beck and Demirguc-Kunt (2003).

Cross-country regressions of GDP per capita growth on SMEs share in manufacturing employment show a strong positive relationship over the 1990s, even after controlling for an array of other country characteristics that can account for differences in growth across countries. Instrumental variable regressions that explicitly control for reverse causation and simultaneity bias, however, erode the significance of the relationship between SMEs and economic growth. The regressions do not necessarily lead to the conclusion that SMEs do not foster economic growth. Rather, they fail to reject confidently the hypothesis that SMEs do not exert a causal impact on GDP per capita growth. This finding is consistent with the view that a large SME sector is a characteristic of fast-growing economies, but not a cause of their rapid growth. Beck, Demirguc-Kunt and Levine (2005a) also do not find any evidence for any association of a large SME sector with faster income growth of the lowest income quintile and faster rates of poverty reduction.

While to our best knowledge there is no robust cross-country evidence on the relationship between the business environment and economic growth, industry-level, firm level and survey evidence consistently show a positive association of a competitive business environment with entry, entrepreneurship and investment.

Klapper, Laeven and Rajan (2006) show that one channel through which the business environment affects economic development is the entry of new firms. Using firm-level data for Western and Eastern Europe, they find that entry regulations, measured as the cost of registering a firm, hamper the creation of new firms, while regulations fostering property right protection and access to finance enhance entry. Further, the effect of depressed entry shows up in lower

productivity: value added per employee in natural “high entry” industries grows more slowly in countries with more onerous regulations on entry. The paper also suggests that in some cases a poor business environment may affect the performance of the SME sector, because restrictions and market imperfections dampen competition and slow firm growth. A comparison of Italy and U.K. illustrates this effect. In Italy, where entry costs are 20 percent of GNP as opposed to 1.4 percent of GNP in U.K., there are many small firms yet slower growth. The problem in Italy is that the SME sector has many old and inefficient firms compared to its UK counterpart. Indeed, firms start out larger in Italy, but grow more slowly so that firms in the U.K. are about twice as large by age ten (Figure 1). These results are very complementary to the findings of Beck, Demircuc-Kunt and Levine (2005a) and may provide one explanation why a large SME size is unlikely to be associated with faster growth, that is, if the large SME sector is a reflection of low entry and turnover of firms.

Firms are not only more likely to enter in countries with better access to external finance and better investor protection, they are also more likely to incorporate than to maintain the legal form of proprietorships (Demircuc-Kunt, Love and Maksimovic, this issue). Using firm-level survey data for 52 countries, Demircuc-Kunt, Love and Maksimovic show that one of the reasons for this variation in the likelihood of incorporating is the fact that incorporated firms face lower obstacles to their growth in countries with better developed financial sectors and efficient legal systems, strong shareholder and creditor rights, low regulatory burdens and corporate taxes and efficient bankruptcy processes. Corporations report fewer financing, legal and regulatory obstacles than unincorporated firms and this advantage is greater in countries with more developed institutions and favorable business environments. Further, they find some evidence of higher growth of incorporated businesses in countries with good financial and legal institutions.

Using survey data from interviews with entrepreneurs and non-entrepreneurs in seven cities across Russia, Djankov et al. (2004) provide further evidence for the importance of the business environment for the decision of becoming an entrepreneur. They find that in addition to many personal characteristics the perception of corruption and government officials' attitude towards entrepreneurship affects the decision to become an entrepreneur. Similarly, Johnson et al. (2002) find that entrepreneurs in transition economies are more likely to reinvest their profits if they feel more secure about property right protection in their country, while Cull and Xu (2005) find that Chinese entrepreneurs are more likely to reinvest their profits if they are more confident in the system of property rights protection and have easier access to credit, with this effect being stronger for small firms.

Are different dimensions of the business environment equally important? Using firm level survey data on the business environment across 80 countries, Ayyagari, Demirguc-Kunt and Maksimovic (2005) investigate the impact of access to finance, property right protection, provision of infrastructure, inefficient regulation and taxation, and broader governance features such as corruption, macroeconomic and political stability on firm growth. They show that finance, crime and political instability are the only obstacles that have a direct impact on firm growth and finance is the most robust one among those.

Together, these results suggest that it is important to have a competitive business environment that allows for the entry of new and innovative entrepreneurs resulting in the Schumpeterian process of "creative destruction" rather than simply having a large SME sector, which might be characterized by a large number of small enterprises that are neither able to grow nor to exit. Indeed, a large, but stagnant SME sector may be a by-product of a poor business

environment itself.<sup>2</sup> Furthermore, the existing evidence suggests that access to finance plays a very important role in the overall business environment, potentially constraining both firm entry and growth.

