

# The role of banking and financial policies in promoting micro, small, and medium enterprises

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## Abstract

The results of empirical research confirm that a well-functioning and developed financial sector fosters economic growth. Additionally, financial deepening has a significantly larger impact on the poorest parts of societies, thus playing a critical role in reducing income inequality and poverty. In many countries, however, the level of financial development is very low due to severe consequences arising from asymmetric information between lenders and borrowers. This, in turn, restricts the amount of capital available to companies, especially small and medium ones. In this paper we have attempted to give some answers to the question of what the government's role should be in overcoming barriers to

capital and financing. The empirical research, as well as case studies of successful reforms, indicate that the main role to be played by the government in supporting financial sector development is to ensure macroeconomic stability and provide an appropriate legal and infrastructural framework for its functioning. Finally, we also argue that in the 21<sup>st</sup> century global-knowledge economy there is a need for a deeper discussion about the efficacy of public support for SMEs and its redirection to narrowly defined innovative sectors, which may create the potential for long-term development and an increase of social welfare.

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“The banker, therefore, is not so much primarily a middleman... He authorizes people in the name of society (to innovate).” Schumpeter (1912)

“There is a strange idea abroad (...) that credit is something a banker gives to a man. Credit, on the contrary, is something a man already has. He has it, perhaps, because he already has marketable assets of a greater cash value than the loan for which he is asking. Or he has it because his character and past record have earned it. He brings it into the bank with him.” Hazlitt (1946)

## Introduction

In 2006, the Norwegian Nobel Committee decided to award the Nobel Peace Prize to Muhammad Yunus and Grameen Bank “for their efforts to create economic and social development from below” [The Nobel Foundation (2007)]. What were these efforts that met with the Committee’s approval? Between 1975 and 1989, Yunus managed a survey program, the aim of which was to foster the development of rural areas in Bangladesh. During that time he created a system providing financial services directly to the poorest residents in rural areas. The main idea was to make small loans (microcredit) to the poorest borrowers. The system was based on the belief that the poor have skills that are underused and that the only thing that they lack is capital. Microcredits were designed to allow purchases of specific items such as equipment, thus facilitating business startups. The idea proved to be successful within 7 years the system for small loans had spread all over the country. The program’s unexpected development was the basis for the financial system’s conversion into an institution called “Grameen Bank.” Nowadays, Grameen Bank has 2462 branches and 7.3 million borrowers. Grameen Bank lends 800 million dollars per year, in loans averaging just over one hundred dollars, with recovery rates of 98.4 percent. Grameen Bank finances 100 percent of its outstanding loans from deposits, where over 58 percent of its deposits coming from the bank’s own borrowers. According to Grameen bank, 64 percent of its borrowers’ families have crossed the poverty line [Grameen Bank (2007)].

The idea developed by Yunus and appreciated by the Nobel Committee consisted of bringing financial services to poor people. In particular, reducing the obstacles they meet in access to capital, and in so doing enabling them to escape from poverty. Indeed, well-functioning financial intermediation is an important factor in accelerating economic growth and reducing poverty [Levine (2005a)]. A developed financial system helps to put society’s savings to the most effective use in the economy by mobilizing and pooling savings, collecting and analyzing information about companies and investment opportunities, monitoring investments, exerting corporate governance, and helping to diversify and manage intertemporal risk [Levine (2005a)]. Empirical studies have demonstrated that a well-functioning and developed financial sector fosters economic

growth [Levine et al. (2000), Beck et al. (2000), Levine and Zervos (1998), King and Levine (1993a, b)]. The financial intermediaries’ ability to widen access to external financing is especially crucial in the case of small companies. By helping them overcome the financing constraints they meet the financial sector creates an impulse for growth of these firms [Beck et al. (2004), Beck et al. (2005)]. Additionally, financial deepening has a significantly larger impact on the poorest parts of societies, thus playing a critical role in reducing income inequality and poverty [Beck et al. (2004), Honohan (2004)].

