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The role of credit guarantee schemes in
promoting SME finance in developing countries

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Abstract

The aim of this thesis was to explore the role of credit guarantee schemes in promoting SME finance in developing countries. Despite of the important role of small and medium-sized enterprises (SMEs) in contributing to the economic development of low-income countries, SMEs face serious access to finance constraints, which impedes their growth potential. Consequently, this situation constitutes a serious obstacle for low-income countries to develop a sustainable path of economic growth. From the perspective of international development cooperation, it is therefore essential to identify ways to help overcome these constraints, which are mainly the presence of asymmetric information in credit markets, the high transaction costs of SME lending, bank's high risk perception of the SME sector as well as SME's lack of collateral. As credit guarantee schemes (CGS) may represent a mechanism to address these deficiencies, this research attempts to explore to what extent credit guarantee schemes can enhance access to finance for SMEs in developing countries as well as how effective credit guarantee schemes are as a financial instrument to promote the SME sectors of developing economies, thereby contributing to sustainable economic growth. By means of a theoretical discussion on CGS, a literature review of empirical studies analyzing the effectiveness of CGS in generating financial and economic additionality and by conducting a case study on a real-world example, namely the Afghan Credit Guarantee Foundation (ACGF), it can generally be concluded that CGS bear enormous potential in enhancing access to finance for SMEs in developing countries and consequently in promoting their respective SME sectors, despite of the commonly low level of financial development of these economies.

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List of Abbreviations

ACGF	Afghan Credit Guarantee Foundation
ACGSF	Agricultural Credit Guarantee Scheme Fund (Nigeria)
AIB	Afghanistan International Bank
CGS	Credit Guarantee Scheme(s)
CSBF	Canada Small Business Financing Program
EDFI	European Development Finance Institution
FI	Financial Institution
FMFB	First MicroFinance Bank - Afghanistan
FOGAPE	Fondo de Garantía para Pequeños Empresarios
GDP	Gross Domestic Product
G20	Group of Twenty
IFC	International Finance Corporation
IMF	International Monetary Fund
KOTEC	Korea Technology Finance Corporation
MGA	Mutual Guarantee Association
MSME	Micro, Small and Medium-sized Enterprises
NATO	North Atlantic Treaty Organization
NGF	National Guarantee Fund of Colombia
OECD	Organization for Economic Co-operation and Development
PFI	Partner Financial Institution
SBA program	Small Business Administration program
SCG program	Special Credit Guarantee Program for Financial Stability
SCSA	Subsidiary of ACGF (SME Client Support Afghanistan LLC)
SFLG scheme	Small Firms Loan Guarantee Scheme
SME	Small and Medium-Sized Enterprises
SOFARIS	French Loan Guarantee Program
TA	Technical Assistance
TCGC	Thai Credit Guarantee Corporate
USD	U.S. Dollar

1. Introduction

”Nine out of ten new jobs worldwide are created by small businesses, and we need nearly 3,3 million jobs every month in emerging markets by 2030 to absorb the growing workforce. Lack of access to finance is one of the biggest hurdles small businesses face that prevent them from growing and creating jobs” (IFC 2017, p.VII)

- Philippe Le Houérou, CEO of the International Finance Corporation

In line with Le Houérou’s statement, there is a broad agreement in the literature on the important role of (M)SMEs in contributing to job creation, poverty reduction and economic growth. Nevertheless, SMEs in developing countries commonly struggle much more than large enterprises to obtain formal credit, which impedes their ability to develop and live up to their potential. Consequently, this situation constitutes a serious obstacle for low-income countries to develop a sustainable path of economic growth, which raises serious concerns with regards to future outlooks of such regions. As explored in section 2.4 of this thesis, the main causes for SME’s lack of access to external finance are the presence of asymmetric information in credit markets, bank’s high perceived risk of serving the SME sector, high transaction costs of small-scale lending as well as SME’s lack of sufficient collateral. Since SMEs struggle more than larger firms to obtain external finance and the fact that they most often encounter worse lending conditions inevitably causes them to operate at a competitive disadvantage, which will hamper their firm growth in the long-term due to various effects such as a lack of investments or lower productivity rates (Green 2003, p.V).

Several policies and instruments have been developed to tackle this issue and to help overcome SME’s lack of access to finance, including credit guarantee schemes (CGS). Even though CGS have been existing for more than a century, they only became popular on a global scale during the 1990s, which marked a time when various types of risk-sharing facilities emerged around the world. Today, there is a great variety of CGS, and they are present in nearly all countries (Abraham and Schmukler 2017b, p.1). Especially in the context of international development cooperation, CGS have gained considerable momentum over the last three decades, which gives rise to the following research questions of this thesis:

1. To what extent can credit guarantee schemes enhance access to finance for SMEs in developing countries?

2. How effective are credit guarantee schemes as a financial instrument to promote the SME sectors of developing economies, thereby contributing to sustainable economic growth?

The corresponding hypothesis has been developed as follows: Credit guarantee schemes can be an effective financial instrument to enhance access to finance for SMEs and thereby to promote SME sectors of developing economies, despite of the presence of low levels of financial sector development.

Accordingly, this thesis aims to explore the role and effectiveness of CGS in enhancing SME's access to finance. Additionally, this research will explore whether the expected improved access to finance will effectively promote SME sectors of developing economies through the generation of economic additionality. To do so, this thesis is structured as follows. Section 2 provides highly relevant context on the issue, including the importance of financial inclusion for economic development, the role of SMEs in developing economies, the status quo of SME finance in those regions, causes for SME's lack of access to finance and policy solutions other than CGS to overcome these credit-constraints. Next, section 3 explores the role of CGS in improving access to finance for SMEs and includes a literature review of empirical studies that have analyzed the effectiveness of such schemes, also with regards to the generation of economic additionality. Additionally, the next chapter presents a case study of a credit guarantee scheme in Afghanistan, namely the Afghan Credit Guarantee Foundation (ACGF). The case study approach was selected to test the theoretical benefits and downsides of such schemes by investigating a real-world example. Moreover, the case study approach was chosen to shed more light on an apparent contradiction. It has been argued that the likeliness of a CGS being successful in promoting financial inclusion is the lowest in countries where the need for it is the greatest (Bennett, Billington and Doran 2005, p.26). However, this stands in contrast to the wide-spread use of CGS as development tool in low-income countries with weak financial infrastructures to address not only entrepreneur's lack of access to finance, but also to stimulate financial sector changes and promote SME development. Therefore, the author chose to analyze the effectiveness of a CGS in a country, namely Afghanistan, which is characterized by a low level of financial development, by means of a case study.

2. Status quo of SME finance in developing countries

In this section the status quo of SME finance in developing countries will be explored. First, the relationship between financial inclusion and economic development will be briefly addressed. Then, an evaluation of the role of the SME sector in developing economies will follow and the global MSME finance gap will be quantified. Finally, the section concludes with the reasons for the lack of access to finance for SMEs in developing countries and an overview of financial instruments and policies that tackle the constraints to access to finance for SMEs.