### **3. Constraints faced by SMEs: impact on firm size, access to finance and growth**

While the previous section has shown that it might be difficult to justify the focus on SMEs on grounds of economic development and poverty alleviation, they account for a larger share of enterprises and “SMEs are the emerging private sector in poor countries, and thus form the base for private sector-led growth”(Hallberg, 2001). Ayyagari, Beck and Demirguc-Kunt (2003) show that employment in SMEs, defined as enterprises with up to 250 employees, constitutes over 60% of total employment in manufacturing in many countries (Figure 2). Further, financial and institutional deficiencies might prevent SMEs from growing to their optimal size and thus explain the lack of an empirical causal link between SMEs and economic development. Thus, it is crucial to understand obstacles to SMEs’ operation and growth and how they vary with country factors.

Both in the developing and developed world small firms have been found to have less access to external finance and to be more constrained in their operation and growth (Berger and Udell, 1998; Galindo and Schantiarelli, 2003). Recent cross-country firm-level surveys have enabled researchers to not only explore firm-differences within specific countries, but also to compare firms across countries and link differences to country characteristics such as financial and institutional development. The World Business Environment Survey (WBES) is a unique firm-level survey conducted in 1999 and 2000 for over 10,000 in more than 80 countries. First,

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<sup>2</sup> Ayyagari, Beck and Demirguc-Kunt (2003) find some, but not conclusive evidence that a more competitive business environment is associated with a larger SME sector.

this database provides information on the obstacles as perceived by the firms and allows researchers to relate these obstacles to actual firm growth. Second, the database contains information on a broad cross-section of different types of firms, including a large number of small and medium-size enterprises, firms of different ownership and organizational structure.<sup>3</sup>

### **3.1. Financing constraints, access to finance and growth: the importance of size**

Firms in the WBES were asked to rate financing and other obstacles, such as infrastructure, crime, macroeconomic instability and corruption in terms of their impact on the operation and growth of the firm. Schiffer and Weder (2001) show that small firms consistently report higher growth obstacles than medium-size or large firms. Beck, Demirguc-Kunt, Laeven and Maksimovic (2006) show that size, age and ownership are the most reliable predictors of firms' financing obstacles. The authors find that older, larger and foreign-owned firms report lower financing obstacles. The relationship is not only statistically but also economically significant. The probability that a small firm lists financing as a major obstacle (as opposed to moderate, minor or no obstacle) is 39% compared to 36% for medium-size firms and 32% for large firms. The higher financing obstacles that small firms report match not only anecdotal evidence from both developed and developing countries, they also confirm theory's predictions. In a world with fixed transaction costs and information asymmetries, small firms with demand for smaller loans face higher transaction costs and face higher risk premiums since they are typically more opaque and have less collateral to offer.

Not surprisingly, the data also show that small firms finance a smaller share of their investment with formal sources of external finance (Beck, Demirguc-Kunt and Maksimovic,

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<sup>3</sup> 40% of the enterprises in the sample are small (less than 50 employees) and 40% are medium-sized (between 50 and 500 employees).



2004). As shown in Figure 3, small firms finance on average 13 percentage points less of investment with bank finance compared to large firms. While there are no significant differences in the case of lease finance, larger firms finance a greater share of investment with equity and – perhaps surprisingly – with development finance than small firms. On the other hand, smaller firms finance a larger share of investment with informal sources of finance, such as moneylenders or family and friends.

Do the higher financing obstacles that small firms report actually constrain their growth or do they find ways around these obstacles? Beck, Demirguc-Kunt and Maksimovic (2005) find that the higher obstacles faced by smaller firms indeed translate into slower growth. As shown in Figure 4, small firms' financing obstacles have almost twice the effect on annual growth that large firms' financing obstacles do. The difference is even stronger in the case of growth constraints related to the legal system and to corruption, where small firms suffer more than three times as much in the form of slower growth as large firms. Small firms thus do not only report facing higher growth obstacles, these higher obstacles are also more constraining for their operation and growth than in the case of medium-size and large firms.

### **3.2. Financing constraints, access to finance and growth: the importance of institutions**

The newly available cross-country firm-level surveys do not only allow researchers to assess the differences in financing constraints and patterns across firms of different sizes, but also to explore the effect of different policies on these differences. Beck, Demirguc-Kunt, Laeven and Maksimovic (2006) show that institutional development, broadly defined, is the most significant country characteristic that can explain cross-country variation in firms' financing obstacles, even after controlling for cross-country income per capita variation. Firms in countries with higher levels of institutional development report significantly lower financing obstacles

than firms in countries with less developed institutions. The positive effect of financial and institutional development can also be observed in the use of external finance. Better protection of property rights increases external financing of small firms significantly more than it does for large firms, particularly due to the differential impact it has on bank and supplier finance (Beck, Demirguc-Kunt and Maksimovic, 2004).