Once one acknowledges the profound importance of financial development for economic growth, a pressing question is bound to arise: where do these abysmal discrepancies in financial deepening between countries come from? As Figure 1 shows, the depth of the financial sector varies significantly across the world, with the size of the credit markets ranging from less than 5 percent of GDP in poor African countries to almost 200 percent in highly developed countries such as the U.S., Japan, Canada, or the Netherlands [World Bank (2007b)]. The discrepancies are particularly wide with regards to the financial institutions’ role in financing companies. The financial sector’s share in financing companies’ investments ranges from slightly less than 5 percent in Azerbaijan, Uzbekistan, and Guinea to almost 80 percent in Thailand and China [World Bank (2007b)].

## Asymmetric information and functioning of the financial system

The identification of factors differentiating the levels of financial sector development requires one to address the reasons why financial intermediation is needed in the economy in the first place. The main reason why financial markets exist at all is the lack of perfect information. If there is perfect and symmetric information on the capital markets and there are no transaction costs, all economic agents will have full information about companies and their investment projects. This makes a company’s internal and external funds perfect substitutes, since their costs are identical as a result of the full and free access of all market participants to the same information set. It follows that if the company does not own funds that are sufficient to finance an investment it can borrow these funds from households (individual investors) at the same price. On the other hand, individual investors lend capital only to those firms that can guarantee it will be used in the most productive way. Hence, the demand and supply of finance are always balanced, automatically allocating capital to the most profitable investments. Should the market mechanism function in this way there would be two important consequences. Firstly, the scope of financial intermediation does not influence firms’ decisions, and so the functioning of banks and other financial intermediaries on such a market cannot be justified from an economic point of view. Neither firms nor households reap any benefits from their intermediation<sup>12</sup>. Secondly, the capital structure of the company does not influence investment decisions. A theoretical justification

1 Fama (1980) has shown on the basis of an Arrow-Debreu general equilibrium model that if companies and households have unlimited access to perfect financial markets then in equilibrium banks are superfluous (they make a zero profit).

2 The reason for the existence of financial intermediaries is also their ability to reduce transaction costs, to create the pools of liquidity, or to diversify risk. However Freixas and Rochet (1999) stress that these roles of financial intermediaries are directly connected with the existence of the information asymmetry.

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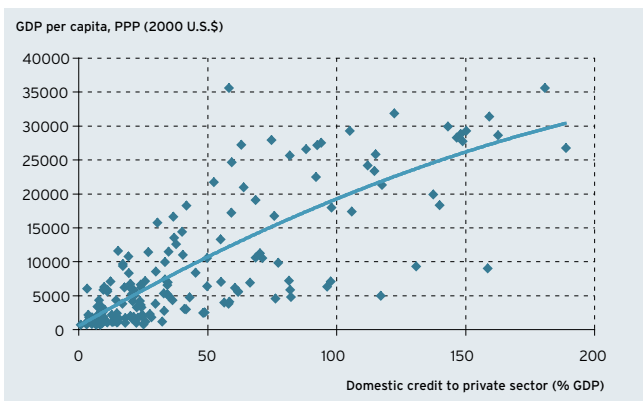


Figure 1 - Domestic credit to private sector versus GDP per capita (averages 2000-2005)  
Source: World Bank (2007b), own calculations

of this assumption is the Modigliani-Miller theorem (1958), according to which the market value of a company is determined solely by the profit stream it generates, and not its capital structure. However, in reality information available to the financial market participants is not perfect but asymmetric. This notion relates to a situation in which one economic agent has better (more comprehensive and precise) information about a good than another agent. In the case of the financial market it can refer to information about the characteristics of a given investment project, including information about the agent realizing it. Asymmetry of information has a number of consequences that disrupt the functioning of the capital markets, thus making it difficult for financial intermediaries to identify projects with the highest probability of success.

