Constraints to private investment in the poorest developing countries - A review of the literature

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Table of Contents

Executive summary

Development finance institutions, such as CDC, were established to provide finance for private investment in the developing countries. Higher levels of private investment are associated with faster rates of economic growth and, in turn, growth is a critical factor in reducing poverty.

This literature review addresses four sets of questions: i) what constrains private investment in the poorest developing countries (particularly in Sub-Saharan Africa and South Asia) and how important a constraint is access to finance; ii) the causes of lack of access to finance; iii) at what stages of their life cycle and what types of business are most affected by lack of access to finance and the consequences for wider economic development; and iv) what policies are effective in addressing access to finance.

What constrains private investment?

A good investment climate provides opportunities and incentives for firms to invest profitably, create jobs and expand output, thereby increasing private investment and growth. The literature shows that the better the investment climate the higher the levels of private investment are likely to be.

However, in the poorest developing countries, businesses frequently operate in investment climates that undermine their incentive to invest and grow. Businesses seek to maximise the risk adjusted rate of return to investment after tax. Investment climate constraints serve to depress the potential rate of return on investment, increase risk and/or prevent the entrepreneur from capturing the returns on offer. The literature highlights seven investment climate constraints that affect the rate of private investment and the survival and growth of firms:

1. **Macro level stability:** Macro instability (economic, social and political) deters investment by making future rewards more uncertain or undermining the value of assets. Studies show that the greater the level of instability, the lower the rate of private investment and growth. Instability also increases the risk of firms going bankrupt, suffering slower growth or contracting if political conflict ensues. Fiscal and monetary policies that reduce inflation, polices that help to establish a competitive exchange rate, and political and social stability are needed to sustain high rates of investment and growth.

2. **Crime and corruption** represent a substantial risk to earning attractive returns to investment and increase the cost of doing business, whether through the payment of bribes, the direct loss of goods or the costs of crime prevention. There is strong evidence that, at the macro level, these factors reduce the rate of private investment, job creation and growth. At the firm level, there is some evidence to show that these factors reduce the growth of output, investment and job creation. Greater transparency and accountability, simplification of administrative procedures and merit-based human resource management in public administration make it possible to curb corruption.

3. **Business regulation and licensing.** Whereas firms need to be regulated and licensed, if the costs they incur in complying with regulation are unnecessarily high, business entry and firm growth will be lower. The literature points to faster growth when countries improve their rank in the World Bank's Doing Business Index, especially if they move from being one of the worst performers to being amongst the best. There is some evidence also of poor licensing and regulation leading to low entry rates of new firms and lower productivity and growth of established firms. However, by itself, better business regulation may not result in faster economic growth.

4. **Institutions and the legal system.** There is strong cross country evidence in the literature that weak institutions, particularly for the protection of property rights, and an ineffective judiciary that is unable to enforce contracts, reduce investment and growth. This is supported by firm level evidence which shows that secure property rights and better contract enforcement enable firms to grow: they increase their incentives to invest longer term, feel secure in trying out new suppliers, and enter into more complex contracts. Better systems of registering property, improved security of land tenure and reforms

that reduce the cost of contract enforcement, such as promoting alternative dispute resolution, are policies that support better institutions and legal systems.

5. **Taxation.** Excessively high rates of tax exact a high cost in terms of lower private investment and growth. They reduce the incentive to invest because the after tax returns to investors are lower. In addition, the cost of compliance with the administration of taxes can be high. The literature shows that lower rates of tax can increase investment and growth. Higher rates of tax can decrease business entry and the growth of established firms, with the medium sized firms hit hardest, as the small can trade informally, and the large avoid taxes. As well as reducing tax rates, policies that broaden the tax base, simplify the tax structure, improve administration and give greater autonomy to tax agencies help to reduce this constraint.

6. **Financial Constraints.** Firms need to be able to access external finance to invest more. Moreover, the higher the cost of capital the lower the expected rate of return to the entrepreneur. There is a robust body of literature that shows that financial deepening, measured by the ratio of private credit to GDP, results in higher rates of growth and faster growth in the incomes of the poor, especially in the poorer countries with less well developed financial sectors. Studies show that firms able to access external finance are more likely to survive, invest and grow than those denied access.

7. **Infrastructure.** Access to infrastructure allows firms to become more productive (energy), reduce transaction (ICT) and transportation costs (roads, railways) and expand their businesses by reaching markets further afield. There is ample evidence to show that greater investment in infrastructure leads to faster growth. Studies also point to higher levels of investment, greater productivity and faster growth of firms that have better access to infrastructure, especially in the poorer countries where infrastructure is less developed. Greater investment in infrastructure, public and private, and higher expenditure on maintenance are needed to reduce this constraint.

Much of the literature focuses on correlating one or more of these seven investment climate factors to macro level impacts on investment and growth. Studies which trace the effect of these factors on the survival and growth of firms are much rarer, a gap that needs to be addressed.

In addition to these external factors, there are constraints internal to firms that prevent greater private investment. The literature points to access to technology and good quality management as important internal constraints.

How important is access to finance?

Evidence of which constraints matter comes from two main sources:

- Examining the World Bank's Enterprise Surveys to identify the factors that firms report to be the most severe constraints to their growth. In SSA, firms report tax rates to be the most severe constraint followed by access to finance, electricity, macro instability and corruption. In South Asia, where financial sectors are more developed, electricity, corruption, tax rates and policy uncertainty are reported as more severe constraints than access to finance.
- The binding constraints methodology was proposed by Rodrik and Hausmann to overcome the subjective nature of firms' perceptions reported in the Enterprise Surveys. Studies using this method find that access to finance is not a binding constraint to private investment in South Asia and the more developed countries of SSA (South Africa, Ghana) but it may be in the poorer countries such as Kenya and Sierra Leone.

At the firm level, though the evidence is more limited, it appears that access to finance is always a major factor in explaining the growth of firms. This finding appears to hold across the developing countries.

What causes lack of access to finance?

The level of development of the financial sector exerts a powerful influence over whether firms are likely to be able to access finance. This is influenced by the environment in which the sector operates. Macro stability, property rights, enforcement of contract, bankruptcy laws and whether the public sector borrows heavily to crowd out the private sector influence the development of the financial sector.

The development of the financial sector is influenced also by conditions within the sector. The specific factors include bank regulation and supervision; the development of institutions that help to increase the level of information available to lenders; the transaction costs involved in lending; the extent of competition and hence pressure to improve efficiency; the investment financial institutions make to make their services more accessible; whether they have been able to raise long term savings for long term lending; and the level of development of capital markets to provide exit routes for equity finance.

In addition, there is a set of factors that limit the opportunities for the financial sector profitably to lend to, or invest equity in, firms. These include poor business and financial management skills, and weaknesses in corporate governance that make firms unattractive to the financial sector because of the high risks they pose. In addition, attitudes of entrepreneurs towards risk or retaining complete control over their firms may make them unwilling to borrow or to allow third party equity into their businesses. In countries where the financial sector may have sufficient access to savings to increase lending, such demand side factors can represent a binding constraint to increasing access to finance.

Which types of firms are most affected by lack of access to finance?

The types of firms most severely affected by lack of access to finance are:

- **Start-ups and the newly established.** They may lack assets to be used as collateral and the track record of performance that banks need to mitigate risk. And the rate of failure amongst new businesses is high the world over, making the banks risk averse in lending to them. Studies show that financial constraints are greater for start-ups and younger firms than for older firms.
- **Small and medium firms** (SMEs) face more financial constraints than large firms. The literature shows a huge gap in serving the needs of such businesses and there is evidence that financing constraints have a greater impact on their growth than on that of large firms. Studies find that small firms consistently report more financial constraints than medium-sized firms, which in turn report more constraints than large firms. Such firms are more likely to be unable to have assets to pledge as collateral, face greater information failures and the profitably in lending to them is likely to be lower for the banks because of risk and transaction costs.
- **Domestic firms.** Firms that have access to foreign capital markets are less financially constrained than those that have to resort solely to domestic capital markets. And it is ownership (domestic versus foreign) that seems to determine if firms have access to outside markets. Foreign-owned firms report significantly lower financing obstacles than domestically-owned firms as they may choose to borrow on either the domestic or foreign market depending on where terms are most favourable.
- **Sector of operation:** Agribusiness firms are particularly capital constrained as lenders and equity investors tend to perceive this sector as high risk. There is a history of patronage and subsidy from the public sector in lending to farmers that makes them less willing to repay loans provided by a commercial bank. Where access to long term finance is limited, firms wishing to undertake long-gestation projects in agriculture, mining, manufacturing, infrastructure and housing may face acute problems in raising finance. There is some evidence also that, in some industries, firms need equity because they lack tangible assets to serve as security or cash flows are unpredictable (ICT, entertainment). Such firms are particularly constrained when equity markets are underdeveloped. There is also some evidence that lack of development of export credit and trade finance can hold back exporters and have a wider impact on small firms as trade finance may play an even more important role in helping them access bank finance because of its strength in addressing information problems.

In general, the more underdeveloped the financial sector, the more likely that these types of firms will suffer lack of access to finance. The process of financial deepening tends to be accompanied by financial innovation that helps to serve progressively more of the needs of different types of business.