Combining firm-level data with indicators of national policies and institutions also helps researchers assess the causes for the missing middle phenomenon observed in many developing countries. For example, Sleuwaegen and Goedhuys (2002) show that smaller firms grow relatively faster in Germany than in Côte d'Ivoire, while the opposite holds for large firms. What drives these differences in the growth rates of small and large firms in developed and developing countries?

Two papers using different methodologies, aggregation levels and datasets show the extent to which financial and institutional underdevelopment help explain the phenomenon of the missing middle for broad cross-country samples. Using the WBES, Beck, Demirguc-Kunt and Maksimovic (2005) show that the effect of growth obstacles on firm growth is smaller in countries with better-developed financial and legal systems. And even more, it is the small firms that stand to gain most from financial and institutional development. The effect of financial and legal development on the constraints-growth relationship is significantly stronger for small firms than for large firms. Financial and institutional development thus helps close the gap between small and large firms. Using cross-industry, cross-country data for 44 countries and 36 industries in the manufacturing sector, Beck, Demirguc-Kunt, Laeven and Levine (2004) show that financial development exerts a disproportionately large positive effect on the growth of industries that are technologically more dependent on small firms. Their results suggest that the

furniture industry (an industry with many small firms) should grow 1.4% per annum faster than the spinning industry (an industry with relatively few small firms) in Canada (a country with a well developed financial system) than in India (which has a low level of financial development). Since the average industry growth rate in their sample is 3.4%, this is a relatively large effect. Thus, small firms not only suffer more from market frictions such as transaction costs and information asymmetries than large firms – as discussed above – but these market frictions have a disproportionately larger effect on small firms in countries with less developed institutions.

The constraining effect of financial and institutional underdevelopment also shows up in a distorted size distribution. Kumar, Rajan and Zingales (1999) find that the average size of firms in human capital-intensive and R&D intensive industries is larger in countries with better property rights and patent protection. Similarly, Beck, Demirguc-Kunt and Maksimovic (this issue) show in a cross country sample that large firms, i.e. firms that are most likely to be able to choose the boundaries of the firm are larger in countries with better-developed financial and legal systems. Using a sample of largest listed firms across 44 countries, they show that firms are larger in countries with higher levels of Private Credit to GDP, a standard measure of financial intermediary development. They find also evidence – although less robust – that firms are larger in countries with more rapid judicial conflict resolution mechanisms and better property right protection. These results suggest that agency problems between outside investors and corporate insiders keep firms smaller in countries with weak legal and financial systems. While focusing on large firms, they conjecture that this finding is relevant for the universe of enterprises and might render programs to foster SME growth ineffective and even counterproductive in countries with weak financial and legal systems, as small firms may choose to stay small rather than grow.

Similarly, using data across Mexican states, Laeven and Woodruff (2004) show that legal system efficiency is positively associated with firm size, an effect that is strongest in sectors where proprietorships dominate. This suggests that more effective legal systems increase investment by firm owners by reducing the idiosyncratic risk proprietors face. The finding of a positive association between financial and legal development and firm size has important implications for SME-promotion policies. If in the absence of well-developed institutions, it is optimal for firms to stay small, efforts to promote growth of SMEs cannot be expected to be successful, unless institutional shortcomings are addressed first.

How do financing patterns of SMEs in today's developing economies compare with the financing patterns of SMEs in yesterday's developing economies? Cull, Davis, Lamoreaux, and Rosenthal (this issue) explore a new angle in the debate on financing patterns of SMEs by analyzing the financial resources available to SMEs in the core North Atlantic economies during the 19<sup>th</sup> and early 20<sup>th</sup> centuries. They find that the main institutions associated with modern finance –banks and securities markets- were of marginal significance to SMEs, but an impressive variety of local institutions emerged to supply their needs. These intermediaries ranged from notaries in France that in the absence of readily available information took a broker function in obtaining financing for SMEs to the cooperative movement in Germany and other countries that focused on local SME lending. Most of these institutions were demand driven and were established through private initiative. While governments played little role in creating these institutions, they allowed their emergence through a generally permissive regulatory environment. While focusing on the 19<sup>th</sup> century, their findings offer some lessons for today's policy makers in developing countries: providing the necessary contractual and informational frameworks for financial institutions to prosper and the incentives for informal enterprises to

convert into formal ones can help establish the conditions for the necessary institutions to emerge.