Three problems of this sort have been addressed in the literature [Jaffe and Russell (1976), Townsend (1979), Gale and Hellwig (1985)], adverse selection, moral hazard, and costly state verification. Each of these problems may lead to credit rationing<sup>3</sup> – a situation in which the bank limits the amount of financing offered to a

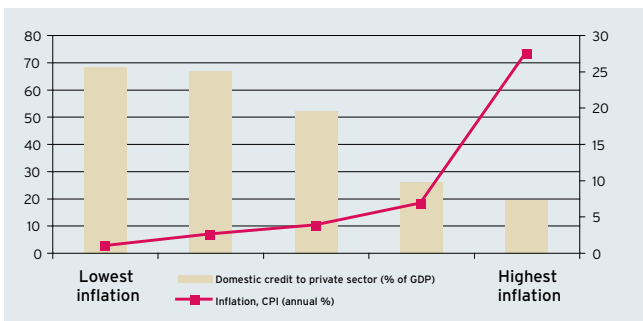


Figure 2 - CPI inflation versus domestic credit to private sector (as a percentage of GDP), 2000-2005 averages  
Source: World Bank (2007b), own calculations

3 Stiglitz and Weiss (1981) demonstrated that this phenomenon can occur as a result of adverse selection or moral hazard, Jaffe and Russell (1976) and Bester and Hellwig (1987) point to moral hazard as the reason for rationing, whereas Williamson (1986, 1987), as well as Gale and Hellwig (1985), emphasize the role of costly state verification.

	Small	Medium
Below 140 % of a loan	3.7	3.6
Over 140 % of a loan	2.7	2.8

Figure 3 - Credit Information Index\* value versus average value of collateral as percentage of loan in small and medium sized companies\*\*.

\*The credit information index measures rules affecting the scope, accessibility, and quality of credit information available through either public or private credit registries. It ranges from 0 worst to 6 best.

\*\*Average value of the collateral required expressed as percentage of the loan for firms that have recent loans or overdraft that required collateral or deposit.

Source: World Bank (2007a), World Bank (2007b), own calculations

firm irrespective of the interest rate level which it is able to pay. A rise in the cost of credit does not allow the bank to isolate from the group of potential borrowers those whose projects are characterized by the highest probability of success. The more severe the information asymmetry and its consequences the more severe is the credit rationing experienced by the companies and the lower is the effectiveness of capital allocation in the economy. For reasons explained in the remaining part of this paper these problems may be most severe in the case of the SMEs.

## Financial constraint and the role of government

What is the government's role in overcoming the problems associated with access to capital caused by asymmetric information? There is a long and ongoing debate on the proper actions the government should undertake to restrict the adverse impact these obstacles can have on economic growth and poverty reduction. Beck (2006) indicates three possible approaches to government involvement in the financial sector: (1) the laissez-faire view, (2) the market-enabling view, and (3) the market-failure view. In the following sections we describe their main characteristics and, on the basis of international comparisons and case studies of selected countries, try to assess their efficacy in promoting the ability of SMEs to compete in a global knowledge economy.

### The laissez-faire view

The first approach assumes that the government has no role in shaping the conditions of cooperation between particular sides of the credit market. These conditions are set and enforced in an optimal way through pure market mechanisms. The government should not act as a party to the transaction on the capital market. Banks have a comparative advantage in identifying the most effective sectors and units in the economy, so there is no justification for interventions of the government aimed at refueling the capital to other sectors, because the allocation made by the financial market is optimal also with respect to social welfare. However, this approach completely ignores the consequences of credit market imperfections such as asymmetric information, which precludes the optimal allocation of the capital in the economy. It does not

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provide a valid explanation of the observed differences in the level of financial deepening between countries.

### Market-enabling view

According to this approach, the government's main role is to support financial sector development by providing an appropriate legal framework for its functioning and ensuring macroeconomic stability. Such a view defines the government's role through the existing market imperfections. Since asymmetry of information is the main cause of the market's malfunctioning, the government should provide tools to reduce it. This view foresees several areas of government activities:

- The first area is the provision of a stable macroeconomic environment, especially low and stable inflation. Most economists agree that monetary stability is an important precondition for sustained financial development. Numerous economic models illustrate that inflation, at least from a certain threshold level, amplifies the negative consequences of the asymmetry of information, which limits the scope of financial intermediation [Boyd et al. (1996), Azariadis and Smith (1996), Paal and Smith (2004)] and lowers the financial intermediaries' effectiveness in identifying the most productive areas of capital allocation [Smith and van Egteren (2003), Baum et al. (2004)]. Monetary policy aimed at promoting high quality investment projects should therefore be oriented towards maintaining low and stable inflation. Predictions based on these models are confirmed by results of empirical research using cross-country regressions. Inflation above a certain threshold level adversely impacts the level of financial intermediation [Rosseau and Wachtel (2002), Khan et al. (2001), Boyd et al. (2001)] and increases the severity of barriers to external financing perceived by companies [Beck et al. (2005a)]. Additionally, the higher the average level of inflation the lower the positive influence financial development exerts on economic growth [Rousseau and Wachtel (2002), Lee and Wong (2005)]. Figure 2 illustrates the negative correlation between average inflation level and the scope of financial intermediation<sup>4</sup>.
- The second area encompasses legal solutions and tools facilitating the gathering of the most comprehensive and reliable information about potential borrowers and making it accessible to financial intermediaries. The easier the access to such information, the smaller the asymmetry between the lender and the borrower. As a result, capital becomes more accessible to agents involved in projects of higher potential and higher probability of success. This in turn leads to a more effective allocation of capital. Coherent and comprehensive credit information gathered in accessible registers relieves credit constraints, especially in the case of SMEs. It is significantly more difficult to assess credit rating for SMEs since there is a lower degree of transparency and there is limited information documenting their history of activity. Empirical research has shown that the existence of credit regis-

ters collecting and sharing information on credit histories and current indebtedness of borrowers may be helpful in increasing credit availability [Jappelli and Pagano (2000, 2002), Sapienza (2002), Djankov et al. (2005)]. Information about a particular borrower collected by bureaux can substitute the information collected by the bank during the long-term relationship with this borrower. According to Berger and Udell (1995), this may in turn induce a bank to apply lower rates and require collateral more rarely when extending loans to the small firms. Figure 3 shows that availability and completeness of credit information can significantly lower the requirements concerning the collateral required by banks, thus making credit more accessible. In this context credit history can be viewed as "reputation collateral" of the company, which becomes more important the more difficult it is for the company to submit another kind of collateral.

- The third area of possible government action encompasses legal solutions designed to facilitate establishing and enforcing credit collateral. Bester (1985) shows that established collateral causes an autoselection of borrowers (i.e., it discourages those companies whose projects are riskier from applying for a credit<sup>5</sup>). This in turn reduces the asymmetry of information and barriers to credit for firms with the highest potential, increasing the effectiveness of capital allocation in the economy. The effectiveness of collateral as an instrument for reducing the severity of the information asymmetry depends on the cost, level of complexity, and the number of procedures required to secure a loan, as well as on how complicated, time-consuming, and costly it is to execute liabilities. Regulations that limit the lender's and borrower's freedom to choose the object of collateral, increase costs of establishing a collateral, or reduce the power of creditors in enforcing collateral contribute significantly towards reducing the amount of credit granted by the financial sector to companies, especially for SMEs [Galindo and Micco (2005)]. Lack of appropriate collateral is the most important barrier to credit, especially in low- and middle-income countries (Figure 4). It is important to distinguish here between a lack of collateral and a lack of appropriate collateral. In low- and middle-income countries we can observe a mismatch between the structure of companies' assets and the structure of assets accepted by banks as collateral (Figure 5), which to a large degree results from regulations that limit the types of goods/assets that can be used as collateral or complicate and reduce the effectiveness of execution of liabilities by banks.

This kind of mismatch has been deemed "dead capital" by De Soto (2000), who shows that it is the major cause of poverty persistence in numerous low-income countries. With the help of thorough case studies, he demonstrates that the majority of citizens of poor countries have assets that are valuable enough to make it possible for them to set up their own businesses and escape from poverty. What they lack, however, is appropriate laws that would allow them to

4 Since we realize that such comparisons may be biased, because of omitted-variable and spurious correlation problems, they should be treated as an illustration of some observed regularities and not as a strong confirmation of causality. This is true for all similar comparisons in the following sections.

5 See Freixas and Rochet (1999, chapters 4 and 5) for an excellent overview of the models which analyze the role of collateral in shaping the terms of financial contracts.