The effects on wider economic development

The overall effect of the lack of financial deepening on private investment and growth is well established in the literature. However, evidence on the consequences of the market failures that result in some types of firms suffering more from lack of access to finance than others is much weaker:

- **Entry rates.** There is some evidence to show that rates of business formation have an impact on productivity and growth. Lower access to finance for start-ups and younger firms could hamper business formation and hence productivity and growth.
- **Size of firms.** Market failures in serving the needs of SMEs could amount to inefficient financial intermediation whereby finance is not allocated to its most productive use. However, the long-held view that increasing the proportion of output generated by SMEs is good for growth has been challenged by the evidence: countries have followed very varying patterns of the size structure of firms. The new literature suggests that it is not firm size that matters for growth but the market outcomes that businesses deliver in terms of investment, productivity, job creation and growth of output.
- **Ownership:** The better access to finance enjoyed by foreign firms helps them expand more quickly than their domestic rivals. However, in most countries, the majority of private investment and output continues to come from domestic sources. No doubt, if access to finance for domestic firms was increased, it would help to increase growth and investment and help to establish a more level playing field.
- **Sector of operation.** The failure to meet the financial needs of firms in particular sectors could lead to the economy failing to fulfil its potential growth trajectory and to develop inclusive broad based growth. However, the evidence that shows the link between breadth of financial sector lending for investment and the diversification of the economy is limited.
- **Exports.** There is good evidence that the level of trade openness of an economy is important for growth. The evidence that the lack of financial instruments hampers growth of exports is weaker, confined to smaller firms being disadvantaged compared to the large.

What policies have been followed to address access to finance?

The traditional focus of policy has been on improving policies and institutions. Assisted by the IMF and the World Bank, governments have focused on strengthening bank supervision; ensuring that banks comply with international standards for capital adequacy (e.g. Basel II) and financial liberalization; and opening up the financial sector to domestic and foreign investors. Attention has been given also to establishing institutions such as credit bureaus to improve information on credit worthiness of borrowers and to increasing the efficiency of clearing systems.

Of late, there has been greater attention given to increasing financial innovation to meet the needs of underserved businesses such as SMEs (downscaling, partial credit guarantees), to promote product innovation (e.g. leasing, trade credit), to use technology to increase the outreach of the financial sector and to develop capital markets. Though there is a considerable body of literature showing why these are needed, the literature does not provide a definitive view of how well these are working. The fact that the efficiency of the banking system, as measured by the margins between rates at which banks borrow and lend (spreads), has not improved in many SSA countries, despite the entry of many new banks, and the huge proportion of businesses in the poorer countries that still report that their needs are not being served by the financial sector, show that there is a long way to go.

Introduction

CDC has been an important part of the UK's effort to assist international development and reduce poverty for over 60 years. CDC's primary role is to provide finance in order to promote productive investment in the private sector of developing countries. However, the development impact of its work has come under increased scrutiny of late. As a result, the Secretary of State for International Development has launched a review of CDC's work in order to further focus CDC's attention to achieving both development and financial gains; be more pro-poor focused than other DFIs; regain its power to make investments directly in target countries, in particular sub-Saharan Africa and South Asia; and reduce CDC's reliance on third party funds.

To assist with this objective, DFID is currently undertaking a review of CDC aimed at radically increasing its development impact. As part of this exercise, Nathan EME has been contracted to produce a literature review on the constraints to investment in developing countries. The main purpose of this review is to understand how the lack of capital affects the private sector in the poorest developing countries (particularly in Africa and South Asia) and identify the main constraints to investment, so that CDC is able to design the appropriate instruments to address them. Therefore, the review will aim to inform DFID and CDC on which are the types of firms for whom capital is the greatest constraint and what type of assistance is required to address these limitations.

The literature that looks at the factors that constraint the investment climate in general and access to finance in particular, and the policies to address these limitations in developing countries, is very rich. Until recently, most of the literature focused on analyzing the impact of these constraints on macro variables and particularly on economic growth. However, over the past 10 years there has been a substantial increase in the literature based on firm level information. This has been possible because several databases with firm level data became available; mainly data collected through the World Bank Enterprise Surveys (WBES).[1] This strand of the literature uses firm level data to perform cross country or within country analyses. One of the limitations of these studies is that firm level data is often based on perceptions. Additionally, cross country analyses face some challenges due to the risk of endogeneity and changes in unobserved indicators such as the countries' macroeconomic variables and legal environment. However, most studies presented in this review try to control for these issues by using appropriate statistical methods.

The terms of reference for this review presented the following seven questions:

- Q1: How far is access to capital a critical constraint, compared to other factors affecting enterprise birth and development?
- Q2: To what extent are such constraints on enterprise growth critical for wider development at local and national levels?
- Q3: What public policy or regulatory changes are most effective in overcoming investment constraints?
- Q4: What factors inhibit the access of enterprises to capital for growth?
- Q5: How do these factors differentially affect different kinds of enterprise?
- Q6: To what extent is growth prevented in enterprises by lack of access to capital?
- Q7: At what stage of the enterprise's development is this issue most critical?

These seven questions are addressed in the two sections of this report. Section 1 looks at the critical constraints that affect enterprise growth and development; to what extent they are critical for the wider

[1] The Enterprise Surveys (previously called "World Business Environment Survey", "PICS" or "Investment Climate Surveys") contain information about the business environment, how it is perceived by individual firms, how it changes over time, and about the various constraints to firm performance and growth. The Enterprise Surveys database (www.enterprisesurveys.org) currently contains information of over 120,000 firms in 125 countries.

development at national levels; and the main policies to address these constraints (Q1, Q2 and Q3). Section 2 presents the factors that inhibit the access of enterprises to capital, how these factors affect different kinds of enterprises, what stages of an enterprise's development is lack of access to capital most important, and which are the main policies to address these constraints (Q4, Q5, Q6 and Q7).

Section 1: Investment climate constraints

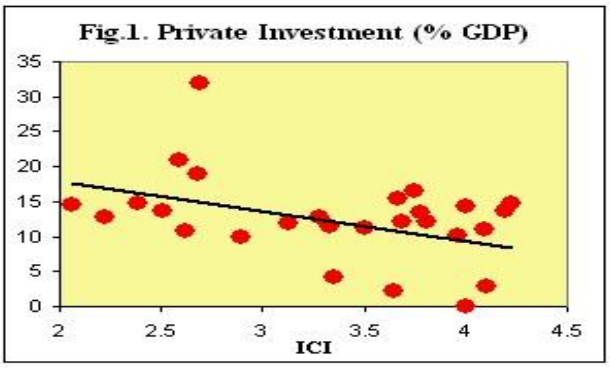
In order to grow, enterprises need capital to make the necessary investments to increase their productive capacity and competitiveness. To do so, there are two sources of capital: internal finance (from the entrepreneur(s) or reinvestment of firms' profits) and external finance (friends and family, credit, quasi debt instruments and third-party equity). For firms to invest, the risk adjusted rate of return on capital (after tax) needs to be greater than the cost of borrowing the capital or the opportunity cost of using their own capital elsewhere. This can be challenging, particularly in developing countries, because there are a number of "investment climate" constraints that increase the risk and cost of investment, depress returns or prevent the firms from capturing these returns.

How the investment climate in a country affects the incentives of firms to invest has been widely studied in the literature. This literature not only analyses the impact of these constraints on firm growth, but also the impact that these constraints have on national indicators such as economic growth or private investment. The reason for the latter is that the private sector is the main engine of growth of the economy as it represents a large percentage of the GDP (from around 50 percent in state-dominated Iraq to around 80 percent in Sierra Leone). Therefore, higher growth of firms translates into higher GDP growth (see figure 1).

Figure 1: How the investment climate affects growth

A good investment climate provides opportunities and incentives for firms to invest productively, create jobs, and expand, therefore promoting economic growth and poverty reduction (World Bank (2005a)). The positive link between the investment climate and private investment/economic growth is well established in the literature. World Bank (2010a) shows that as a result of investment climate improvements in the 1980s and 1990s, private investment as a share of GDP nearly doubled in India and it more than doubled in Uganda. Using firm level data, Kinda (2010) shows that investment climate constraints discourage private investment, particularly for exporting firms. Figure 2 shows the association between the investment climate and private investment - as the country score on the World Bank's Investment Climate Index gets worse (higher score), the lower the percentage of private investment as a proportion of GDP.

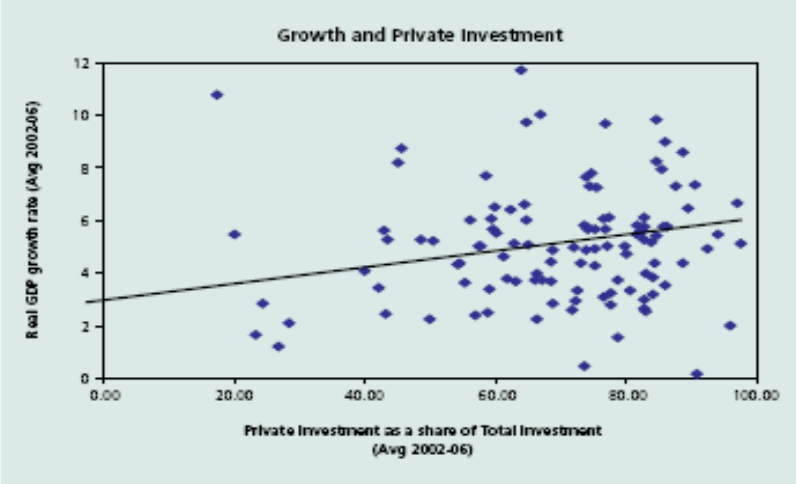
Figure 2: The link between the investment climate and private investment



Source: World Bank (2007)

The higher the level of private investment, the higher the rate of growth. Figure 3 shows that there is a positive relationship between the share of private investment as a proportion of total investment and the rate of GDP growth.