In developing countries, finance from friends and family play a much more significant role than industrialized countries. More generally, SMEs in many developing countries get around market failures and lack of formal institutions by creating private governance systems in the form of long-term business relationships and tight, ethnically-based, business networks. However, there is variation in access to such networks across ethnic groups as discussed by Biggs and Shah (this issue). Indian entrepreneurs in East Africa, Lebanese firms in West Africa and European enterprises in Southern Africa form business networks whose members lend to each other, provide personal references and ease transactions with an informal contract enforcement system based on reputation. These networks help overcome the problems of asymmetric information and weak formal contract enforcement systems. Advantages of networks even extend to new entrants who start out twice as large in terms of assets as new entrants outside the ethnic networks and get immediate access to supplier credit without having to build up a reputation and relationships (Biggs and Shah). While networks with private institutional support systems help their members overcome deficiencies in their economies' institutional environment, they have a discriminatory effect on non-members who can effectively be excluded from market exchanges. This has not only negative repercussions for equity, but also provides for a static pattern of business exchange, with little competition and innovation.

#### **4. Beyond financial and institutional development: market structure and innovative lending tools**

Results reported so far show a strong economic effect of financial and institutional development on easing SMEs' financing constraints and on increasing their access to formal sources of external finance. But what are the policies that drive SME-friendly financial and institutional development? What can policy makers do, both in the short- and in medium- to long-term, to ease SMEs' financing constraints and improve their access to external financing, thus leveling the playing field?

Credit availability to enterprises, but especially to SMEs, depends on the infrastructure that supports financial transactions, including the legal system and the information environment. Commercial laws that effectively assign and protect property rights and their efficient enforcement are crucial for financial transactions. This includes the laws, regulations and institutions to create, register and enforce collateral and an effective bankruptcy system. Firms in countries with more effective and more adaptable legal systems report lower financing obstacles (Beck, Demirguc-Kunt and Levine, 2005b) and the effect of financial and legal obstacles on growth is lower in countries with better developed legal systems, especially for small firms (Beck, Demirguc-Kunt and Maksimovic, 2005). A rapidly expanding literature has shown the positive effect that credit information sharing has on the credit availability to SMEs (Pagano and Jappelli, 1993; Miller, 2003; Love and Mylenko, 2003). Since the mid-1990s, the use of information from these bureaus and of proprietary information from financial institutions for small business credit scoring has become popular in the U.S. and other developed economies. This technique relies mostly on information on the owner rather than the small firm itself and can significantly reduce transaction costs of loan processing. Frame, Padhi and Wosley (2004) show

that the use of credit-scoring techniques has increased small business lending by banks in the U.S.

Depending on the legal and information environment in their respective country, financial institutions around the world have developed specific techniques to lend to small, opaque firms with little or no collateral. While relationship lending – lending decisions based on soft information and long-term relationships between lender and borrower - has long been seen as the major lending technology benefiting SMEs, the last decades have seen the rise of new transaction lending technologies – based on hard information - that have found ways around the constraints that opaqueness and lack of appropriate collateral pose for SME lending.<sup>4</sup> This had led to a change in paradigm concerning SME Finance (Berger and Udell, this issue). While small and local banks have been seen as the core institutions providing finance to small and opaque firms, building on their long-term relationships, technology and scale economies have given large institutions the opportunity to serve small-scale customers.

Several techniques provide alternatives to relationship lending for SMEs. Asset-based lending and leasing are both lending techniques focused on the underlying asset as the primary source of repayment (Berger and Udell, this issue). Leasing is mostly for equipment, while asset-based lending is also used for accounts receivable and inventory. While asset-based lending uses the underlying asset as collateral, the lender – lessor – owns the equipment in a leasing relationship and rents it to the lessee (borrower). While asset-based lending relies on a sophisticated and efficient legal system – which might be the reason why it has a significant presence in only four countries -, leasing does less so, since the ownership of the asset passes to

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<sup>4</sup> Voordecker (this issue) analyzes the relationship between relationship, the legal organization of borrowers, competition and the likelihood of collateral as part of the loan agreement. Non-incorporated firms are more likely to have collateral as part of their loan agreement and firms are more likely to pledge collateral to their main bank, but less likely to do so if they have a choice between several competing banks.

the financier. Leasing can also have tax advantages if lessor and lessee face different marginal tax rates (International Finance Corporation, 2000).