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transform these assets into capital. One of De Soto's (2000, p. 14) examples illustrate the scale of the problems created by poor legal frameworks in these countries: a legal purchase of a building plot requires fulfillment of 77 bureaucratic procedures, visits (sometimes multiple) to 31 agencies, and a sacrifice of 6 to 14 years! As a result, almost 5 million Egyptians own illegally built houses that cannot be used as collateral assets.

Empirical research has shown that the legal framework which facilitates the establishment and enforcement of collateral increases credit availability and decreases its costs [La Porta et al. (1997), Djankov et al. (2005), Levine et al. (2000b)] significantly, in particular in the case of small and medium enterprises [Galindo and Micco (2005)]. Figure 6 shows that in countries with better quality of legal framework with regards to the collateral credit granted to private sector (as a percent of GDP) is higher. In these countries fewer small- and medium-sized firms report that access to credit and cost of financing is a major obstacle to the operations and growth of their businesses (Figure 7) and more companies use bank credit to finance new investments.

## Market-failure view

The third approach to the role of the government in financial market development assumes that imperfections observed in the credit markets can decrease the ability of banks to funnel capital to the most efficient projects, thus reducing social welfare. To eliminate these frictions and to reduce their adverse impact the government should take interventionist approach, which consists of the use of such tools as subsidized loans or government credit guarantees for particular sectors of the economy, restrictions imposed on the amount of the credit (credit quotas) or the level of interest rates (interest floors and caps) set by private financial institutions, and government ownership of financial institutions.

The motivation for such activities lies in the government's efforts to redirect the credit to those sectors of the economy which are able to generate high social returns. These sectors are often insufficiently supplied with capital by private banks, because generating returns on their projects may be connected with a level of risk too high for the banks' conservative investment strategies. According to the proponents of the interventionist approach, direct involvement of the government in such situations may ensure access to funding for those sectors and enable the realization of projects that would not be undertaken without government support. This argument is valid from the theoretical point of view, there are some theoretical models which show that the government may be effective in overcoming the credit market frictions<sup>6</sup>. There are, however, two assumptions which are crucial for obtaining such results: firstly, that the government acts to maximize social welfare, and secondly, that the government is able to recognize the economic potential of particular sectors of the economy and

	Firms that do not apply for credit because the requirements are too high (percent of firms which apply for credit)	Firms that are rejected because they have insufficient collateral (percent of firms being rejected)
Africa	19	51
East Asia	20	70
Eastern Europe and Central Asia	13	72
Latin America and the Caribbean	23	39
South Asia	31	72

Figure 4 - Many firms in low- and middle-income countries cannot meet collateral requirements for loans  
Source: Fleisig et al. (2006)

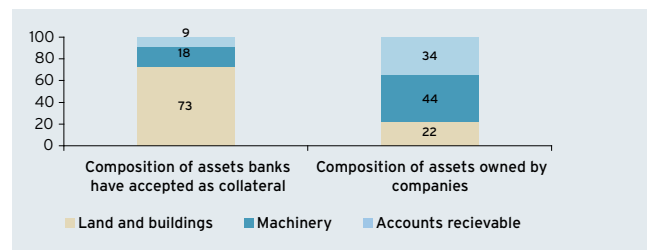


Figure 5 - In low- and middle-income countries the assets firms own are a poor match for the assets lenders accept as collateral  
Source: Fleisig et al. (2006)

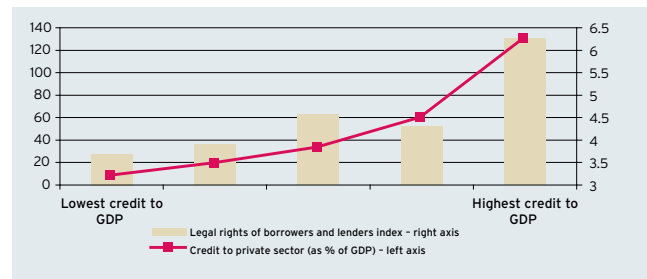


Figure 6 - Legal Rights Index\* versus domestic credit to private sector (as percentage of GDP, 2000-2005 averages)

\* Legal Rights Index measures the degree to which collateral and bankruptcy laws protect the rights of borrowers and lenders and thus facilitate lending. It ranges from 0 worst to 10 best.