Figure 3: The link between private investment and economic growth



Source: DFID (2009)

The literature has also looked at the link between the investment climate and the growth of firms. Dollar et al. (2005) draw on level surveys in Bangladesh, China, India, and Pakistan to investigate the relationship between investment climate and firm performance and conclude that accumulation and growth at the firm level are higher where the investment climate is better.

How far is access to capital a critical constraint, compared to other factors affecting enterprise birth and development? To what extent are such constraints on enterprise growth critical for wider development at local and national levels?

Investment climate constraints can be grouped into five broad categories:

- Macro environment constraints, such as macro level stability, crime and corruption.
- Institutional constraints, including business regulations, legal and tax systems.
- Financial constraints, such as access to and cost of finance.
- Infrastructure constraints, including electricity and roads.
- Micro-level constraints, such as technology transfer and quality of management.

1.1 Macro environment constraints

Macro level stability

Why is it relevant? Macro instability (economic, social and political) deters investment by making future rewards more uncertain and undermining the value of assets. For example, high inflation and volatile real exchange rates can weaken the position of creditors, making access to credit more difficult. Moreover, the impact of instability is more likely to be felt by medium and small firms rather than large firms, because the latter are more likely to have tools at their disposal to cope with these risks, including better access to dollar accounts, financial instruments, and credit from overseas (World Bank (2005a)).

National level impact: Empirical studies such as Bleaney (1996) and Fischer (1993) conclude that macroeconomic stability matters for sustained growth. More recently, Sirimaneetham and Temple (2009) introduce a new index of the extent of macroeconomic stability and conclude that growth is positively associated with macroeconomic stability in a sample of 70 developing countries. In a literature review about the importance of macroeconomic stability, Lopez (2005) concludes that macroeconomic

stability is critical for pro-poor growth and that instability depresses the growth rate by 2 percentage points. Mlambo and Oshikoya (2001), using a sample of 18 African countries for the period 1970 to 1996 find that fiscal, financial and monetary policy, macroeconomic uncertainty and trade variables are significant determinants of private investment in Africa. The study finds that political stability is also a factor in the determination of private investment rates in Africa.

Firm level impact: The literature that looks at the firm level impact of the macro environment (including political instability, exchange rate instability and inflation) is scarce. Looking at the macro economy, Bhattacharjee et al. (2002) find that the volatility in the macroeconomic environment has a role in determining the hazard of firms going bankrupt or being acquired. Beck et al. (2005) also find that macroeconomic issues (captured by high interest rates and lack of money in the banking system) significantly reduce firm growth rates and that these effects remain significant even after controlling for the level of financial development in a given country. Regarding the importance of political instability, a recent paper that by Collier and Duponchel (2010) uses firm level data to investigate the effects of civil war and post-conflict recovery in Sierra Leone. They find that during the post conflict phase the growth of firms is slower mainly because human capital has become scarce and it takes more time to rebuild.

Crime and corruption

Why is it relevant? Crime and corruption undermines the investment climate as it not only discourages firms from investing but also increases the costs of business, whether through the payment of bribes, the direct loss of goods or the costs of taking precautions such as hiring security guards or installing alarm systems.

National level impact: The relationship between growth and corruption/crime has been examined thoroughly in the literature. The availability of indices of corruption in the end of the 1990s stimulated the appearance of empirical studies which generally concluded that corruption has a negative impact on economic growth (Mauro (1995); Kaufmann et al. (1999); Mauro (1995)). Similar results were later found by Smarzynska and Wei (2000), who used firm level data to find that corruption reduces inward foreign direct investment. More recently, Aidt et al. (2008) introduce nonlinearities into the corruption/growth relationship and find that it is mainly in regimes with high quality political institutions that corruption has a substantial negative impact on growth.

Firm level data: Only a few studies have looked at the effects of corruption on the economic prospects of firms. Gaviria (2002) uses a survey of private firms in Latin American and European countries to assess the effects of corruption and crime on the economic prospects of firms. The paper finds that both corruption and crime substantially reduce sales growth, and that the reported levels of corruption and bureaucratic interferences are positively correlated at the firm level. Looking only at corruption and its effect on the growth of employment of firms, Aterido et al. (2007) estimate that an increase in the incidence of bribes of 10 percentage points reduces the employment rate of large firms by approximately 1.4 points. At the micro level, a study of Ugandan firms by Fisman and Svensson (2007) finds that a one-percentage point increase in the bribery rate is associated with a reduction in firm growth of three percentage points, an effect that is about three times greater than that of taxation.

1.2 Institutional constraints

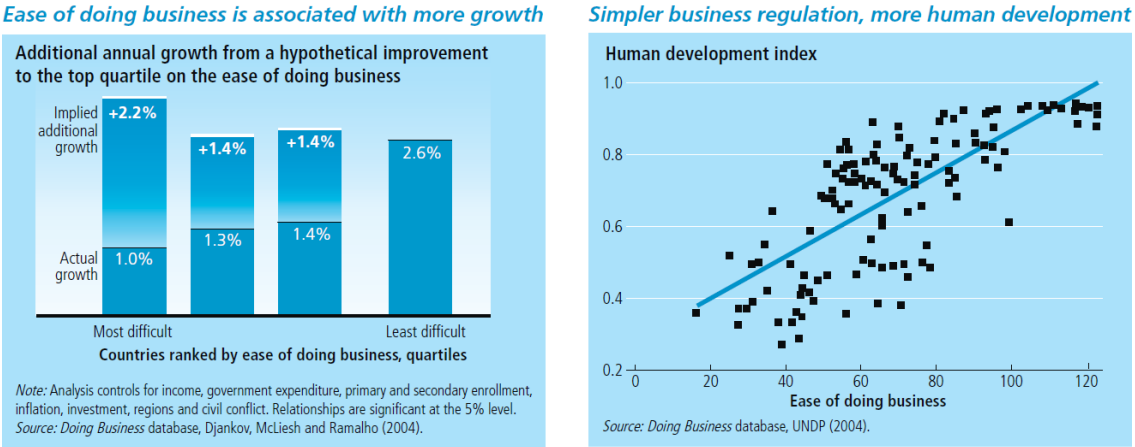
Business regulations and licensing

Why is it relevant? Regulations impose necessary costs on firms such as the need to adapt the business to meet regulatory requirements or to pay licensing fees, but too often these costs are unnecessarily high because of rent-seeking behaviour, inefficient administration, or poor institutional fit (World Bank (2005a)), thereby reducing business entry and firm growth.

National level impact: A large academic literature has followed since Djankov et al. (2002) recorded the number of procedures, time, and cost needed to start a business in 85 countries. This literature uses not

only the World Bank's Doing Business Indicators but also other available databases[2] to examine the effects of regulatory barriers and business licensing on firms' dynamics. A recent review by Djankov (2009) surveys the literature that links entry regulation on the one hand, and entrepreneurship and productivity, on the other. He concludes that the evidence points to economically large and statistically significant effects between entry rates and productivity growth. Using a large sample of industrial and developing countries, Loayza et al. (2005) examine empirically the overall effect of business regulation on economic growth. They suggest that high levels of regulation are associated with lower growth (which is the case for product and labor market regulation), but that the quality of regulation (i.e. better institutions) helps mitigate, and even eliminate, the adverse impact of regulation on economic growth. More generically, World Bank (2005b) use cross country data to show that an improvement on all aspects of the Doing Business indicators is associated with an estimated 1.4 to 2.2 percentage points increase in annual economic growth, and that there is a significant positive correlation between the ease of doing business ranking and the human development index (see figures 4a and 4b).

Figure 4a and 4b: The impact of doing business on economic growth and HDI



Source: World Bank (2005b)

Firm level impact: Klapper et al. (2004) use firm level data from Western and Eastern Europe to show that anti-competitive regulations such as entry barriers lead to slower growth in established firms. More specifically, Besley and Burgess (2004) find that pro-worker regulations across Indian states are associated with lower output, employment, investment, and productivity in manufacturing firms. Using a database of European firms, Klapper et al. (2006) conclude that regulatory barriers hamper the creation of new firms, discourage the entry of small firms, and affect even older firms, which grow more slowly and to a smaller size.

Institutions and the legal system

Why is it relevant? A reliable institutional and legal system is essential for firms to invest as it reduces the risks and uncertainties that they face when entering into commercial agreements. For example, delays or uncertainties in the enforcement of contracts governing exchange diminish the opportunities and incentives to invest as firms cannot commit to long term and complex commercial contracts.

National level impact: There is strong cross country evidence in the literature that weak institutions adversely affect growth, particularly the protection of property rights, effective functioning of the judiciary, and enforcement of contracts. Knack and Keefer (1995) find a positive impact of property rights on economic growth; Dollar and Kraay (2003) state that improvements in the quality of institutions has a positive effect on long term growth; and Rodrik et al. (2004) find that property rights and the rule of law have a strong positive impact on economic growth.