Factoring involves the purchase of accounts receivable by a financier, known as the factor. Strictly speaking, factoring is thus not a lending technique, which makes it especially attractive in countries with weak legal systems. It also does not rely on information about the “borrower”, but rather on the obligor, which makes it an attractive financing instrument for relatively opaque SMEs. Reverse factoring relies even less on informational infrastructure, as the factor enters into an agreement with a large company to finance accounts receivable from its small suppliers. Klapper (this issue) illustrates the importance of factoring for firm financing in many developing countries and discusses the example of the Nafin reverse factoring program in Mexico, where a government institution provides an internet-based market infrastructure to facilitate on-line factoring services to SME suppliers.

Finally, the banking market structure and regulatory policies influencing this market structure can have an important impact on the availability of SME financing, as well as influencing the new technologies discussed above (Berger and Udell, this issue). While a large share of small banks does not necessarily result in more external financing available to small firms, financial systems dominated by government-owned banks seem less effective in providing credit to SMEs. The entry of foreign banks, on the other hand, is mostly associated with greater SME credit availability (Clarke, Cull, Martinez Peria and Sanchez, 2003). For example, foreign banks can bring the necessary know-how and scale to introduce new transaction lending techniques. By competing with domestic banks for large corporate clients, they can force domestic banks to go down market to cater to SMEs (de Haas and Naaborg, 2005). There are mixed results concerning the effect of bank concentration and competitiveness on the availability



of SME financing (Berger, Demirguc-Kunt, Levine and Haubrich, 2004). However, the market structure can have important repercussions for interest and non-interest charge that SMEs have to pay as Heffernan (this issue) shows for the UK banking market. Her findings suggest the presence of a complex oligopoly. Policies directed at improving the availability of information and making it easier for small businesses to change banks/accounts would reduce inertia in the banking sector, which in turn, should improve competition among financial institutions. Competition can also have important implications for how much collateral firms have to provide, as Voordecker (this issue) shows for a sample of borrowers of a large Belgian bank. As borrowers have access to more competitor banks, the probability of having to pledge collateral or personal guarantees decreases.

## **5. Conclusions**

This article summarizes recent empirical research which shows that access to finance is an important growth constraint for SMEs, that financial and legal institutions play an important role in relaxing this constraint, and that innovative financing instruments can help facilitate SMEs' access to finance even in the absence of well developed institutions. The research has a number of important policy implications.

The research summarized here suggests that a competitive business environment, of which access to finance is an important component, facilitates entry, exit and growth of firms and is therefore essential for the development process. A focus on improving the business environment for all firms is more important than simply trying to promote a large SME sector which might be characterized by a large number of small but stagnant firms.

Although SMEs constitute a significant part of total employment in many countries, one of the reasons they may not be able to contribute to economic growth is because they face greater growth obstacles. Indeed, compared to large firms, SMEs are more constrained by different obstacles, and limited access to finance is an important one of these. Research suggests improving legal and financial institutions helps all deserving firms access finance and grow, but the effect is greatest on smaller firms. Both firm-level and industry-level studies suggest that small firms do relatively better compared to large firms in countries with better-developed institutions.

Furthermore, we see that in the absence of well developed financial markets and legal systems, it is difficult for firms to grow to their optimal size since outside investors cannot prevent appropriation by corporate insiders, limiting firm size. This is important for SME-promotion strategies, since if it is optimal for firms to stay small when the business environment has weaknesses, subsidizing SMEs may be at best ineffective, but at worst, counterproductive.

The literature suggests that a focus on improving the institutions and the overall business environment is probably the most effective way of relaxing the growth constraints SMEs face and facilitate their contribution to economic growth. However, institution building is a long term process and in the interim innovative lending technologies hold promise, providing market-friendly ways of relaxing the constraints SMEs face. Factoring is an example of a technology that is particularly promising in the absence of developed institutions, as it relies on them to a lesser extent. Others, such as credit-scoring and leasing can also be useful and be more effective with development of institutions over time. A contestable financial system makes it more likely that such technologies will be adopted more rapidly, with foreign banks playing an important role in facilitating this process, whereas public banks have been less useful in the past.

The research summarized in this article is only the first step on a long term research agenda. Much more analysis, particularly using time-series variation, microeconomic data, and country case studies, is needed to explore in more detail the policies and financing tools that can help SMEs overcome financing constraints and expand their access to external finance. In this context, it seems especially relevant to focus on institutions that are important for SMEs' access to finance. Going along with institution-building, however, the search has to be continued for financing tools that can work around institutional deficiencies.