2.1. The importance of financial inclusion for economic development

To begin with, financial systems are complex and very different to one another, but they can be benchmarked by examining the four common characteristics: financial depth, efficiency, stability and access (World Bank 2012, p.15; for further details see Table 1). While all these dimensions of financial systems matter for economic development, access to finance is the critical component within the framework of this paper. In general, it is widely recognized that improving access to finance can help to alleviate poverty and income inequality (Aghion and Bolton 1997; Beck, Demirguc-Kunt and Levine 2007; Makina and Walle 2019; World Bank 2014). In this context, it is crucial to differentiate between financial inclusion and access to finance. While the former refers to a broader measurement category of financial development, the latter solely describes the accessibility of financial services (World Bank 2014, p.2). To clarify, according to the G20 Financial Inclusion Indicators, financial inclusion can be assessed based on the accessibility to financial services, the usage of financial services and lastly, the quality of those services (Makina and Walle 2019, p.195). Undoubtedly, having access to financial services and products does not necessarily mean that it will be exploited by, for instance, firms as they may face other problems such as unreasonable costs of accessing those services or an adverse business or legal environment. Therefore, the central question is the extent to which an insufficient level of financial inclusion derives from a shortage of demand for finance or from other obstacles that hamper access to financial services (World Bank 2014, p.2).

On the international stage, financial inclusion has gained considerable momentum and interest over the last two decades, which indicates a wider acceptance of the vital role financial inclusion plays for sustainable social and economic progress (World Bank 2014, p.1). However, the literature on the link between financial inclusion and economic growth

has produced mixed results and is far from conclusive. Nevertheless, most empirical studies have substantiated the notion that more inclusive financial systems have a positive effect on economic growth (Bakar and Sulong 2018, pp. 1-2). Despite of the ambiguity in the literature and a certain shortfall in hard macroeconomic evidence on the role of financial inclusion in economic development, the overwhelming majority of studies confirm that promoting financial sector development and enhancing access to finance most likely boosts economic growth and leads to a decrease of income inequality and poverty levels (World Bank 2012, p.26). In fact, there is extensive proof of the positive contribution of improved access to credit, one essential measure of financial inclusion and access to finance, on reduced poverty levels and the promotion of entrepreneurial activity as well as firm growth. Moreover, many studies have shown that lack of access to credit represents a major constraint to doing business and this is particularly true for young firms and SMEs (World Bank 2014, p.43). While bearing this in mind, let us now briefly examine why the SME sectors of developing economies play such a crucial role in economic development.

2.2 The importance of the SME sector for developing economies

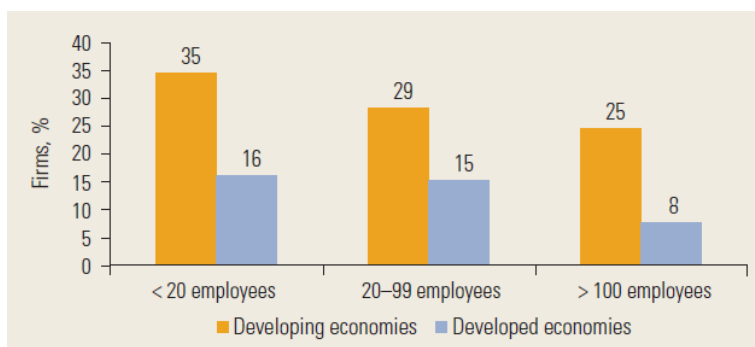
First, it is necessary to define SMEs. “Small and mid-size enterprises (SMEs) are businesses that maintain revenues, assets or a number of employees below a certain threshold” (Liberto 2019). The criteria for categorizing enterprises as micro, small or medium-sized differ among countries, but the size of the staff is generally recognized as the decisive dimension (Keskin et al. 2010, p.2). Considering that around ninety percent of all companies worldwide are SMEs and that they make up more than fifty percent of global employment, it can be stated that the SME sector plays a pivotal role in most economies (World Bank n.d.). This is especially true for developing countries, where the SME sectors tend to account for a higher employment share than in high-income countries (World Bank 2014, p.116). Furthermore, more than 40 percent of national income generated (GDP) can be attributed to the formal SME sector in emerging economies. When taking the informal SME sector into account, the contribution of SMEs even becomes significantly greater, when considering that around 80 percent of microenterprises and SMEs are informal on a global scale (World Bank n.d.; World Bank 2014, p.107). Given that today SMEs generate nine of out ten new jobs worldwide, they can rightly be described as drivers of job creation and economic development (IFC 2017, p.VII). In other words, their mere existence and the recognition that SMEs represent the

arising private sector in low-income countries, thereby constituting the foundation for private sector-led economic growth, suffices in order to justify the promotion of SMEs (Hallberg 2000, p.5). However, the crucial role of SMEs in contributing to sustainable and inclusive economic development is impeded by their lack of access to finance, which constitutes a major limitation to the growth of SMEs in developing countries (World Bank 2014, p.116). Therefore, let us now examine the global extent to which SMEs are lacking adequate access to finance to determine the status quo of SME finance in developing countries.

2.3 The MSME finance gap

To begin with, in line with the focus of this paper, the following discussion will concentrate on SMEs' access to credit. Also, private equity financing or stock markets may provide alternative sources of finance for SMEs, however, they both require a sound regulatory environment with solid enforcement mechanisms and do not represent a universal finance solution for a wide variety of SMEs in developing countries (World Bank 2014, pp.129-32). As already indicated, SMEs generally lack access to credit as compared to large firms. Kuntchev et al. (2013) have confirmed this state of affairs by analyzing the link between the firm size and their access to credit based on data compiled by the World Bank enterprise survey that covers 116 countries of the developing world between 2005 and 2013. Another analysis of data compiled through the enterprise survey covering 137 countries between 2005 and 2011 found that firms in developing countries are more credit-constrained than elsewhere (World Bank 2014, p.14). Consequently, it is unsurprising that the enterprise survey found that 35 percent of SMEs operating in developing economies consider access to finance as a key barrier to doing business, in contrast to one quarter of large firms in developing countries and only 8 % of large enterprises in the developed world (World Bank 2014, p.27).

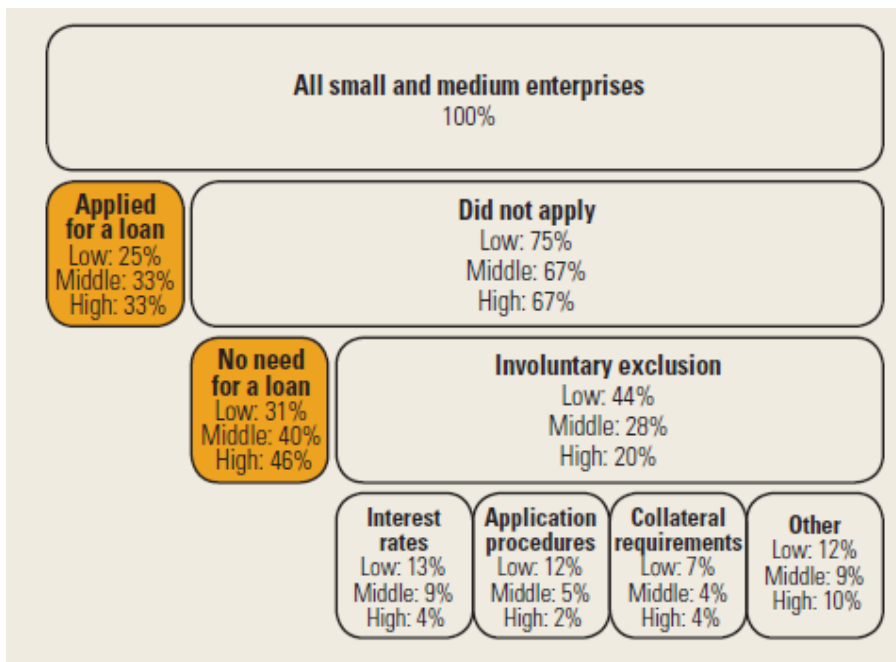
Figure 1: Finance as a constraint among firms