[2] Other databases used include the Index of Economic Freedom (The Heritage Foundation), Economic Freedom of the World (The Fraser Institute), The Corporate Tax Rates Survey (KPMG), and International Country Risk Guide (The PRS Group).

Firm level data: Dabla-Norris and Inchauste (2007) use WBES data and find that quality of enforcement, measured by the perception of fair and impartial courts, leads to more growth in formal firms. Using the same data sources, Ojah et al. (2010) provide robust evidence that property rights enhance East African Community firms' decision to invest in fixed capital. The functioning of courts (i.e. judiciary) is also an important institution for the growth of firms. Using firm level data for transition countries, Johnson et al. (2002) suggest that well-functioning courts encourage entrepreneurs to try out new suppliers, which facilitate new entry and firm expansion. Aterido et al. (2007) also find that consistent enforcement helps the growth of all firms, with particular benefits to small firms. However, Beck et al. (2005) find that although there is a negative relationship between the reported "general legal system" constraint and firm growth, not all specific problems of the legal system are equally relevant. For example, the quickness of courts does not affect firm growth significantly.

Taxation

Why is it relevant? Whilst taxation is necessary to finance public goods and re-distribute income, the process through which a government collects tax can entail substantial costs in terms of growth. The most obvious cost is that higher tax rates on businesses can reduce incentives of investment and risk-taking because post-tax profits would be lower. In addition, the cost of compliance with the administration of taxes can be high.

National level impact: The effects of taxation on economic growth at the macro level have been well studied in the literature and point to an overall negative effect of taxation on economic growth. Lee and Gordon (2005) analyse the effect of statutory corporate tax on the growth rate of GDP and find that a reduction in the corporate tax rate of 10 percentage points increases growth rate by 1-2 percent. Similarly, Romer and Romer (2007) find that tax increases are highly contractionary, particularly due to the powerful negative effect of tax increases on investment

Firm level impact: The literature that assesses the impact of taxes on firms also establishes that taxation has a negative impact on enterprise birth and development. Looking at firm-level data set on transition economies, Dabla-Norris and Inchauste (2007) find that growth in formal firms is negatively affected by both high tax rates and weaknesses in tax administration. More recently, Djankov et al. (2010) find that corporate tax rate has a large adverse impact on aggregate investment and entrepreneurial activity. Looking only at firms in Uganda, Gauthier and Reinikka (2001) find that medium firms pay a greater share of their revenues in taxes than either small or large firms. This is because small firms can often reduce their tax burden through informality and evasion, whilst large firms can also reduce taxes because of their ability to negotiate various tax privileges and to avoid taxes through sophisticated legal means

1.3 Financial constraints

Access to and cost of finance

Why is it relevant? Firms need to be able to access those financial instruments that they needed in order to operate efficiently (e.g. payment services) and invest (e.g. loans, quasi debt). Moreover, the cost of capital needs to be reasonable because, if it is too high, the expected rate of return to investment after the payment of the cost of capital will be too low (or even negative) and firms will have no incentive to invest.

National level impact: There is consensus in the empirical literature that there is a strong positive link between the functioning of the financial system and long-run economic growth (Levine (1997); Levine et al. (2000)). Moreover, the positive effect of financial sector deepening on economic growth appears to be greater for developing countries than for developed countries, probably because developing countries have more room for financial and economic improvement (Calderon and Liu (2003)). The World Bank (2005a) estimates that a doubling of private credit as a share of GDP is associated with an increase in average long-term growth of almost two percentage points.

Firm level impact: The literature also establishes that increased access to finance contributes to growth at the individual firm level ((Rajan and Zingales (1998); Demirguc-Kunt and Maksimovic (1998)). More recently, Beck et al. (2005) use WBES data to find that firms that complain about their lack of access to finance actually have lower growth rates. These cross country results are also confirmed at the micro level for firms in South Asia and Sub-Saharan Africa. In India, Banerjee and Duflo (2004) studied loan information of SME borrowers from an Indian bank before and after they became eligible for a direct credit programme and concluded that firms expanded after becoming eligible. Analysing firm surveys in countries of the East African Community, Ojah et al. (2010) provide robust evidence that external and internal finance channels enhance firms' decision to invest in fixed capital. Similarly, Nkurunziza (2010) uses microeconomic data on the Kenyan manufacturing sector to find that firms that use credit grow faster than those not using it. Looking at cost of capital, Ayyagari et al. (2008) find that although firms perceive many specific financing obstacles, such as lack of access to long-term capital and collateral requirements, only the cost of borrowing directly affects firm growth. Beck et al. (2006) analyse the nature of obstacles in the financial sector. They find out that, out of twelve constraints to finance[3], high interest rates top the list (more than half of the firms in the sample rate interest rates as the major obstacle), followed the lack of access to long term loans.

1.4 Infrastructure constraints

Infrastructure

Why is it relevant? Firms need access to a reliable electricity supply, efficient transport links and modern telecommunications services to have the incentives to invest more. Good access to infrastructure allows firms to become more productive, reduce costs and expand their businesses.

National level impact: There is ample evidence in the literature that infrastructure contributes significantly to economic growth. Extensive econometric work has established a generally robust relationship between infrastructure investment and national economic growth. (World Bank (2004); OECD (2006); Calderón and Servén (2003)). For instance, a thorough cross-section study led to the conclusion that putting an additional 1 per cent of GDP into transport and communications investment on a sustained basis would lead to an increase of 0.60 percentage points in the growth rate of per capita GDP (Easterly and Rebelo (1993)). There is also evidence that the infrastructure is particularly important for growth in agriculture and light manufacturing (simple technology, labour-intensives sectors such as textiles, leather goods, food processing) in the least developed countries (UNCTAD (2006)).

Firm level impact: In one of the first efforts to measure the impact of infrastructure on firm growth, Reinikka and Svensson (2002) collect information on infrastructure services and private investment data through a firm survey in Uganda, and find that unreliable and inadequate electric power supply significantly reduces investment in productive capacity by firms. More recently, Dollar et al. (2005) use WBES data to find that infrastructure is the most important factor in explaining firm performance in Bangladesh, China, Ethiopia, and Pakistan. Aterido et al. (2007) conclude that losses associated with the power outages hurt growth of all firms, with larger firms being hurt relatively more than smaller firms. They also find that the detrimental impact of outages is felt more keenly by exporting firms. Goedhuys and Sleuwaegen (2009) point out that the provision of a good transportation network and availability of transportation are key elements in widening the relevant markets in which firms can grow. However, the importance of infrastructure is not the same in all countries. Looking at a dataset of 1,500 firms in five Chinese megacities, Hallward-Driemeier et al. (2006) find that physical infrastructure is not significantly correlated with firm performance, suggesting that the positive link between infrastructure and firm performance is particularly strong in countries with a worse stock of infrastructure.

[3] The twelve constraints surveyed are: collateral requirements of banks and financial institutions; bank paperwork and bureaucracy; high interest rates; need for special connections with banks and financial institutions; banks' lack of money to lend; access to foreign banks; access to non-bank equity; access to export finance; access to financing for leasing equipment; inadequate credit and financial information on customers; access to long term loans; and whether corruption of bank officials creates a problem.

1.5 Micro-level constraints

Besides the investment climate constraints examined so far, there are also firm level factors that can have a very significant impact on the birth and development of firms. In order to grow, firms need to make productive investments - increases in productivity will then make firms more competitive and this will increase the returns to the investment. However, improving a firm's productivity (which is determined by the available technology or know-how for converting resources into outputs and the way in which resources are organised in firms to produce goods and services) is limited by:

- **Technology transfer:** technology transfer is generally counted as one of the most important channels through which foreign corporate presence can produce positive externalities in the host country. However, the literature presents mixed views of its impact. Some studies find that foreign presence has a positive impact on the productivity of domestic firms, whilst others find no evidence or a negative effect. In a detailed review of the literature, Sinani and Meyer (2004) find that most studies that use cross-section at industry and firm level often find positive spillover to domestic firms, whilst most studies employing firm level panel data find no or negative evidence of spillovers to domestic firms. Research in India (Kathuria (2000)) finds that "local firms do not benefit from a foreign presence, if this presence is measure as a share of sales, but they do benefit from having foreign capital stock available. Furthermore, when the sample is divided into scientific and non-scientific industries, spillovers from a foreign presence are found in scientific industries, but only if local firms invest in innovation activities".

- **Quality of management:** The quality of management is essential to see if managers and firm owners have the organizational, financial and managerial abilities to manage the scaling up of a firm. However, in many developing countries the quality of the management is low. For example, low levels of financial literacy can prevent SMEs from adequately assessing and understanding different financing options and from navigating complex loan application procedures. In fact, anecdotal evidence suggests that the success of small firm lending strongly depends on having a well-trained set of loan officers who are able to assess the capital needs in the business as managers do not have proper training. In a very recent paper, Bruhn et al. (2010) study how the lack of "managerial capital" affects firm growth. After conducting a randomised control trial in Mexico, they find that consulting services have a positive effect on firms' productivity, firm sales and profits.

What are the binding constraints for firms?