## References

- Ayyagari, Meghana, Thorsten Beck, and Asli Demirgüç-Kunt. 2003. "Small and Medium Enterprises across the Globe: A New Database." World Bank mimeo.
- Ayyagari, Meghana, Asli Demirgüç-Kunt and Vojislav Maksimovic, 2005. "How Important Are Financing Constraints? The Role of Finance in the Business Environment." World Bank mimeo.
- Beck, Thorsten, Asli Demirguc-Kunt, and Ross Levine. 2005a. "SMEs, Growth, and Poverty: Cross-Country Evidence," *Journal of Economic Growth* 10, 197-227.
- Beck, Thorsten, Asli Demirguc-Kunt, and Ross Levine. 2005b. "Law and Firms' Access to Finance." *American Law and Economics Review* 7, 211-252.
- Beck, Thorsten, Asli Demirgüç-Kunt, and Vojislav Maksimovic. 2005. "Financial and Legal Constraints to Firm Growth: Does Firm Size Matter?" *Journal of Finance* 60, 137-177.
- Beck, Thorsten, Asli Demirgüç-Kunt, Luc Laeven and Vojislav Maksimovic. 2006. "The Determinants of Financing Obstacles." *Journal of International Money and Finance*, forthcoming.
- Beck, Thorsten, Asli Demirgüç-Kunt, and Vojislav Maksimovic. 2004: "Financing Patterns Around the World: Are Small Firms Different?" World Bank Mimeo.
- Beck, Thorsten, Asli Demirgüç-Kunt, and Vojislav Maksimovic. 2006. "The Influence of Financial and Legal Institutions and Firm Size," *Journal of Banking and Finance*
- Beck, Thorsten, Asli Demirguc-Kunt, Luc Laeven, and Ross Levine. 2004. "Finance, Firm Size, and Growth," World Bank Mimeo.
- Berger, Allen N. and Gregory F. Udell. 1998. "The Economics of Small Business Finance: The Roles of Private Equity and Debt Markets in the Financial Growth Cycle." *Journal of Banking and Finance* 22, 613-673.
- Berger, Allen N. and Gregory F. Udell. 2004. "A More Complete Conceptual Framework for SME Finance". *Journal of Banking and Finance*
- Berger, Allen, Asli Demirguc-Kunt, Joseph Haubrich and Ross Levine. 2004. "Bank Concentration and Competition: An Evolution in the Making". *Journal of Money, Banking and Credit* 36, 433-53.
- Biggs, Tyler. 2002. "Is Small Beautiful and Worthy of Subsidy? Literature Review." IFC mimeo.
- Biggs, Tyler and Manju Shah. 2006. "African SMEs, Networks, and Manufacturing Performance." *Journal of Banking and Finance*.

Clarke, George, Robert Cull, Maria Soledad Martinez Peria, and Susana Sanchez. 2003. "Foreign Bank Entry: Experience, Implications for Developing Economies and Agenda for Further Research." *World Bank Research Observer* 18(1), 25-59.

Cull, Robert and Lixin Colin Xu. 2005. "Institutions, Ownership, and Finance: The Determinants of Profit Reinvestment Among Chinese Firms". *Journal of Financial Economics*.

Cull, Robert, Lance E. Davis, Naomi R. Lamoreaux and Jean-Laurent Rosenthal. 2006. "Historical Financing of Small- and Medium-Size Enterprises". *Journal of Banking and Finance*.

De Haas, Ralph and Ilko Naaborg. 2005. "Does Foreign Bank Entry Reduce Small Firms' Access to Credit? Evidence from European Transition Economies." *De Nederlandsche Bank Working Paper* 50.

Demirguc-Kunt, Asli, Inessa Love, and Vojislav Maksimovic. 2006. "Business Environment and the Incorporation Decision," *Journal of Banking and Finance*.

Djankov, Simeon, Edward Miguel, Yingyi Qian, Gérard Roland, and Ekaterina Zhuravskaya. 2004. "Who Are Russia's Entrepreneurs?" *World Bank mimeo*.

Frame, Scott, Michael Padhi and Lynn Wollsey. 2001. "The Effect of Credit Scoring on Small Business Lending." *Financial Review* 39, 34-54.

Galindo, Arturo and Fabio Schiantarelli (Eds.). 2003. "Credit Constraints and Investment in Latin America." *Inter-American Development Bank, Washington D.C.*

Hallberg, Kristin. (2001). "A Market-Oriented Strategy For Small and Medium-Scale Enterprises." *IFC Discussion Paper # 48*.