Source:
World Bank 2014, p.27

In fact, Ayyagari, Demirgüç-Kunt, and Maksimovic (2008) have found that finance access constraints represent the most significant barrier to the growth of SMEs. In the same vein, Beck, Demirgüç-Kunt, and Maksimovic (2005) have provided evidence using firm-level survey data that supports the notion of finance constraints having a significant effect on SME growth and that this adverse effect was particularly pronounced for the smallest enterprises. Apart from the cross-country evidence, several within-country studies such as Zia (2008) as well as Banerjee and Duflo (2012) have revealed that SMEs are more credit-constrained than large firms and that enhancing access to credit can contribute to the growth of firms' sales and profits. Nevertheless, one should differentiate between those firms that were involuntarily excluded from accessing credit and those SMEs that have not obtained a loan, because they did not need one. Based on data from the enterprise survey, the World Bank (2014, p.117) found that 44 percent of SMEs in low-income countries and only 20 percent of SMEs in high-income countries were involuntarily excluded from accessing credit; as it can be observed in the figure below.

Figure 2: Voluntary vs. involuntary exclusion of SMEs from accessing credit



Source: World Bank 2014, p.117

In other words, involuntary exclusion from credit mainly constitutes a problem for SMEs in developing economies. However, before exploring the reasons for this situation, let us briefly take a closer look at what this structural lack of access to finance means for SMEs on a global scale.

Acknowledging the need to determine the size of the MSME finance gap to address the issue, IFC together with McKinsey published a study that presented a first estimation. According to the estimate of Stein, Goland and Schiff (2010, pp.1-3), the total unmet demand for credit among all informal and formal MSMEs in emerging and developing economies reached between \$2.1 trillion to \$2.5 trillion in 2010. In addition, the authors found that merely 15 percent of MSMEs in those economies can meet their financing needs without being partially or fully credit-constrained. To put the overall estimated MSME finance gap in emerging and developing countries into perspective, it was roughly equal to around 14 percent of the GDP aggregate of the studied countries and amounted to nearly 33 percent of total outstanding loans to MSMEs in these regions (Stein, Goland and Schiff 2010, pp. 1-3). (Also see figures no. 3-6 in appendix)

Anyhow, the results of the above presented study were contested due to its underlying assumptions and methodological concerns, such that IFC reviewed the estimate of the MSME finance gap in the developing world by determining the difference between the current supply of credit to MSMEs and the estimated potential demand for it (IFC 2017, p. IX). As defined by the study, the concept of potential demand refers to the volume of credit that MSMEs would obtain, as well as finance institutions would be willing to provide in case both players were to be surrounded by enhanced macroeconomic conditions with a more favorable regulatory and institutional environment (IFC 2017, p.8). Based on extensive data analysis, the study estimated the potential formal demand for MSME finance in 128 emerging and developing economies to amount to around US\$ 8.9 trillion, which stands in contrast to an estimated credit supply of US\$ 3,7 trillion, thereby constituting a formal MSME finance gap of approximately US\$ 5,2 trillion annually (IFC 2017, p.IX). As a result, the study found that around 65 million formal MSMEs in developing countries do not have or are limited in their access to finance, which equals 40 percent of the number of formal MSMEs in the sample (IFC 2017, p.X). The size of the formal MSME finance gap is put into perspective when considering that it is equal to 19 percent of total GDP of the countries covered in the assessment and that it means that roughly 59 percent of potential formal demand for MSME finance remains unmet (IFC 2017, p.28). Furthermore, the study valued the potential demand for finance from informal MSMEs in developing countries at US\$2.9 trillion (IFC 2017, p.IX-X). The low usage of credit by informal SMEs in developing countries has also been confirmed by Farazi (2013, p.11) who found that only 11 percent claimed to have a loan

in the World Bank informal enterprise survey. Another valuable insight of the IFC study is that microenterprises are more likely to be credit-constrained than SMEs, while SMEs make up the majority of the unmet potential demand for credit in developing countries, indicating that SMEs generally have higher external financing needs than microenterprises (IFC 2017, p.33).

To sum up, the review of the IFC assessment of the MSME finance gap has resulted in a much higher estimate (US\$ 5,2 trillion in 2017 as compared to \$2.5 trillion in 2010), which according to the authors is mainly due to methodological changes and shall not be understood as a factual increase of the finance gap. In any case, the (M)SME finance gap is substantial across the developing world and must be addressed such that small businesses can reach their full potential, grow, and create jobs. Considering that the IFC (IFC 2017, p.VII) estimates that around 3,3 million new jobs will have to be created on a monthly basis in emerging and developing economies by 2030 to absorb the effects of a growing labor force, the importance of enhancing access to finance for SMEs in developing countries cannot be stressed enough. Therefore, let us now examine why SMEs are struggling with a systemic lack of access to finance.

2.4 Reasons for the lack of access to finance for SMEs in developing countries

First, the limited access to finance of SMEs in developing countries can mainly be explained by supply-side factors, however some issues remain demand driven. If SMEs with lucrative business models are not able to obtain enough external finance for their needs, then a problem arises from the supply-side. On the other hand, when SMEs, who would like to obtain a loan, are not able to do so because banks deem them to not be creditworthy and would expect losses in the case of loan approval, then the problem can be attributed to the demand-side (Abraham and Schmukler 2017a, p.1). Nevertheless, the supply and demand-side factors that limit access to finance for SMEs are closely inter-related such that we will focus on the conceptual problems that give rise to the global MSME finance gap.

Information asymmetries in financial markets: Moral hazard and adverse selection

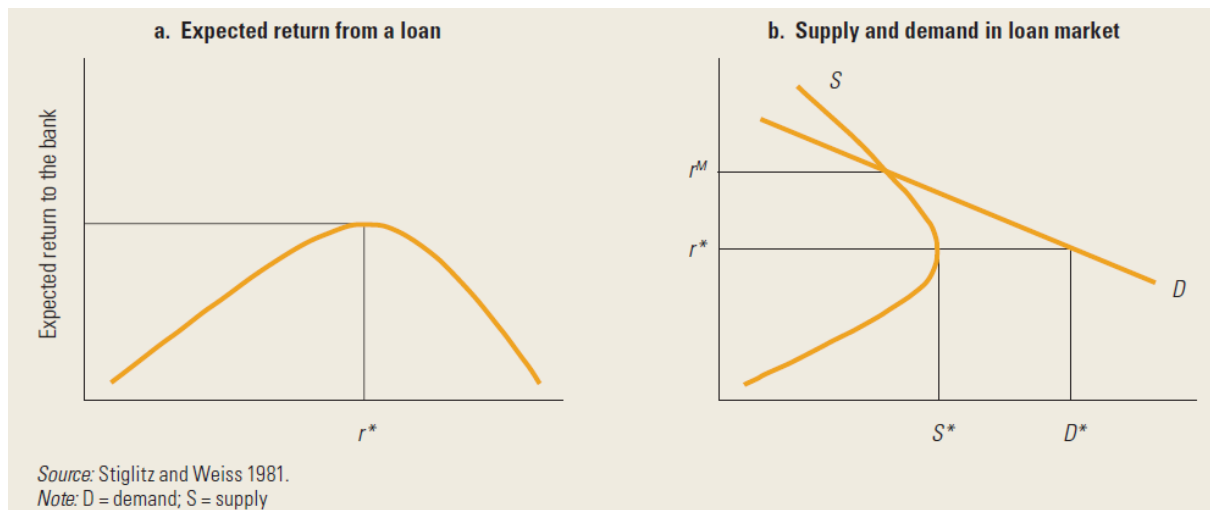
To begin with, credit and insurance markets behave inherently different to other markets, because they are affected by substantial principal agent problems, which are namely adverse selection and moral hazard. As demonstrated by Stiglitz and Weiss (1981), information asymmetries can cause the rationing of credit and thereby lead to an excess demand for credit even when the market is in equilibrium.