In order to assess the relative importance of the constraints presented so far, there are a few systematic multi-country studies that, using WBES data, aim to identify how the different obstacles faced by firms affect their growth. In an in-depth review of the World Bank's Investment Climate Surveys, Hallward-Driemeier and Stewart (2004) aggregate the findings by region to identify which are the main constraints to business development. They find that the top five constraints perceived by firms in Sub-Saharan Africa and South Asia are:

	Sub-Saharan Africa
1	Tax rates
2	Cost and access to finance
3	Electricity
4	Macro instability
5	Corruption

	South Asia
1	Electricity
2	Corruption
3	Tax rates
4	Policy uncertainty
5	Cost and access to finance

Source: Hallward-Driemeier and Stewart (2004)

However, the fact that firms perceive that these are obstacles to their growth does not mean that they are actual constraints. This is because perceptions may be influenced by waves of pessimism and euphoria reflecting adverse or favorable trends (e.g. a negative or strong economic cycle), and because firms' benchmarks may differ by country (e.g. a firm in India may see corruption as a more serious problem than a firm in Nepal even if corruption is more endemic in the latter country). To see if firms'

views actually reflect their experience, Gelb et al. (2007) study firm's response patterns in Sub-Saharan Africa with respect to several country-level indicators related to the investment climate, and find that the most elemental constraints to doing business (macroeconomic stability, electric power, and finance) appear to be most binding at low levels of income, and that as countries develop, governance-related constraints become more problematic (corruption, the level of taxation and quality of tax administration, and security).

Correcting for possible biases of WBES data, Ayyagari et al. (2008) present evidence of the relative importance of different factors that are obstacles to enterprise growth. They conclude that finance, crime and political instability are the only constraints with a direct impact on firm growth. In further robustness test, they find that financing obstacles are binding regardless of which countries and firms are included in the sample, and that they have the largest direct effect on firm growth.

Although these studies are good at helping us identify which of the many possible constraints are relevant, they do not necessarily indicate which is the main obstacle that needs to be addressed in a country given the limited resources available. Two types of documents have a closer look at country specific obstacles and try to identify the main constraints:

- The Investment Climate Assessments: the World Bank has implemented a number of detailed studies to analyse in detail the constraints to firm development. Such studies have been implemented, among others, in countries like Bangladesh (2003), Nigeria (2008), Mozambique (2009) and, more recently, South Africa (2010), and they all conclude that access to finance is one of the main barriers for business development.
- Following the "growth diagnostics and binding constraints" methodology presented by Hausmann et al. (2005b), a number of country case studies have been since prepared by different organizations and scholars to try to identify the "binding constraint". However, a close look at some binding constraints reports available[4] seems to indicate that access to finance is not a binding constraint in South Asia (Bangladesh, Cambodia, Nepal, Pakistan) and presents mixed results in Sub-Saharan Africa (it is not a constraint in South Africa and Ghana; it could be one in Kenya; it is a constraint in Sierra Leone).

What policy changes are most effective in overcoming investment constraints?

Macro environment: there seems to be widespread consensus in the literature that macro economic management should give high priority to fiscal and monetary stabilization (Sirimaneetham and Temple (2009); Lopez (2005)). It should not allow inflation to reach high levels, maintain a reasonably competitive, flexible exchange rate policy reflecting market forces, and hold a sustainable fiscal position. However, the evidence on what levels of inflation and fiscal deficits are growth-restricting is inconclusive. The literature also argues that a reasonable competitive exchange rate policy is necessary for growth of firms in the export sector. Hausmann et al. (2005a) show that growth accelerations tend to be associated with real depreciations and Eichengreen (2008) suggests that although the exchange rate cannot sustain economic growth in and of itself, an appropriate exchange rate policy can be an important enabling condition for a country seeking to capitalize on opportunities for growth. A competitive exchange rate also has the impact that imports are getting more expensive, which could stimulate local production.

Crime and corruption: greater transparency, accountability and merit-based human resource management in public administration are principles which, if implemented, make it possible to curb corruption. However, tackling corruption is not an easy process. A study of the customs administration in Senegal by Daubrée and Stasavage (1998) found that a reduction in import taxes, simplification of their structure, implementation of reforms reducing the discretionary powers of customs officials and computerisation of procedures helped to reduce the level of fraud by 85 per cent between 1990 and

[4] See www.hks.harvard.edu/fs/drodrik/GrowthDiag.html for an updated list of available reports that implemented the binding constraints methodology.

1995. A direct policy to curb corruption is the creation of anti-corruption commissions. However, the literature seems to agree that, unless they respond to a national consensus and a broad domestic coalition supports the reform, they consistently fail to meet their goals (Heilbrunn (2004)).

Business regulations and licensing: policies to improve Doing Business indicators (either by changing legislation or changing administrative procedures) have been very popular since Djankov et al. (2002). In a recent paper, Djankov (2009) states that between 2003 and 2008 a total of 193 reforms of doing business indicators took place in 116 countries. In fact, a growing number of countries have been focusing on reducing requirements for business registration. For example, Mallon (2004) found that after Vietnam enacted a new Enterprise Law in 2000 which reduced the costs of establishing a new business, the number of new registered businesses increased from less than 6,000 in 1999 to more than 14,000 in 2000 and to more than 21,000 in both 2001 and 2002. Similarly, in Uganda a pilot program reduced the time and monetary costs to register a business and estimated that business registrations the year following the pilot increased by four times (Sander (2003)).

However, until recently there have been few attempts at measuring empirically the impact that these regulations have on investment and economic growth. A recent paper by Eifert (2009) is one of the few attempts available so far. He utilizes a five year panel of data on regulations and procedures from the World Bank's Doing Business project looking for evidence that regulatory reforms lead to higher aggregate investment rates. He finds little or no evidence in the full sample of countries for significant economic responses to changes in the costs and administrative delays associated with business registration, contract enforcement, property registration and import/export procedures. However, there is some positive evidence of positive impacts of regulatory reforms in countries which are relatively poor and relatively well governed.

Institutions and the legal system: the importance of a reliable legal system for investment has been well established by the literature. To achieve this objective, some policies that have been implemented in developing countries are:

- *Establish (or strengthen) registries for land and other forms of property*: the creation or reform of land registries improves access to finance as firms can then use registered properties as collateral. This is important because in low- and middle-income countries between 70 percent and 80 percent of firms applying for a loan are required to pledge some form of collateral (Fleisig et al. (2006)). However, not all firms have registered property to be used as collateral, particularly SMEs, but they may have other assets, which if suitable registries existed, could be used as collateral. As Fleisig et al. (2006) indicate, firms do have a large number of assets that can be used as security for loans—the goods they produce, the machinery they use, present and future accounts receivable from clients, and warehouse receipts. In fact, these movable assets account for most of the capital stock of private firms and an especially large share for SMEs. Looking at the United States, for example, movable property makes up about 60 per cent of enterprises' capital stock (International Finance Corporation (2010b)).
- *Promote the development of alternative dispute settlement processes*: Fostering private resolution through arbitration, mediation, or conciliation helps to improve the contracting environment and resolve differences in a timely and fair manner (Messick (2005)). In India, for example, a new mechanism to bypass dysfunctional court procedures (i.e. Debt Recovery Tribunals) increased loan recoveries and reduced interest rates for borrowers (Visaria (2009)).

Taxation: According to World Bank (2004) there are four main policies to improve the impact of taxes on firms. These are:

- *Improve tax administration*, given that red tape and corruption in tax administrations are common, and this weakens the firms' incentives to comply with taxes and contribute to leakages.

- *Broaden the tax base* by i) reducing impediments to the emergence of new firms that contribute to growth and can reduce the tax burden on other firms; and ii) more vigorous enforcement for larger firms that evade tax obligations;
- *Simplify the tax structures* as several countries in Eastern Europe are doing, implementing flat corporate taxes that encourage tax compliance, reduce distortions and simplify administration.
- *Increase the autonomy of tax agencies* as they can provide better performance than traditional ministries, can bypass restrictive civil service rules and are better protected from political interference.

Access to and cost of finance: policies to improve access to finance for firms and to reduce the cost of capital are included in Section 2 of this document.

Infrastructure: There seems to be a clear indication in the literature that policies that improve the access and reliability of electricity supply have an important impact on business development as unreliable power has severe cost implications for firms (World Bank (2005a)). This problem is most acute in Africa, where firms lose power for 13 per cent of their working hours. Alternatively, in South Asia firms lose power for only 7 per cent of the working hours (World Economic Forum et al. (2009)), although this value is still considered high compared to the other regions. Other studies also point out that the inefficiency of the transport system can also add to production costs and significantly reduce the competitiveness of firms (World Economic Forum et al. (2009)). Limão and Venables (2001) use different sources and datasets of transport cost data and trade volumes to demonstrate that, in Sub-Saharan Africa, raising transport costs (including shipping costs) by 10 per cent reduces trade volumes by more than 20 per cent. Moreover, they also show that poor infrastructure accounts for more than 40 per cent of predicted transport costs for coastal countries and up to 60 per cent for landlocked countries.

Section 2: Access to capital constraints

Firms in developing countries have access to two different sources of capital to invest: i) internal finance, which comes from the owner's and resources generated from retained earnings/profits; and ii) external finance, which can come from family and friends; private debt markets such as commercial banks; and private equity markets such as venture capital. However, firms will only be able to attract capital beyond the means of its owners' or retained profits if the investment opportunity is attractive and it will help the firm to grow faster. In doing so, firms need to be conscious that overreaching can create insolvency problems – if a firm borrows too much, especially in a context of high cost of capital, its ability to service debt payment can be a source of risk of failure.