International Finance Corporation. 1996. "Leasing in Emerging Markets." *Lessons of Experience Series, Washington D.C.*

Johnson, Simon, John McMillan and Christopher Woodruff. 2002. "Property Rights and Finance." *American Economic Review* 92(5), 1335-56.

Klapper, Leora. 2006. "The Role of "Reverse Factoring" in Supplier Financing of Small and Medium Sized Enterprises," *Journal of Banking and Finance*.

Klapper, Leora, Luc Laeven, and Raghuram Rajan. 2006. "Barriers to Entrepreneurship," *Journal of Financial Economics, forthcoming*.

Kumar, Krishna, Raghuram Rajan and Luigi Zingales. 1999. "What Determines Firm Size?:" *NBER Working Paper #7208*.

Laeven, Luc and Christopher Woodruff. 2003. "The Quality of the Legal System and Firm Size". World Bank mimeo.

Love Inessa and Nataliya Mylenko. 2003. "Credit Reporting and Financing Constraints." World Bank mimeo.

Miller, Margaret. 2003. *Credit Reporting Systems and the International Economy*, Cambridge: MIT Press.

Schiffer, M., Weder B., 2001. "Firm Size and the Business Environment: Worldwide Survey Results." Discussion Paper No. 43, International Finance Corporation, Washington, D.C.

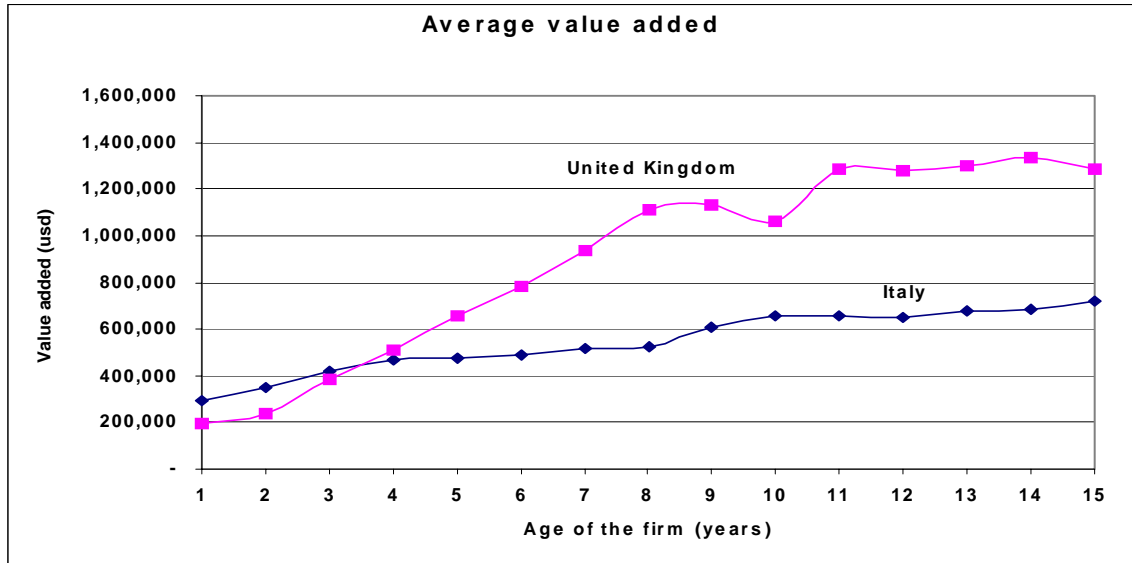
Sleuwaegen, Leo and Micheline Goedhuys. 2002. "Growth of Firms in Developing Countries, Evidence from Côte d'Ivoire". *Journal of Development Economics* 68, 117-135.

Snodgrass, Donald, and Tyler Biggs. 1996. "Industrialization and the Small Firm." San Francisco: International Center for Economic Growth.

Voordecker, Wim. 2006. "Business Collateral and Personal Commitments in SME Lending". *Journal of Banking and Finance*.