To clarify, moral hazard refers to the incapacity of lenders to control contract enforcement after loan disbursement and the borrower's potential incentive to use the loan for other purposes than agreed upon with the lender (World Bank 2014, p.17). Next, adverse selection is related to the lenders' challenge of identifying and distinguishing viable from riskier borrowers due to a lack of information on the individuals' or firms' operations and also refers to the circumstance that riskier borrowers with less commitment to repay are more likely to apply for a loan (World Bank 2014, p.17). Moreover, the fact that changing the interest rate does not only affect demand for credit, but also the quality and risk profile of lenders' customer portfolio helps to explain why some banks will deny the supply of credit to some borrowers (OECD 2010, p.4).

Also, increasing the interest rate has a disproportionate effect on the profitability of low risk borrowers, which as a result do not continue to seek external finance leading to a riskier pool of borrowers (adverse selection) for lenders. In addition, higher interest rates have an adverse impact on the borrowers' incentives in using the funds (moral hazard),

such that both effects cause the expected rate of return of a credit to not increase as promptly as the interest rate and, past a certain point, it can even fall. Therefore, banks are unwilling to serve the demand for credit beyond a certain interest rate threshold to preserve the quality of the borrower pool. As it can be observed in the figure below, the curve of credit supply 'S' will be backward bending at rates above the bank's optimal rate, r^* (World Bank 2014, p.17).

Figure 7: Financial exclusion in market equilibrium



Source: World Bank (2014, p.17)

Put differently, banks choose not to serve the excess demand for credit because they do not view it as profitable beyond a certain threshold such that some involuntary financial exclusion will remain at market equilibrium. Following the argumentation of Stiglitz and Weiss (1981), lenders' denial of access to finance beyond a certain interest rate threshold persists, even if borrowers are willing to pay a higher interest rate. Consequently, this leads to credit rationing and the interest rate becomes useless as a screening technology to differentiate between good and bad risks. Finally, while all firms are affected by imperfect information in credit markets, Ayyagari, Demirgüç-Kunt and Maksimovic (2017, p.14) have pointed out that SMEs are struggling more with information asymmetries such as moral hazard and adverse selection than large firms.

High transaction costs of SME lending

Another major problem that limits access to credit for SMEs are the high transaction costs of SME lending as compared to lending to large firms. In this context, transaction costs are defined as the costs that incur because of banks' lending activities (De La Torre, Gozzi and Schmukler 2017a, p.45). Considering that most transaction costs of administering and enforcing loan contracts are fixed and independent from the loan amount, banks' per

unit costs of supplying credit to SMEs are higher and as a consequence for banks small-scale lending appears to be less profitable than serving large firms. Various reasons can explain why small-scale lending tends to also involve higher total costs than serving large firms. To name a few, a lot of banks in developing countries simply lack experience in terms of SME lending, many SMEs in developing countries are not located in urban areas with a broad range of financial services and they often lack adequate documentation and accounting standards such that banks often have to gather information on their clients through personal contacts (Green 2003, p.10). Such a strategy is defined as relationship lending; however, it is very time-consuming and costly as compared to the more automated lending processes between corporations and banks (Abraham and Schmukler 2017a, p.1). As pointed out by Ayyagari, Demirgüç-Kunt and Maksimovic (2017, p.11), the greater costs and risks of SME lending often, and especially in developing countries, translate into higher fees and interest rates for SMEs as compared to larger companies, which in turn may lead to the financial exclusion of SMEs with viable investment opportunities due to the fact that they are not able to generate sufficient returns to cover the upwards-adjusted lending rate. Tackling the resulting issue of limited access to finance for SMEs would therefore necessitate finding ways to reduce the relatively higher transaction costs of serving them (De La Torre, Gozzi and Schmukler 2017, p.46).

Bank's high-risk perception of the SME sector

Due to the nature of SMEs, which are mainly characterized by their small size, banks generally have a high-risk perception of serving them. First, due to their size, SMEs are more exposed to market volatilities such that they are more likely to unexpectedly go bankrupt than larger firms. Second, SMEs tend to be rather young and therefore many of them are unable to provide credit histories and to prove that they have made profitable investments in the past, which is often mandated by financial regulations. Third, SMEs often lack adequate documentation of their operations, also due to financial illiteracy, which impedes banks' ability to assess the creditworthiness of loan applicants. Fourth, the activities of SMEs are relatively labor-intensive compared to large firms, which indicates an elevated debt-to-asset ratio from the perspective of banks in case of loan approval. As a result, banks perceive themselves to be more exposed due to the vulnerabilities of SMEs and combined with the inability of many SMEs to provide adequate collateral, banks' willingness to provide the needed loan amount to individual SMEs is further restricted (Green 2003, p.12). As pointed out by Green (2003, p.12), the

high risk-perception of serving SMEs by the financial sector is exacerbated in the context of developing and emerging economies. This is unsurprising as financial literacy, accounting standards as well as management practices are generally less developed in those regions compared to industrialized economies. Moreover, the IFC Enterprise Finance Gap Database has estimated that around 80 % of all global MSMEs operate in the informal sector (World Bank 2014, p. 107). Considering that informality rates are significantly higher in developing economies, it becomes self-evident that banks tend to have an even higher risk perception of serving SMEs in less developed economies such that access to finance for those firms is seriously hampered.

The lack of collateral and inadequate legal frameworks

As pointed out by Green (2003, p.12), asymmetric information causes financial institutions to condition their lending decisions on the collateral that a borrower can provide. Since the pledged collateral provides a security for banks in case of default, it acts as a 'screening device' and helps to contain the risk for the lender. At the same time, most SMEs are characterized by labor-intensive operations with limited, low-value movable assets to be able to fulfill the collateral requirements of banks. As a result, even promising and viable businesses are excluded from acquiring credit (OECD 2010, p.4). A further aggravating factor in the context of developing countries is that legal frameworks are often inadequately designed to effectively protect property and creditor rights such that debt enforcement becomes difficult for financial institutions. For this reason, banks in developing countries are often hesitant to accept movable property as collateral, which makes up around 78 % of the capital stock of SMEs in developing countries (Ayyagari, Demirgüç-Kunt and Maksimovic 2017, p.15). In fact, a study by Liberti and Mian (2010) found that the extent of the use of movable collateral and the required value of any pledged collateral for a loan hinge on the level of financial development of the respective economy. Put differently, SMEs are rarely allowed to pledge movable collateral in financially less developed regions and the relative value of the posted collateral is, on average, much higher than in industrial countries, such that many SMEs are involuntarily excluded from access to external finance.