The relative importance of internal and external finance is subject to discussion in the literature.[5] The seminal work by Myers (1984) stated that firms prefer internal to external finance and when external funds are necessary, firms prefer debt to equity finance (this has been called the Pecking Order Theory). However, there seems to be no conclusive evidence on the validity of this theory. For example, looking at the link between the source of finance and a firm's decision to innovate, Leiponen and Zhang (2010) use a large sample of Asian emerging economies (including South Asian countries) to find that both equity finance and funding from family and friends are significant enablers of innovation activities, whereas they do not find a significant relationship between debt finance and innovation.

Still, external finance is essential for firm growth. Demirgüç-Kunt et al. (2008) review investment climate surveys for 71 developing countries to identify the main sources of external finance for firms. They find that more than 40 per cent of large firms, around 35 per cent of medium firms and only over 20 per cent of small firms use some type of external finance for new investments. But among the firms that use external finance, only a reduced percentage of their total investment needs is covered by external sources. Large firms only get 30 per cent of their new investment from external sources of finance, whilst small firms only finance 15 per cent externally. Not surprisingly, bank debt is the most common source of external finance, particularly for large firms.

What factors inhibit the access of enterprises to capital for growth?

Access to capital is key to ensure that enterprises can meet their operational and investment needs and are able to fulfil their role as generators of economic growth and job creation. But in developing countries access to capital by firms, particularly the small and medium, is difficult due to the existence of several government and market failures. The literature has covered extensively the failures that limit access to finance for firms in developing countries, which we have grouped into three categories:

- *Factors that affect the environment in which the financial sector operates*. These include macroeconomic instability, the role of public sector, the level of development of the financial system, poor enforcement of contracts and inexistent or ineffective bankruptcy laws.
- *Supply side factors*. These include the existence of informational asymmetries, high transaction costs, weak property rights, the efficiency of the banking sector, the absence of long term finance, physical barriers to access, and lack of exit opportunities for investments.
- *Demand side factors.* These are constraints that come from the own limitations of the firms, such as the quality of management skills, low willingness to access certain types of finance and weak corporate practices.

[5] A review of all available literature on this topic can be found at: Frank M. and Goyal V. 2005. Tradeoff and Pecking Order Theories of Debt. In: Eckbo E., editor. Handbook of Empirical Corporate Finance. New York: Elsevier.

2.1 Factors that affect the environment of where the financial sector operates

- **Macroeconomic instability**: research has confirmed that macroeconomic instability is an important obstacle to access to finance (Boyd et al. (2001); Honohan (2003)), particularly on the decision to make long term loans (Sorge and Zhang (2007)). This is because macroeconomic instability tends to be accompanied by high rates of inflation and large changes in the exchange rate, which are mostly associated with higher nominal interest rates and shorter loan maturities, making access to credit for enterprises most costly. Moreover, the fear of macroeconomic and financial instability also inhibits financial innovation that helps to promote access to credit (Demirgüç-Kunt et al. (2008)).

- **The role of the public sector**: in many developing countries, the public sector is an active player in financial markets (for example, through the creation of Development Banks) and is also the main borrower from the private sector. Among others, financing of the fiscal deficit, state-owned enterprises and government infrastructure projects tend to enjoy preferential access to bank credit. As a result, there is public sector borrowing that crowds out credit from financial institutions to the private sector, reducing the incentives for the private sector to participate in the markets (Demirgüç-Kunt et al. (2008)).

- **Level of development of the financial system**: the literature has established that higher financial development reduces the costs of external finance to firms and that firms are less financially constrained in economies with more developed financial markets (Rajan and Zingales (1998)). More recently, for a sample of harmonized firm-level data for 16 industrialized and emerging countries, Aghion et al. (2007) confirm that small firms have greater access to finance in more developed financial markets, and that financial constraints act as a barrier for entry of small firms. Overall, in South Asia and Sub-Saharan Africa financial systems are poorly developed, and they either lack the liquidity or the instruments to provide long term capital for enterprises.

- **Poor enforcement of contracts**: problems with contract design and enforcement can make lending especially difficult in developing countries (Beck et al. (2006)). If enforcing a contract becomes a long and cumbersome process (due to weak judicial and legal frameworks), this deters potential lenders and investors due to uncertainty and high risk. A good court system enables the banks to exercise their rights over collateral pledged against the borrowing by firms ensuring that their contractual rights would be honoured in the face of contract breach, allowing them to commit necessary investments and to expand without worrying about contract reneging (Xu (2010)). This is confirmed by Beck and Levine (2003), who find that an effective legal environment facilitates firms' access to finance.

- **Inexistent and/or ineffective bankruptcy laws:** in a recent paper, Cirmizi et al. (2010) find that there is a consensus in the literature that effective bankruptcy laws that allow viable firms to reorganize and unviable ones to liquidate or be sold are a necessary condition for economic growth. A recent study by Visaria (2009) on the impact of improved insolvency regimes found that the introduction of Debt Recovery Tribunals in India reduced delinquency in loan repayment rates by between 3 and 11 percent and interest rates fell by up to 2 percentage points. However, despite their importance, insolvency institutions perform poorly, especially in developing countries (Djankov et al. (2006)).

2.2 Supply side factors

- **The existence of information asymmetries**: in financial markets, information asymmetries represent a critical barrier in gaining access to finance (Segarra and Teruel (2009)). Entrepreneurs typically possess privileged information on their businesses that cannot be easily accessed by lenders (lack of knowledge of clients and of information on client's credit profiles, lack of audited financial statements), so they cannot appraise risk properly. As a result, the perceived risk of the investment is high so the access to credit remains limited or the cost of borrowing rises to cover the risk. The development of credit bureaus and credit information systems is an attempt to reduce these informational asymmetries. Djankov et al. (2007) find that credit bureaus promote credit even when justice systems are struggling, as better

information renders banks more comfortable with lending. The same paper finds that creditor rights (especially strong in countries that inherited the common law system) prove to be particularly important for private credit in the richer countries, whereas the information infrastructure (in the form of credit registries) seems to matter more in the poorer countries.

- **High transaction costs:** financial institutions (i.e. commercial banks) are sometimes reluctant to lend to small and medium firms because of the high transaction costs involved in the lending process and the high risk intrinsic to SME lending (Beck and De la Torre (2007)). This is because transaction costs can exceed the expected risk-adjusted returns and financial institutions are not able to capture economies of scale when lending to small and medium firms (that request relatively small loans). But cost barriers can also stem from deficiencies in institutions and market infrastructure that make it expensive to gather information on debtors/projects, value assets appropriately, and monitor and enforce contracts (de la Torre et al. (2007)).

- **Weak property rights (and lack of collateral):** in low and middle-income countries, between 70 percent and 80 percent of firms applying for a loan are required to pledge some form of collateral. Enterprises often find it difficult to meet these requirements because they lack sufficient assets to serve as collateral (Fleisig et al. (2006)). As a result, collateral requirements significantly constrain access to finance (Beck et al. (2005)). One way to address this constraint is by better defining property rights (de Soto (2000)). Claessens (2006) finds that better protection of property rights increases the use of external finance by small firms significantly more than by large firms, mainly because of more bank and equity finance. Consistently, Johnson et al. (2002) find that entrepreneurs in transition economies are more likely to reinvest their profits if they feel more secure about the protection of property rights in their countries.

- **Efficiency of the banking sector**: a more efficient banking sector improves the access of firms, particularly small firms, to credit (Demirgüç-Kunt and Maksimovic (1999)). In a more in depth study, Beck et al. (2004) assess the effect of banking market structure on the access of firms to bank finance. They find that bank concentration (a proxy for less efficient banking system) increases obstacles to obtaining finance, but only in countries with low levels of economic and institutional development. They also find that a larger share of foreign-owned banks and an efficient credit registry dampen the effect of concentration on financing obstacles, while the effect is exacerbated by more restrictions on banks' activities, more government interference in the banking sector, and a larger share of government-owned banks.

- **Absence of long term finance**: in order to undertake productive investments, firms (and particularly those firms in the industrial sector) need long term finance, which tends to be associated with higher productivity. Caprio Jr and Demirguc-Kunt (1998) conclude that an ability to enter into long-term contracts allows firms to grow at faster rates than they could attain by relying on internal sources of funds and short-term credit alone. This is confirmed by Demirgüç-Kunt and Maksimovic (1999) who find that if long term finance is available, it makes positive contribution to firm growth.

- **Physical barriers to capital**: for many firms, particularly those in rural areas, access to finance might be limited by the fact that they are physically far away from the sources of finance (i.e. the banks). Given that branches are the traditional bank outlet, geographic distance to the nearest branch helps measure if there is a physical barrier to access. Beck et al. (2007) study banking sector penetration across 99 countries and conclude that branch and ATM density figures are highly correlated with aggregate loan and deposit accounts per population, therefore giving a measure of access. However, recent development of other delivery channels such as mobile banking or e-banking can reduce cost of access and significantly improve the use of financial services. Although the literature has not yet studied the full impact of these new initiatives, preliminary findings from ongoing interventions such as M-PESA in Kenya suggest that they significantly reduce financial barriers for micro firms in rural areas by increasing transactions and reducing costs. These innovations could improve access to credit by facilitating the

creation of bank accounts with overdraft services and by helping rural firms establish connections with banks and other financial institutions as is occurring now in Kenya through ZAP[6].