Source: World Bank (2007b), own calculations

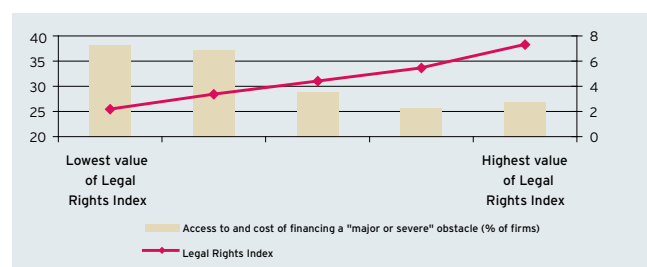


Figure 7 - Percentage of companies reporting that access to credit and cost of financing is a major obstacle to the operation and growth to their businesses versus Legal Rights Index\*

\* Legal Rights Index measures the degree to which collateral and bankruptcy laws protect the rights of borrowers and lenders and thus facilitate lending. It ranges from 0 worst to 10 best.

Source: World Bank (2007a), World Bank (2007b), own calculations

6 Janda (2005) shows that the guarantees and subsidies targeted at high-risk borrowers increase efficiency both in transition and post-transition economies. See also the literature review in this paper.

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to evaluate future social benefits in a better way than the market would be able to do on its own.

The accessible empirical evidence suggests that these assumptions are mostly not fulfilled in reality. Moreover, in countries where market failure in efficient financial intermediation is most likely to occur there is also a very high probability that government intervention will also fail, as both failures are caused by the same factor – lack of appropriate institutions.

Firstly, the control over public funds combined with the power to take discretionary decisions concerning the allocation of these funds create incentives for behaviors which are far from optimal from the social-welfare point of view. Many researchers find that government-owned banks are subject to substantial capture; they are vulnerable to political pressures [Cole (2005), Dinc (2005), Claessens et al. (2006), Kwahja and Mian (2005)]. Secondly, even if we assume that the decisions concerning the refunneling of capital to the particular sectors are taken by bureaucrats on the basis of “social benefit” not “private interest” optimization, there is still a problem of choosing the proper sectors (i.e., with high potential) and units (i.e., units within a particular sector) that are constrained in access to capital. The ability of the governments to choose properly is rather questionable. This is particularly true in the case of policies aimed at supporting the development of the SME sector.

The justification for such policies relies on two assumptions. Firstly, that the SMEs surpass large companies in accelerating economic growth and poverty alleviation. They are on average more productive, more innovative, generate more employment, and enhance competition and entrepreneurship to a greater degree than large firms. Secondly, that SMEs are more financially constrained than large companies. Financial institutions, especially banks, may be reluctant to provide credit to small firms because of more severe informational asymmetry. The restrictions in access to finance may prevent some of these firms from creating new and innovative products which could have an overall positive impact on the economy and social welfare.

The first assumption, widely accepted among politicians and many economists, finds little support in empirical research. For example Biggs et al. (1998) find that in sub-Saharan Africa, large companies were the main drivers of job creation in the manufacturing sector. Beck et al. (2005a) find that the high share of the SME sector in the economy is merely a characteristic of successful economies, not a cause of their success. And Pagano and Schivardi (2001) show that among European countries the larger the average firm size the higher the innovation rate of the economy.

The second assumption finds more support in empirical literature [Beck et al. (2005b), Galindo and Micco (2005)]. However, numer-

ous examples from the experience of developed and developing countries indicate that government loan subsidies or guarantees are not an appropriate tool in overcoming these barriers [see, for example, Benavides and Huidobro (2005) for the evaluation of Credit Guarantee Program in Mexico, Zia (2006) for Export Finance Scheme in Pakistan, and Craig et al. (2007) for U.S. Small Business Administration Guaranteed Lending Programs]. There are, however, some examples which support the notion that government's involvement in providing financial support in particular narrowly defined sectors may be successful and may help in creating a basis for further development of these sectors.