Other factors: Macroeconomic environment, degree of competition in the financial sector and financial regulation

The variation in terms of access to finance for SMEs among countries can also be influenced by other factors, which include the macroeconomic environment, the degree of competition in the financial sector and the requirements stipulated by financial regulations (World Bank 2014, p.118). For instance, governments may borrow more than usually during recessions, thereby possibly limiting the extent to which credit is supplied to SMEs by banks. Furthermore, financial regulations may result in complex application requirements for loans, which many young or informal SMEs are unlikely to fulfill (Abraham and Schmukler 2017a, pp.1-2). Last but not least, the overwhelming majority of studies confirm that a high degree of competition in the banking sector, which may be the result of financial deregulation, helps to more effectively allocate capital to viable businesses and facilitates the supply of credit on better terms for SMEs (Ayyagari, Demirgüç-Kunt and Maksimovic 2017, pp.17-18).

To sum up, there are multiple causes for the lack of access to credit among SMEs in developing economies. As a vast amount of evidence suggests that lifting such credit constraints can promote SME development, let us now briefly examine what can be done to overcome these constraints, before we turn to the role of credit guarantee schemes in enhancing access to finance (World Bank 2014, p.118).

2.5 Policy solutions to expand SME lending

From a policy perspective, there are several market-based approaches to develop the financial system such that information asymmetries can be alleviated and access to finance constraints can be overcome. To begin with, reforming collateral laws can help to overcome the heavy reliance of banks on fixed assets as collateral and thereby pave the way for firms to better utilize their movable assets to access credit (World Bank 2014, p.123). As shown by a paper that examined firm-level survey data from 73 countries, establishing centralized collateral registries, which enable banks to identify already existing securities and to claim security interests over assets posted as collateral, contributes to an enhanced access to external finance for firms, particularly for SMEs (Love, Martínez Pería and Singh 2013).

Moreover, improving a country's credit information sharing systems can help to overcome information asymmetries and to strengthen competition in the financial sector as banks lose their access to exclusive credit information. This is done by facilitating the exchange of information among banks on the creditworthiness of firms through the establishment of credit bureaus or credit registries (Abraham and Schmukler 2017a, p.3). Generally, both entities keep records on the borrowing and repayment activities of firms and banks can use this information in order to more effectively evaluate the creditworthiness of aspiring borrowers and counteract the effects of adverse selection (World Bank 2014, p.125). Several cross-country studies have confirmed that introducing credit bureaus and registries can contribute to better access to finance at lower cost for firms as a result of the availability of more extensive and reliable credit information (Djankov, McLiesh and Shleifer 2007; Love, Martínez Pería and Singh 2013; Love and Mylenko 2003). As shown by an investigation of firm-level data by Brown, Jappelli and Pagano (2009), this correlation between improved information sharing and enhanced access to finance is more significant in countries with weak legal frameworks. In fact, Galindo and Micco (2010) assert in their study that SMEs benefit disproportionately from enhanced information sharing mechanisms such that the financing gap between large enterprises and SMEs gradually falls as a result. Another way of improving the quality and reliability of credit information on SMEs is to provide management consulting services to them with the aim to advance their skills in developing adequate financial statements and documentation of their operations, which constitutes the main source of information for banks (Bloom et al. 2013).

On top of that, governments can reduce uncertainty in credit markets and consequentially enhance access to finance for SMEs by developing an insolvency framework, which effectively protects creditor's rights, especially with regards to market exits and debt resolution. Indeed, many developing countries lack adequate legal frameworks such that banks struggle to serve SMEs properly (World Bank 2014, p.125). Furthermore, governments have the possibility to engage in direct state interventions to enhance access to finance for SMEs, which include subsidies, directed credit or state-owned bank lending. Nevertheless, state-owned bank lending and other governmental interventions in the credit market have largely proven to be ineffective in improving the access to and allocation of credit as these measures are often governed by political interests, they led to distortions in the credit market and only tackled the symptoms of a deficient financial system, but not the causes (World Bank 2014, p.121). In any case, public institutions may be able to provide meaningful contributions to improved access to finance by implementing capacity-building and technical assistance (TA) programs targeting at SMEs and lending departments of banks (Ayyagari, Demirgüç-Kunt and Maksimovic 2017, p.32).

In addition, there are alternative financing instruments such as factoring and leasing, which constitute two forms of asset-based lending. In this context, a business gets a loan, which is contingent on the value that an asset, which serves as collateral, creates over its lifetime. Nonetheless, the effectiveness of asset-based lending mechanisms hinges on a supportive regulatory framework, which is not the case in most parts of the developing world (Ayyagari, Demirgüç-Kunt and Maksimovic 2017, p.36). Finally, it is important to point out that investments in private equity of SMEs represent a further alternative source of external finance. However, these investments normally require strong legislative frameworks with regards to contract enforcement, which is not a given in most developing countries (World Bank 2014, pp.129-30). Attempts have also been made to establish SME stock exchanges in developing economies, however in most cases these initiatives didn't bring about impressive results and showed low SME participation as most of these countries are missing the required financial infrastructure, demand, scale and level of institutional commitment to set up such markets (Ayyagari, Demirgüç-Kunt and Maksimovic 2017, pp.36-37).

All in all, governments have a variety of ways to improve framework conditions for SME lending. As stated by Hallberg (2000, p.12), a market-oriented strategy for enhancing SMEs' access to finance would seek to "increase the number of institutions that find lending to SMEs to be profitable, and therefore sustainable". Considering that well-designed credit guarantee schemes may tackle the core problems that constrain SMEs in their access to credit and that they may induce behavioral change among financial institutions, the next chapter will discuss the role of such risk-sharing facilities in enhancing access to finance for SMEs in developing countries.

3. Discussion on the role of CGS in improving access to finance for SMEs

To begin with, credit guarantee schemes have been existing for a long time already considering that the first programs were developed in France and Belgium during the 1840s (Tunahan and Dizkirici 2012, p.79). Nevertheless, CGS only became popular on a global scale during the 1990s, which marked a time when different types of risk-sharing facilities emerged all over the world. Today, there is a great variety of CGS, and they are present in nearly all countries (Abraham and Schmukler 2017b, p.1). In fact, governments' efforts to stimulate private lending to SMEs who were credit-constrained following the 2008-09 financial crisis led to a significant rise of public CGS around the world (De La Torre, Gozzi and Schmukler 2017, p.196). Additionally, risk-sharing facilities are also established in developing countries by multilateral organizations such as the IMF or the World Bank. The primary aim of these programs is to boost private lending to the SME sector by assuming part of the credit risk that banks and comparable financial institutions face as creditors (Beck, Klapper and Mendoza 2008, p.2).