- **Poorly developed capital markets limit exit opportunities for equity investments**. Insufficient financial development in South Asia and Sub-Saharan Africa means that equity markets are very limited. For example, Sub-Saharan Africa currently has 15 active stock markets with a market capitalisation in 2009 of $705 billion (907 domestic listed companies), whilst South Asia has a market capitalisation of $1.2 trillion (6,216 domestic listed companies). Moreover, South Africa alone accounts for 92 percent of the total in Sub-Saharan Africa and India alone accounts for 95 percent of the total in South Asia (World Bank (2010b)). This reality makes public offerings very difficult in most countries of these two regions and limits the exit strategies of investors, discouraging venture capital. Consequently, private equity investors in these countries tend to rely on the sale to portfolio firms to strategic investors, although this can be problematic when the number of potential buyers is small (Lerner and Schoar (2004)). Alternatively, investors can also sell to another company or even sell to its original owners (Berger and Udell (2006)).

2.3 Demand side factors

- **Poor financial and management skills**. Entrepreneurs in developing countries tend to have limited accounting and management skills that limit their chances to access capital and limit firm growth. For example, Ramachandran and Shah (1999) analysed the link between entrepreneurship and firm performance in four sub-Saharan African countries and found that the educational attainment of managers influenced the growth of firms. Similarly, McPherson (1996) found that human capital variables were important determinants of firm growth in Botswana, Lesotho and Zimbabwe. A recent paper by Blooma et al. (2010) ran a management field experiment on large Indian textile firms using control groups and found that, among other benefits, adopting modern management practices raised average productivity by about 10%. The weakness of financial and management skills makes borrowers less attractive to the banks.

- **Low willingness to access finance, particularly equity finance**: it is sometimes the case that the entrepreneur is not willing to apply for formal external finance to expand his/her business. On these occasions, the entrepreneur might think that an external source of finance (be it debt or equity) generates disadvantages such as higher taxation and more social responsibilities for the owner. Therefore, a rational entrepreneur may choose to remain small if he/she perceives that the benefits of growth are outweighed by the costs. This is particularly notably for equity finance, where family owned SMEs resist third party equity because it dilutes control.

- **Poor corporate governance:** strong corporate governance, including good financial accounting, are necessary conditions for financial investors to invest in a business. However, **r**ecent data from WBES indicates that only 37 per cent of small firms have their annual financial statement reviewed by an external auditor, compared to 58 per cent of medium sized firms and 79 per cent of large firms (International Finance Corporation (2010a)). Moreover, firms in developing countries tend to keep two or three sets of books, making it difficult for banks to assess risks and discouraging them from lending. For example, an assessment of the investment climate in China (Dollar et al. (2003)) points out that Chinese firms may have two or three sets of books depending on the audience.

[6] ZAP is Zain's (now Airtel) rival to M-PESA which allows customers to operate their accounts with Standard Chartered and Citigroup using mobile phones and to pay for purchases at selected shops.

How do these factors differentially affect different kinds of enterprises? Is growth in enterprises prevented by lack of access to capital? At what stage?

Each of the factors that constrain access to finance in developing countries affect enterprises differently and at different stages of their development. This is because, in allocating capital, not all firms have the same needs and different types of enterprises face different risks. Moreover, under situations where capital is scarce, the financial sector tends to prefer to lend to government (which is risk free) and to large "blue chip" enterprises rather than small and medium enterprise.

The lack of access to finance of small and medium firms has been well studied in the literature, which describes this phenomenon as the "missing middle". On one hand, large enterprises in developing countries tend to have both earnings cover and collateral cover that makes lending to them low risk, and often even have access to international markets. Bigsten et al. (2003) confirm this point as they find, from analysing firm level data for a number of African countries, that financial constraints are relatively unimportant for large firms in Africa. On the other hand, micro enterprises in developing countries benefit from microfinance lending, but the limited size of these loans means that SMEs are not able to use them to make the productive investments that they need. A recent IFC report on SME access to financial services (International Finance Corporation (2010a) makes an estimation of this gap[7,8]:

> "approximately 45-55 percent of formal SMEs (11-17 million) in emerging markets are un-served (i.e. they need credit but do not have access), 21-24 percent (5-7 million) are underserved (i.e. they have access to some credit but identify financing as a constraint); and 16-20 percent (4-6 million) do not need credit. The magnitude of the credit gap varies by size of enterprises: 18-22 percent of formal medium enterprises in emerging markets are un-served compared to 49-59 percent of small formal enterprises."

Overall, the literature is rich at studying how access to finance constraints (defined in a general way) impact firms' growth according to their size (small, medium and large), age (start up, young and old), ownership (domestic/international) and sector of operation. The review found that:

- **Size:** small and medium firms face more financial constraints than large firms (Levy (1993); Cook and Nixson (2000)). Beck et al. (2005) quantify that financing constraints for small firms have almost twice the effect on annual growth than large firms' financing obstacles do. Similarly, Schiffer and Weder (2001) find that small firms consistently report more constraints than medium-sized firms, which in turn report more constraints than large firms.

- **Age:** financial constraints are higher for start-ups and younger firms, whilst older firms seem to have less difficulty to access capital (Oliveira and Fortunato (2006); Carreira and Silva (2010)). However, even though younger firms face more constraints, Goedhuys and Sleuwaegen (2009) also find that younger firms grow faster than larger, older ones, but the volatility in their growth rates is also higher, as their rates of failure.

- **Ownership:** firms that have access to foreign capital markets are less financially constrained than those that have to resort solely to national capital markets. And it is ownership (national versus foreign) what seems to determine if firms have access to outside markets (foreign-owned) and those that do not (Carreira and Silva (2010)). This is confirmed by Beck et al. (2006), who use firm level data to find that foreign-owned firms report significantly lower financing obstacles than domestically-owned firms. This may be because foreign-owned firms may be able to get cheaper credit from the country of their owners.

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[7] This report defines small firms having between 10-49 employees and medium firms 50-250 employees.

[8] The same report states that access to credit for SMEs is particularly daunting in Asia and Africa. They calculate that the financing gap is around 45 percent in Sub-Saharan Africa (out of 3.5-4.3 million SMEs in the region, 1.5-2 million remain unserved) and as much as 70 percent in South Asia (out of 2.0-2.8 million SMEs in the region, 1.4-2 million remain unserved).

- **Sector of operation:** firms that operate in certain sectors have more difficulties than others to access capital. For example, financial constraints in agriculture remain pervasive (World Bank (2008)) due to high interrelated covariant risk, dispersed demand for financial services, high information/transaction costs for service providers, seasonality of agricultural production and lack of usable collateral (World Bank (2005c)). Moreover, the long tradition of public sector intervention in this sector (mostly by providing subsidised loans on a regular basis) has rendered many farmers unwilling to apply for loans from the commercial banking sector; and lending institutions lack the right instruments (particularly the availability of long term loans) to address the financial needs of these firms as returns to agricultural investment could take more than three years in certain subsectors (e.g. investment in cocoa and palm oil). Other sectors such as ICT and entertainment also face larger constraints to access capital because of their lack of tangible assets to apply as collateral for debt lending (DFID (2009)).

The literature that looks at the impact that the specific constraints to access to finance identified above affect different types of firms is very limited. This review has found relevant literature analysing a few of these factors:

- **Level of development of financial system**: younger firms particularly benefit from a higher development of the financial system as this reduces the negative effects of information asymmetry (International Finance Corporation (2010a)). Aghion et al. (2007) reinforce the importance of the development of financial markets in allowing access to external finance for small firms. Laeven (2003) finds that increased financial liberalisation affects firms differently: whilst it reduces financial constraints for small firms, it results in the opposite for large firms. Bhaduri (2005) and Ghosh (2006) show that financial liberalization in India during the 1990s alleviated financial constraints faced by manufacturing firms, in particular small ones.

- **The existence of informational asymmetries**: informational asymmetries disproportionately affect younger firms because they face more information opaqueness (Czarnitzki and Binz (2008)). This is probably because they do not have credit history with financing institutions, they cannot use retained earnings or earlier profits for investment, lenders may have doubts about the quality of their collateral, and they may face higher default risks than older firms. Chavis et al. (2010) also suggest that the availability of credit information is disproportionately beneficial for promoting access to formal finance by young firms.

- **High transaction costs:** smaller and medium firms typically require relatively small loans compared with larger firms. However, the transaction costs associated with processing and administering loans are fixed and banks often find that processing small SME loans is inefficient. This can be due to the lack of appropriate techniques such as credit scoring to increase the volume and lower the costs of financing SMEs (Malhotra et al. (2007)).

- **Weak property rights (and lack of collateral):** Securing borrowers' property rights to assets they can pledge as collateral should particularly help small and medium firms to access finance and obtain cheaper and longer-term loans. This is confirmed by Beck et al. (2004) who find that 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. Looking at the micro evidence, 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.

- **Poor financial and management skills**: Smaller firms are likely to face lower business skills than larger firms because they have limited resources for training and because the small size of the firms implies that the managers and owners need to perform a wider range of tasks and have less chances of specialising. International Finance Corporation (2010a) confirms that the lack of business and management skills can magnify financial barriers to small and medium enterprises in particular.