One such example is the long-term strategy of the Korean government aimed at fostering development of the country's IT industry<sup>7</sup>. Since the financial crisis in 1997 not only has the Korean government invested in the IT industry but has also promoted further investment in the industry by granting loans to domestic companies. The government viewed IT as an area of growth that would help the rest of the Korean economy to recover after the severe crisis. The government underscored the importance of a knowledge-based society by producing the program “Cyber Korea 21” in 1999 [MIC (1999)], which accelerated IT development. Since 1998, some 7700 new companies have been started. The government has encouraged Internet ventures by offering tax benefits and low-rate loans. Between 2000 and 2004, the Korean government invested over U.S.\$900 million in broadband infrastructure and loaned almost U.S.\$1,500 million to the private sector for the same purpose. In the late 1990s, the government provided loans at preferential rates to major Internet service providers, including KT and Hanaro Telecom, to install networks in exchange for maintaining a low flat-rate pricing policy. Government actions helped in the development of a strong IT sector in the Korean economy. In 2006, the IT sector accounted for almost 35 percent of total exports and nearly 16 percent of GDP, and became a global IT powerhouse.

Surprisingly, examples of such success stories also come from the U.S., the Mecca of the free market. As shown by the National Research Council (1999), government direct funding was a major driving force behind the R&D progress made in the area of computing research, which has created a big competitive edge for the U.S. economy over the European Union in the last twenty years and has contributed to U.S.-E.U. productivity growth differential [Ark and van Inklaar (2005)]. A quote from NRC (1999): “Federal funding has supported a substantial fraction of all research conducted in computing. In 1950, government funding for research and development dominated the computer world: it exceeded all industrial R&D spending on computing by a factor of three. As late as 1963, government still funded 35 percent of IBM's R&D in computing, 50 percent at Burroughs, and 40 percent at Control Data. But even by the 1960s the distribution was uneven, and several commercial suppliers, notably Honeywell and RCA, financed most of their R&D

7 This case study is based on Kyounglim, Heejin and So-Hye (2005) and Rho (2007).

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internally. Thus, the overall percentage of computer R&D supported by government declined dramatically from the late 1960s, both because of an absolute decline in government support and because of the rapid growth of the industry. In the mid-1970s, federal support represented only about 25 percent of computer R&D, and then shrank to a postwar low of 15 percent in 1979. With new programs and the Reagan administration's defense buildup the level was restored to about 20 percent by 1983."

Federal funds played an even bigger role in supporting graduate students in electrical engineering and computer science. And supporting graduate students may lead to the establishment of SMEs that later become great companies<sup>8</sup>.

The merits of government intervention in sectors which rely heavily on innovative technologies has also been understood in China, such as the biotechnology clusters that operate in Beijing, Shanghai, and Shenzhen. Li&Fung Research Center (2006) identified 20 locations of clusters in China, specializing in various products, ranging from wearing apparel and household electronic appliances to biomedicine and aeronautic engineering in Nanjing, spacecraft, biomedicine and micro-electronics in Shanghai, opto-mechatronics in Dalian, and biotechnology, pharmacy, and medical apparatus in Zhuhai. As documented by Radzikowski and Rybinski (2007), China is accelerating efforts to build world-class research and development, although a lot still remains to be done according to a recent OECD report [OECD (2007)]. The report states that the share of high technology goods in Chinese exports rose from 14% in 2000 to 30% in 2005, but it is concentrated in two sectors that remain in large part under foreign control (especially in the ICT sector) and involve a large high-tech import component. Having said that, we point out that the learning curve of Chinese companies and authorities is very steep. Moreover, the number of students in higher education reached 30 million in China, which is equal to the number of such students in the U.S. and E.U. combined. Fifteen years ago, China had only four million students in this category. We can safely predict that with the recent war for talent in Asia raising economic returns to education the number of students will increase further and China will have increased the number of people in tertiary education tenfold in just 20 years.