3.1 The credit guarantee mechanism

In a nutshell, CGS represent a mechanism to transfer and diversify risk (Beck, Klapper and Mendoza 2008, p.2). This raises the question of how credit guarantee schemes work. Specifically, the guarantor assumes part (or all) of the lender's credit risk by covering a certain percentage of the loan amount. In case of borrower default, the guarantor pledges to reimburse that share of the loan loss to the lender. As a result, the lender faces a lower expected credit loss when approving the loan and this is true even when the borrower's likeliness to default has not changed. Thereby, the loan guarantee functions like an insurance against loan default from the perspective of banks. For the provision of such credit guarantees, the lender pays a certain fee to the guarantor. As a result of the reduced risk exposure, banks are then able to provide loans with lower collateral requirements and more likely to offer loans at better lending conditions such as longer maturities, higher loan amounts and lower interest rates (De La Torre, Gozzi and Schmukler 2017, p.197). For an illustration of the effects of CGS, please refer to figure 8 in the appendix. One central mechanism of CGS, which highlights their usefulness, is leverage. In this context, leverage is defined as the ratio of a scheme's total outstanding guarantee commitments to its fund size. Assuming that not all guaranteed loans will default and that in most cases guarantees only partially cover loans, CGS can facilitate a far greater amount of credit disbursement than the actual equity endowment of the fund (Green 2003, p.49).

3.2 Theoretical justifications for the use of credit guarantee schemes

3.2.1 Reasons for their emergence in the private sector

Before we examine the multidimensional objectives of CGS, it is necessary to establish the theoretical reasons that justify their emergence in the private sector without governmental involvement. According to Honohan (2010, p.2), there are three explanations for their emergence in private financial markets. First, institutions that issue credit guarantees may have an informational and/or contract enforcement advantage over banks, which helps them to better address principal-agent problems and more accurately assess the creditworthiness of a borrower. An example of this are mutual guarantee associations (MGA), where participating firms deposit capital in a joint fund, which is used to guarantee for loans from banks to their members. The fact these firms have better insights about the creditworthiness of other members of the MGA than lenders and the joint liability structure of such MGAs both help to mitigate asymmetric information and moral hazard problems (De La Torre, Gozzi and Schmukler 2017, pp.197-98). Second, guaranteeing institutions may have better possibilities in diversifying credit risk than banks. This may be the case when a bank's operations are limited to a certain geographic area or targeted at a homogenous group of borrowers, while the guarantor can more easily spread its risk exposure by maintaining a diversified portfolio, which includes guarantees for various banks in different regions with distinct types of borrowers. Third, CGS may be justified on the grounds of regulatory arbitrage. This might be the case when the guarantor does not have to comply with the same regulatory requirements as the lender and can therefore guarantee for a loan, which in the absence of such guarantee would not have been sufficiently secured in order to meet legal provisions (Honohan 2010, p.2).

3.2.2 The case for government intervention

Nevertheless, it is inevitable to point out that not one of the above-mentioned reasons for the private emergence of CGS make the case for state interventions in the credit market by means of public CGS (Beck, Klapper and Mendoza 2008, p.2). Among other things, one reason for this is that public CGS certainly do not always have an informational advantage over lenders with respect to the borrower's creditworthiness, which implies that they do not lead to an immediate reduction of information asymmetries (De La Torre, Gozzi and Schmukler 2017, p.198). Still, governments are engaged in many CGS around the world, either directly by running a public CGS or by fostering private schemes through

funding or the provision of further reinsurance instruments such as counter-guarantees (De La Torre, Gozzi and Schmukler 2017, p.216).¹ This may be justified on the basis of governments possibly having an "advantage in addressing market failures in the presence of deep collective action problems (uninternalized externalities, coordination failures, or free rider problems) or risk-spreading limitations, which tend to be prevalent in underdeveloped financial markets" (De La Torre, Gozzi and Schmukler 2017, p.254). Therefore, public subsidies for CGS, particularly if they are higher than the costs involved, are based on distributional arguments or externalities that arise as a result of the enhanced economic performance of beneficiary firms (Beck, Klapper and Mendoza (2008, p.5). After having explored the justification for state interventions in credit markets via CGS, the next section will present the multidimensional objectives of such risk-sharing facilities, which will further substantiate the rationale for their use.

¹ Counterguarantors take over part of the credit risk that the guarantor is exposed to, thereby offering a reinsurance mechanism. (De La Torre, Gozzi and Schmukler 2017, p.216)

3.3 Multidimensional objectives of credit guarantee schemes

To begin with, the variety of CGS in the world also brings about a broad range of objectives to be achieved by them. In any case, this section will not present a typology of CGS or provide an in-depth analysis of specific design features or best practices of such schemes, but rather examine the generic rationale for their use.

3.3.1 Financial additionality

In general, guarantee schemes targeting SMEs are implemented with the objective to enhance their access to credit, and if successful, this will lead to financial additionality. If a CGS leads to an increase of outstanding bank loans to SMEs, which did not obtain credit before due to the causes described in section 2.4, then financial additionality has been achieved. Further forms of financial additionality that successful CGS can bring about include better loan conditions for SMEs such as lower interest rates, longer maturities, or higher loan amounts (Green 2003, p.16-17). In such a best-case scenario, CGS effectively improve the level of financial inclusion for SMEs, as defined in section 2.1, by enhancing SME's access to credit, improving the quality of loan conditions as well as the usage of credit by SMEs.

3.3.2 Economic additionality

One more key objective of CGS is to achieve economic additionality, which refers to the attainment of an improved economic performance of the borrowing firms that have benefited from guaranteed loans. This may be reflected, among other indicators, in terms of a surge in investment, productivity, sales, employment or innovation (Green 2003, p.17). Another central, but complex issue in this context is whether the stronger economic performance of these firms will then translate into positive spillovers and higher economic growth at a national level (De La Torre, Gozzi, Schmukler 2017, p.202). If this is the case remains undecided at this point of the paper, however it is undoubtedly true that CGS are also implemented to pursue social and macroeconomic policy goals. These goals include to contribute to the proactive retention and creation of jobs, to strengthen social cohesion by supporting marginalized people and reducing poverty overall as well as to decrease unemployment and accelerate economic growth (Samujh, Twiname and Reutemann 2012, p.25). As highlighted by Green (2003, p.16), CGS in emerging and developing economies are often implemented as development tools and not primarily used to correct imperfections in the credit market as it is usually the case in advanced

economies. Many of the guarantee providers also offer management training and consulting services, so-called TA, to SMEs obtaining guaranteed loans to reinforce the positive economic impact of additional external finance on firm's operations (OECD 2010, p.7).

3.3.3 Financial sector changes

Furthermore, CGS will have to induce changes in the structure, perceptions, and behavior of banks to generate additionality. To begin with, guarantees can help to change lender's high-risk perception of the SME sector through a learning process by facilitating banks to find out about the initial creditworthiness of borrowing firms while facing a lower risk exposure. In the case an approval of a guaranteed loan, firms are then able to develop a credit history, which may reduce collateral requirements for further loans and over time enable SMEs to advance to the acquisition of non-guaranteed loans. On the other hand, guarantees allow banks to develop expertise in SME lending, which may enable them to adapt their lending technologies and strategies such that the traditionally high transaction costs of lending to SMEs are reduced. Lastly, CGS have the potential of stimulating competition among banks with regards to SME lending so long as some of the partner financial institutions (PFIs) of the scheme successfully established lending to SMEs a profitable area of operations (Green 2003, p.17).