- **Types of financing available:** due to information asymmetries and the different risks involved in any investment, firms are affected differently by the types of financing available. Beck et al. (2005) find that the lack of access to specific forms of financing such as export, leasing and long-term finance is significantly more constraining for small firms. Other findings are:

- internal finance is critical at the "seed financing" and "start-up" stages when information asymmetries are most acute. However, at later stages of growth (firms that are at least 5 years old) retained earnings are an important source of additional funding and serve as a source of strength to assure flows of external finance (Berger and Udell (1998)).
- younger firms with intangible assets usually require equity capital because they do not have collateral to support debt borrowing and are not certain of their cash flow.
- the capital structure decision between equity and debt is different for small firms than for large firms in part because small businesses are usually more informationally opaque than large firms. In addition, since small businesses are usually owner-managed, the owner/managers often have strong incentives to issue external debt rather than external equity in order to keep ownership and control of their firms. (Berger and Udell (2006)).
- trade credit is not only important for export firms, but it is also extremely important to small businesses as it provides a signal that leads to more bank credit (Musso and Schiavo (2008)). The same paper suggests that in economic environments with weak informational infrastructure and less developed banking systems, trade credit may play an even more important role because of its strength in addressing information problems.

Financial constraints are also decisive for firm survival. Musso and Schiavo (2008) find that the greater the financial constraints firms face, the higher the probability that they do not survive and then exit the market. In addition, they also find that access to external financial resources has a positive effect on the growth of firms in terms of sales, capital stock and employment. This is particularly true when the cost of capital is high. Cowling and Mitchell (2003) find that failure is related to the cost of capital, with higher severity for smaller firms. Mead and Liedholm (1998) look at small firms in the Dominican Republic and four countries in Sub-Saharan Africa (Botswana, Malawi, Swaziland and Zimbabwe) and find that survival rates vary significantly by sector. They conclude that retail trading enterprises faced the highest closure risks in all five countries. Real estate, wood processing, wholesale traders, and non-metallic metal enterprises were the least likely to close, while trading, transport, and chemical were the most likely to do so.

It is also widely accepted that the survival rate of entrants is low, which can be at least partially caused by financial constraints (Carreira and Silva (2010)). Fotopoulos and Louri (2000) find evidence for Greek manufacturing firms that initial financial capital and the ratio of fixed to total assets significantly lowers the probability of a firm dying, while leverage increases the probability of death. Farinha (2005) finds that, in Portugal, the probability of survival is lower for new firms that face financial constraints, have smaller initial capital, are more leveraged and have a higher number of credit relationships (as opposite to a stable relationship). The study also points out that the effects of financing constraints appear to be persistent in time.

The effects on wider economic development

The overall effect of the lack of financial deepening on private investment and growth is well established in the literature. However, evidence on the consequences of the market failures that result in some types of firms suffering more from lack of access to finance than others is much weaker:

- **Entry rates:** there is some evidence to show that rates of business formation have an impact on productivity and growth. Lower access to finance for start-ups and younger firms could hamper business formation and hence productivity and growth.

- **Size of firms:** market failures in serving the needs of SMEs could amount to inefficient financial intermediation whereby finance is not allocated to its most productive use. However, the long-held view that increasing the proportion of output generated by SMEs is good for growth has been challenged by the evidence: countries have followed very varying patterns of the size structure of firms. The new literature suggests that it is not firm size that matters for growth but the market outcomes that businesses deliver in terms of investment, productivity, job creation and growth of output.

- **Ownership:** the better access to finance enjoyed by foreign firms helps them expand more quickly than their domestic rivals. However, in most countries, the majority of private investment and output continues to come from domestic sources. No doubt, if access to finance for domestic firms was increased, it would help to increase growth and investment and help to establish a more level playing field.

- **Sector of operation:** the failure to meet the financial needs of firms in particular sectors could lead to the economy failing to fulfil its potential growth trajectory and to develop inclusive broad based growth. However, the evidence that shows the link between breadth of financial sector lending for investment and the diversification of the economy is limited. There is also good evidence that the level of trade openness of an economy is important for growth. The evidence that the lack of financial instruments hampers growth of exports is weaker, confined to smaller firms being disadvantaged compared to the large.

What policies are most effective to increase access to finance?

The literature indicates a number of policies that are aimed at increasing the access to finance for enterprises:

- **Deepen financial liberalization:** Financial liberalization seems to facilitate the access of firms to credit, especially small ones, by reducing the institutional barriers and transaction costs in the market for credit. Carreira and Silva (2010) find that financial liberalisation seems to alleviate financing constraints of firms, particularly smaller ones. Using country level survey data, Bhaduri (2005) and Ghosh (2006) show that financial liberalization in India during the 1990s alleviated financial constraints faced by manufacturing firms. Although financial deregulation is important, it also remains essential to maintain good prudential regulations that aims to protect the stability of the financial system (i.e. prevent systemic failures or financial crises) and to protect depositors, especially small depositors (Beck et al. (2009a)).

- **Improve the efficiency of the commercial banking system:** A well-functioning commercial banking system plays a critical role for the development of the private sector by providing the investment that is needed to accelerate growth and reduce poverty (Demirgüç-Kunt et al. (2008)). To improve its efficiency, three sets of policies are needed. First, to promote a strong regulatory and supervisory system that gives the banking system a framework to operate in; second, to increase competition in the banking sector so that banks have the incentive to lend; and third, to support the banks in developing the technology and instruments needed to lend to firms. So far, the focus of policymakers has been to improve the regulatory framework (e.g. Basel rules) and to promote the entry of new banks to reduce concentration. However, just pursuing these two policies seems not to be sufficient to improve the efficiency of the banking system. This can be observed in table 1, where we show that interest rate spreads[9] in some African countries remain high.

[9] The interest rate spread is the difference between the average lending rate and the average borrowing rate for a financial institution.

Table 1: Interest Rate Spread, Selected African and Non-African Countries, 2008

Country	Interest Rate Spread	Country	Interest Rate Spread	Country	Interest Rate Spread
Botswana	7.9%	Malaysia	3%	Uganda	9.8% (2007)
Kenya	8.7%	Singapore	5%	Zambia	12.5%
Ghana	22.1%	Thailand	4.6%	Tanzania	6.9%
Malawi	21.7% (2007)	Nigeria	3.5%	South Africa	3.5%

Source: Aboagye et al. (2010)

- **Promote deepening of capital markets:** although correlation between stock market growth and overall economic growth is debatable, studies point that stock markets should help in growth of savings, efficient allocation of investment resources and better utilisation of existing resources (Levine and Zervos (1996); Banerjee (2008)). However, others claim that they have a limited impact because they allow investors to sell their stocks quickly, reducing their incentives to exert corporate control by monitoring the performance of managers and firms. Looking at the experience so far in Sub-Saharan Africa, Beck et al. (2009b) claim that, despite some large initial public offerings (IPOs) on the Ghanaian, Kenyan, and Nigerian stock exchanges, it is unlikely that these advances will make capital markets sustainable, and that attempts at establishing regional markets have been less successful than expected.

- **Scale up support to SME financing through partial credit guarantees.** Lending to firms, particularly SMEs, is low because of the reluctance of financial institutions to reach out because of high transaction costs related to relationship lending and the high risk intrinsic to SME lending (Beck and De la Torre (2007)). To address this problem, countries around the world have made partial credit guarantee schemes a central part of their strategy to alleviate SMEs financing constraints (International Finance Corporation (2010a)), including Pakistan, Kenya, Sri Lanka and Nigeria. But the design of a partial credit guarantee scheme is challenging and only a few of them have "proven" additionality (i.e. that the loans would not have come about without the partial credit guarantee scheme) (OECD (2008)). However, in the absence of thorough economic evaluations of most schemes, their net effect in cost-benefit terms remains unclear (Honohan (2010)).

- **Promote financial innovation:** innovative financial instruments can help facilitate the access to finance for firms. Beck et al. (2005) claim that lack of access to specific forms of financing such as export, leasing and long term finance is significantly more constraining for small firms than for large firms. Berger and Udell (2006) claim that, provided the relevant laws are in place, asset-based lending such as factoring, fixed-asset lending, trade finance and leasing are technologies that can release sizable financing flows even for small and non-transparent firms to finance the relevant assets. Similarly, the use of modern financial technology such as electronic-finance and mobile-finance can produce results relatively fast, as the success of mobile-finance in many Sub-Saharan African countries has shown. Porteous (2006) indicates that "new technologies may not only reduce the cost of financial transactions for provider and customer, but also allow new entrants to the financial sector, and new relationships to be formed for distributing services. These changes hold the prospect of accelerating access to financial services on the back of the mobile infrastructure."

- **Promote creation of credit bureaus:** credit bureaus help improve the availability of information and are likely to improve access of SMEs to credit given the more severe problems of information opacity and asymmetry that they face. In a recent paper looking at firm level data in the transition countries of Eastern Europe and the former Soviet Union, Brown et al. (2008) investigate whether information sharing among banks has affected credit market performance and find that information sharing is associated with improved availability and lower cost of credit to firms. However, this is only true for firms located in countries with poor creditor protection, but not for those where creditor rights are already well protected by the law. Sorge and Zhang (2007) use data of from 45 developed and developing countries and find that countries with better quality of credit information (broader coverage

of public and especially private registries) are characterised by a higher share of long-term debt as a proportion of total debt.

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