What are the differences between the programs mentioned above and the activities of governments in other countries that did not prove to be successful? Their common feature is that they address bottlenecks in access to finance arising from the very high informational asymmetry which characterizes highly innovative sectors. Contrary to the SME-oriented policies which select the objects for support based on the size criterion, the successful government actions have to take into account two observations. Firstly, we live

in a global knowledge economy, which is driven by innovation (technological, business-process, or customer related) and is empowered by a vast ICT network [Friedman (2005)]. The crucial success factor is the company's ability to develop intellectual capital. Only those SMEs which innovate their business processes to be aligned with modern customer needs and supply chains will be able to graduate to large corporation status. This is particularly true for SMEs based in rapidly developing economies. Secondly, investment in innovative sectors carries a significantly higher risk than investing in the other sectors, which in turn may be an obstacle restricting access to capital owned by less specialized<sup>9</sup> private financial intermediaries such as banks or regulated capital markets. This happens in spite of well designed institutions, well functioning creditor protection, well defined and easily available collateral, and excellent debtor information available in databases.

There are at least two ways to solve this market failure. One is to improve the legal and infrastructural framework for the activity of financial intermediaries other than banks and regulated stock markets<sup>10</sup>. Another is direct government involvement in developing the innovative sectors according to a long term strategy. This approach is concentrated on benefiting from spillover effects and attracting foreign capital or direct R&D subsidizing. The experiences of some of the 'Asian tigers' provide a good illustration of the fact that such "borrowing" of technology connected with long-term strategy is an effective way of enhancing the innovative potential of an economy. The second tool – direct financing of R&D spending from public funds – seems to be a less effective solution to observed market failures. The comparison of R&D expenditures (as a percentage of GDP) in different countries points to the fact that it is private, not public, expenditures that dictate the amount of money spent on R&D.

Innovation is necessary for a company and for a country to grow. It could be genuine innovation, typical for a country operating close to the technology frontier, or it could be just replicating more advanced nations, as practiced on a big scale in China. However, great growth comes with great innovations, with Nokia in Finland or Google as best examples. The question is, can a set of conditions be developed which can act as a roadmap for developing great innovations in emerging markets? That is a question for another article.

### Conclusion

The results of empirical research confirm that a well-functioning and developed financial sector fosters economic growth. Additionally, financial deepening has a significantly larger impact on the poorest parts of societies, thus playing a critical role in reducing income inequality and poverty. In many countries, however, the level of financial development is very low due to severe consequences arising from asymmetric information between lenders and borrowers.

8 Google probably serves as the world best example of small company established by graduate students that became a great company. Larry Page and Sergey Brin were graduate students at Stanford University when they started to work together on a search engine BlackRub. It is important to note that Google was founded without government money. At the initial stage the funding of around U.S.\$1 million came from family, friends, and acquaintances. Later, two venture capital firms based in Silicon Valley provided an additional U.S.\$25 million. But one of Google founders, Sergey

Brin is a recipient of National Science Foundation Graduate Fellowship [Google (2007)].

9 Private equity funds and so called "business angels" are highly specialized financial intermediaries in this context.

10 Berger and Udell (2005) stress the importance of different lending technologies (like for example leasing and factoring) in financing SMEs and the role of government policies in shaping the structural framework for these technologies.

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This in turn restricts the amount of capital available to companies, especially small and medium ones. In this paper we have attempted to give some answers to the question of what the government's role should be in overcoming barriers to capital and financing. The empirical research, as well as case studies of successful reforms, indicates that the main role to be played by the government in supporting financial sector development is to ensure macroeconomic stability and provide an appropriate legal and infrastructural framework for its functioning. Winners of such policies are to the largest extent small and medium enterprises. In general, the government should avoid the interventionist approach, such as subsidized loans, government credit guarantees for particular broad sectors of the economy, restrictions imposed on the amount of credit or on the level of interest rates set by private financial institutions, and especially government ownership of financial institutions. Finally, we also argue that in the 21<sup>st</sup> century global-knowledge economy there is a need for a deeper discussion about the efficacy of public support for SMEs and its redirection to narrowly defined, innovative sectors which may create the potential for long-term development and an increase in social welfare. There is both theoretical and empirical justification for such activity, when research enhances the public knowledge pool and markets do not provide incentives strong enough to undertake research. This could be particularly true in the case of countries with less developed financial sectors. However, if government interventions in this area are to be efficient the country has to achieve the proper level of institutional development. Otherwise, the risk of failure will be high. The paradox is that countries which may need the government intervention most are the ones that have the highest risk of failure.

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