3.4 Criticism of credit guarantee schemes

Many researchers have criticized the widespread use of CGS for various reasons. While the OECD (2010, p.5) asserts that CGS can be financially sustainable by charging lenders and/or borrowers with a fee for the guarantee provision, Meyer and Nagarajan (1996, p.7) suspect that most CGS in developing countries collapse after some time unless the fund is recapitalized. Vogel and Adams (1997, p.13) argue that the justification of public CGS to address market imperfections in the credit market is often invalid as their design is not appropriately set-up to do so. The study asserts that most schemes are subsidized, and this is especially true for low-income countries. The authors also point out that the high costs of setting up and running CGS are often heavily understated. On the other hand, the economic benefits of CGS are inadequately documented and due to a lack of complete information, all evaluations of additionality are inaccurate. The authors conclude that it is not possible to determine whether the benefits or the costs of CGS prevail due to insufficient information and knowledge about, for example, displacement effects (Vogel and Adams 1997, p.13). For instance, beneficiary firms of guaranteed loans may grow more rapidly and subsequently displace competitors that did not obtain guaranteed loans, thus having no or only a limited positive effect on employment or economic growth at a national level (De La Torre, Gozzi, Schmukler 2017, p.204).

Moreover, Vogel and Adams (1997, p.12) describe two forms of substitution effects which may occur in the context of a scheme's activities. Intra-portfolio substitution may occur, when a bank shifts some or all of its eligible credit portfolio to the scheme, such that non-guaranteed loans become guaranteed ones, while it extends its lending activities to new market segments. If intra-portfolio substitution occurs excessively, estimations of financial additionality will most likely be overstated as the effective net increase in outstanding loans to the SME sector appears higher than it is. Inter-lender substitution may occur when a bank is participating in CGS as a PFI and draws borrowing firms from other banks as it can offer more favorable borrowing terms on account of the guarantees. It is unsurprising that if borrowers of guaranteed loans were previously clients of other banks, there will be no strong effect on financial additionality on a national level (Vogel and Adams 1997, p.12). For instance, Uesugi, Sakai and Yamashiro (2010, p.478) found in their study on the Japanese Special Credit Guarantee program (SCG) that PFIs repeatedly transferred their non-guaranteed loans to be covered by SCG guarantees with the aim to minimize their risk exposure.

As described by Green (2003, p.25), critics of CGS argue that introducing an extra player into the credit market will entail unnecessary costs for borrowers and lenders. For instance, duplication of certain activities such as the screening and monitoring of borrowers may occur when guarantors and lenders have a risk-sharing agreement. In addition, banks face higher transaction costs, for instance when they submit claims on defaulted loans to the CGS. Moreover, borrowers may have to wait longer for credit disbursement as the CGS might have to approve the guarantee for the loan. Lastly, interest rates of guaranteed loans are not necessarily lower than non-guaranteed loans considering that banks can pass on guarantee fees to beneficiary firms. Also, critics argue that CGS can cause severe credit market distortions. For example, credit guarantees may enable unproductive firms to not go bankrupt or improve lending conditions for financially unconstrained firms, ultimately leading to deadweight losses (Green 2003, p.25). In a study of a CGS in Pakistan, Zia (2008, p.525) finds that the inefficient allocation of guaranteed loans to unconstrained firms amounts to a yearly cost, which is equal to 0.75 % of the country's GDP.

According to Levitsky (1997, p.4), the main criticism of CGS, which cannot be completely negated, is that they may increase the extent of asymmetric information in the lending market. On the one hand, guarantees can promote the moral hazard of banks and borrowing firms. Specifically, beneficiary firms, which are aware of the guarantee for their loan, may be disincentivized to repay their debt as they know that the bank will be compensated for by the CGS. Besides, lenders may be less motivated to monitor loans or collect debts resolutely due to the reduced risk exposure given by the guarantee (1997, p.4). On the other hand, adverse selection may also arise, for instance when the bank has an informational advantage over the CGS with regards to the risks of certain loans, which might induce them to acquire guarantees for the riskier loans of their portfolio. Additionally, if the bank transfers the guarantee fee on the borrowing firm, which consequently must pay a higher interest rate, adverse selection of beneficiary firms could be the result (Green 2003, p.26). However, as pointed out by Levitsky (1997, p.4), moral hazard may not be such a serious issue considering that FIs are eager to preserve a good reputation by means of a high-quality loan portfolio, while borrowing firms will always be motivated to settle their debts so that they retain the possibility of obtaining further loans in the future. Furthermore, in many cases the beneficiary firms do not know about the guarantee for their loan (Levitsky 1997, p.4).

Finally, some critics have challenged the idea that CGS can truly lead to a change of bank's perceptions, behavior, and strategies towards the SME market. It is argued that banks act opportunistically by seizing every opportunity to reduce risks, including the use of guarantees, however, should the cooperation with the CGS end, banks may be inclined to scale-down their SME lending once again. The reasons for banks' reluctance to serve the SME sector in developing economies has been described in section 2.4 and constitutes the main challenge to be overcome for CGS to be successful (Green 2003, p.25). Furthermore, even authors such as Honohan (2008, p.8), who have acknowledged the potential role of CGS in enhancing access to finance for SMEs, have asserted that CGS are not a substituting mechanism for the need of institutional reforms to establish an efficient credit system.

3.5 A literature review of empirical studies on the impact of CGS

As already indicated, financial and economic additionality represent key indicators when reviewing the empirical literature on the performance of CGS. To begin with, while it is quite simple to evaluate a scheme's financial sustainability, assessing financial and economic additionality of a CGS is very complex. This is because one would have to know if the beneficiary firm of a guaranteed loan would have been able to obtain a loan, and if so on what terms, without the guarantee (De La Torre, Gozzi, Schmukler 2017, p.202). The same logic applies to the question of how the beneficiary firm of a guaranteed loan would have performed in terms of its key performance indicators. Since this so-called 'counterfactual' cannot be known, empirical impact evaluations of CGS often resort to information on borrowing firms before they benefited from a guarantee and compare this to their performance following the approval of a loan guarantee. Another strategy is to establish a benchmark group of borrowing firms, which are comparable to the relevant firms' characteristics and did not receive a guaranteed loan, to simulate the counterfactual (Green 2003, p.60). Without intending to explore extensively why such impact evaluation strategies are problematic, it should be emphasized that it will always remain a challenge to distinguish between the causal impact of a CGS on the amount of lending and borrowing and other factors that may affect the credit market, such as the macroeconomic environment or other governmental measures, for instance complementary institutional reforms. Once again, measuring economic additionality poses similar challenges as a borrower's performance following the approval of a guarantee may be influenced by other factors as well (Green 2003, p.60).