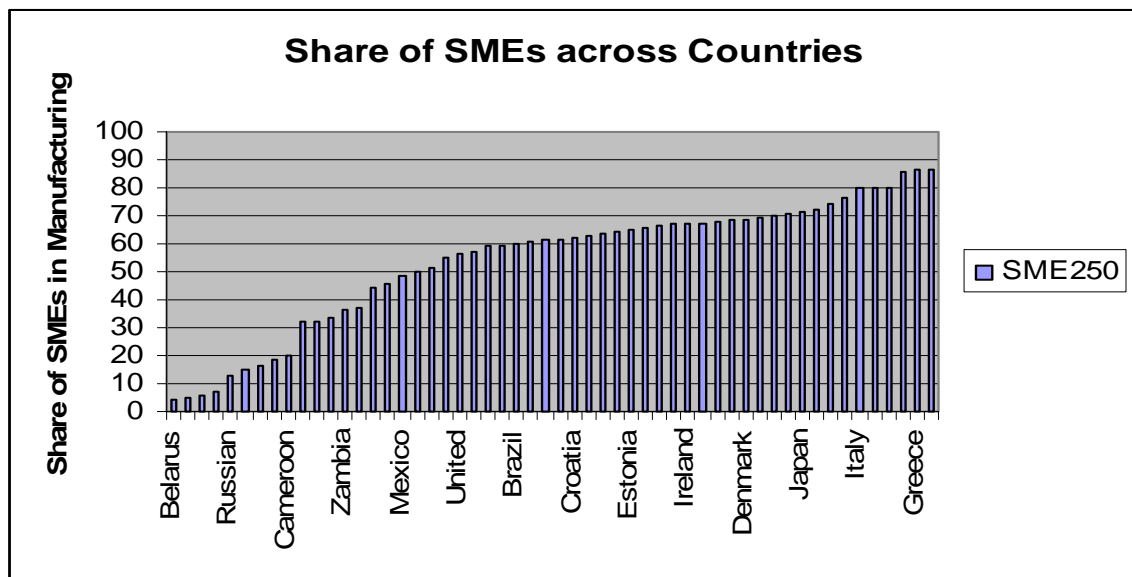
**Figure 1. Italy vs. U.K.: Firm Size at Entry and Over Time**

This graph shows the average value added for firms at entry and over time in Italy and the U.K. Source: Klapper, Rajan and Laeven (forthcoming).



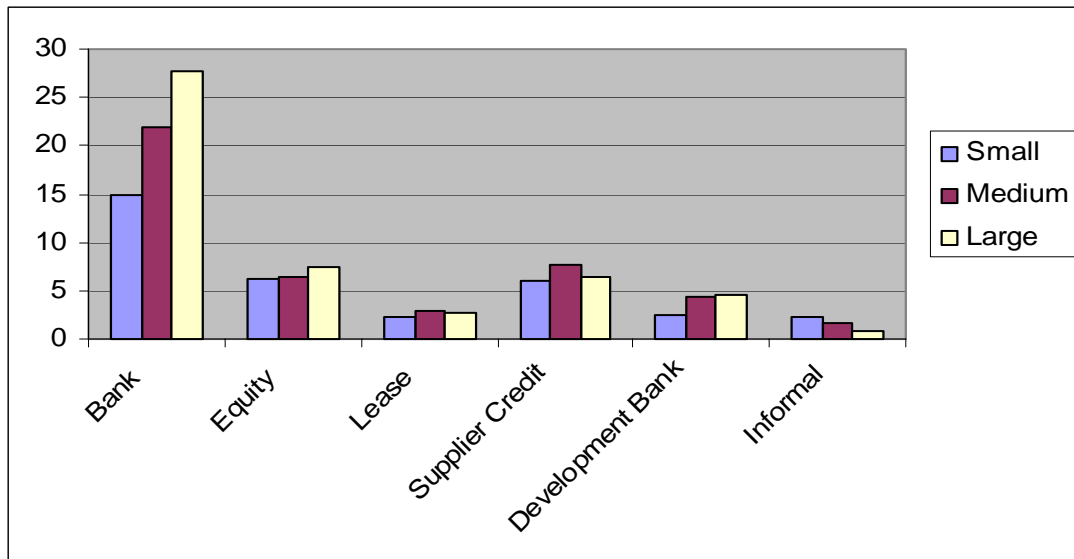
**Figure 2: The Importance of SMEs across Countries**

This graph shows the share of SMEs in manufacturing across countries if 250 employees are chosen as the cut-off to define an SME. Source: Ayaagari, Beck and Demirguc-Kunt (2003)



**Figure 3: Financing Patterns across Firms of Different Sizes**

This graph shows the predicted share of investment financed with bank, equity, lease, supplier, development bank and informal finance by (i) small, (ii) medium-size, and (iii) large firms, from a regression of the respective financing share on size dummies and other firm and country characteristics. Source: Beck, Demirguc-Kunt and Maksimovic (2004).



**Figure 4: The effect of financing obstacles on firms of different sizes**

This graph shows the effect of financing, legal and corruption obstacles on firm growth and is based on a regression of firm growth on the respective growth obstacle, interacted with dummy variables for small, medium-size and large firms, and controlling for other firm and country characteristics. Source: Beck, Demirguc-Kunt and Maksimovic (2005).