3.5.1 Empirical findings of financial additionality

Nevertheless, most of empirical studies analyzing CGS around the world have found evidence of financial additionality, either in terms of increased lending volumes or enhanced lending conditions such as longer maturities and decreased interest rates. Just to name a few, two studies evaluated the Chilean CGS, FOGAPE, and showed that the scheme led to an enhanced access to finance for participating SMEs, thereby providing evidence of financial additionality of the scheme (Benavente, Galetovic and Sanhueza 2006; Cowan, Drexler and Yañez 2015). Zecchini and Ventura (2009) assessed the impact of an Italian CGS targeting SMEs and showed that the guarantees led to a higher credit supply to beneficiary firms at a lower borrowing cost. For the Canadian CSG, called Small Business Financing program (CSBF), Riding, Madill and Haines (2007) found that

around 75% of firms who obtained a guaranteed loan would not have been able to get a loan without the guarantee. Comparable findings of increased credit availability for firms benefiting from guarantees for SME loans were presented, *inter alia*, in the case of the Japanese Special Credit Guarantee (SCG) Program for Financial Stability (Uesugi, Sakai and Yamashiro 2010), the Korean KOTEC program (Kang and Heshmati 2008), the SFLG scheme in the UK (Cowling 2010), the German guarantee banks (Schmidt and van Elkan 2010) as well as the Hungarian CGS targeting SMEs (Binh 2015), where the scheme improved access to finance as well as the lending conditions for SMEs.

With regards to developing and emerging market economies, similar results can be found in the literature. For instance, two studies assessed the National Guarantee Fund (NGF) of Colombia and showed that it was successful in lifting credit-constraints for SMEs that were previously unable to obtain credit due to a lack of collateral, thereby causing an increase in the volume of credit to SMEs (Arraiz, Melendez and Stucchi 2014; Bonilla and Girón 2014). Additionally, an empirical analysis of the Thai Credit Guarantee Corporate (TCGC) found that the availability of TCGC loan guarantees was positively correlated with firms' increased probability of acquiring additional credit and lower collateral requirements by banks (Panyanukul, Promboon, Vorrarikulkij 2014). However, as in the assessment of the Italian Fondo di Garanzi (De Blasio et al. 2018) or the impact evaluation of the French loan guarantee program SOFARIS (Lelarge, Sraer and Thesmar 2010), beneficiary firms of guaranteed loans were more likely to default after participating in the scheme due to incentive misalignment. In fact, this result indicates that CGS might indeed have a disincentivizing effect on lenders to properly assess and monitor their borrowers, while firms are possibly inclined to increase their risk taking when obtaining guaranteed loans. Similarly, the study on the Chilean CGS FOGAPE found that the presence of credit guarantees disincentivized PFIs in their efforts to collect the loan repayment, which in turn increased the portfolio's delinquency rate (Cowan, Drexler and Yañez 2015). Other forms of financial additionality were identified in relation to the Hungarian CGS targeting SMEs, where Binh (2015) found that cooperation with PFIs helped lenders to improve their risk assessments of SME lending as well as their lending processes, thereby shaping banks' perception of the SME sector as a profitable segment to lend to.

3.5.2 Empirical findings of economic additionality

In contrast, the empirical literature on economic additionality generated by CGS is rather mixed. In fact, most empirical impact evaluations of CGS are not able to establish a causal link between the presence of loan guarantees and any economic real effects on firm's performances, which is partly due to the methodological difficulties as explained above (De La Torre, Gozzi and Schmukler 2017, p.203). Some studies conclude that the presence of loan guarantees did not have any real effects on the performance of borrowing firms (Bonillaa and Girón 2014; D'Inazio and Menon 2020). Indeed, the impact assessment of the Japanese SCG program showed that the performance of participating firms, which did not have a considerable net worth, deteriorated over time relative to the firms that did not obtain guaranteed loans. Consequently, the authors conclude that this suggests that CGS aggravate moral hazard problems in credit markets, particularly for smaller firms (Uesugi, Sakai, Yamashiro 2010).

Nevertheless, some studies have been able to show that guarantee schemes did contribute to an enhanced economic performance of beneficiary firms, thereby generating economic additionality. For instance, SBA-guaranteed loans for SMEs in the United States were correlated with growth in employment, wages, and output of beneficiary firms (Hancock, Peek and Wilcox 2008). In a similar vein, Oh et al. (2009) show how firm's participation in the public Korean CGS was correlated with a rise in firms' revenues, employment, salaries and survival rates. In addition, the analysis of the NGF of Colombia revealed that beneficiary firms grew in terms of employees and their produced output, while there were no gains in productivity, investment, and wage levels. Considering that firm's capital accumulation was not affected by the guaranteed loans provided by NGF, the authors conclude that the additional disbursed credit is mainly used by SMEs to finance their working capital (Arraiz, Melendez and Stucchi 2014). Similar evidence of an improved performance of beneficiary firms were presented by impact assessments of the Korean KOTAC scheme (Kang and Heshmati 2008), the Thai guarantee program (Panyanukul, Promboon, Vorrarikulkij 2014), the CSBFP (Chandler 2012) as well as the American SBA loan program (Craig, Jackson III and Thomson 2005). For more details, an overview of the literature on financial and economic additionality of guarantee schemes is presented in the Appendix. (Table 2)

With respect to the contribution of CGS to overall economic growth, the literature is scarce. However, some authors have claimed to establish a link between enhanced access to finance for SMEs facilitated by guarantees and higher economic growth. For example, Binh's (2015) analysis of the Hungarian CGS concludes that the high ratio of outstanding guarantees to GDP indicates that it played a key role in promoting economic growth and stabilizing the economy in times of the financial crisis of 2008. Schmidt and Van Elkan (2010) estimated the share of revenue as well as investment volumes of SMEs which can be attributed to the activities of German Guarantee Banks for the period 2009-2015 and found in their scenario-based model that loan guarantees contributed to GDP and employment growth. According to the study's most realistic scenario, Germany's GDP for the period 2009 to 2015 was EUR 1.7 billion higher and the value of German exports increased by EUR 700 million, compared to a world where no guarantees would have covered loans to SMEs. Furthermore, the authors assert that those guarantees have contributed to the creation of 24,100 jobs between 2009 and 2015 (Schmidt and Van Elkan 2010, p.20). In the context of developing countries, Mafimisebi, Oguntade and Mafimisebi (2010) have analyzed the impact of Nigerian Agricultural Credit Guarantee Scheme Fund (ACGSF) for the period 1978-2005 and demonstrated a long-run convergence between the amount and value of guaranteed loans and the correspondent agricultural GDP of Nigeria. For the authors, this provides evidence that ACGSF has contributed to the economic development of the agricultural sector. In conclusion, the authors demand to increase the guarantee volume for loans to the agricultural sector to boost the development of the strategically important sector of the Nigerian economy. While these results are encouraging with respect to the usefulness of CGS, they should be treated with caution due to the methodological issues involved as well as other influencing factors that have most likely not been accounted for completely.

To sum up, many empirical studies from all over the world have provided evidence of financial additionality, despite of the critics who cast doubts on whether CGS can enhance access to finance for SMEs. Taking into account that especially in low income countries domestic credit to the private sector as a percentage of GDP is traditionally low with 13.7 % in 2018 compared to 139,9 % for high income countries, facilitating the flow of capital to the real economy is particularly important (World Bank 2020a). While evidence of economic additionality is scarcer, the literature review has demonstrated that well-implemented CGS can not only enhance access to finance for SMEs, but thereby also

contribute to an enhanced economic performance of beneficiary firms. In the context of developing countries, this is particularly interesting as an enhanced economic performance of firms raises the hope for positive effects on key development goals, such as job creation and poverty reduction.

However, Deelen and Molenaar (2004, p.20) have claimed that CGS are not instruments to address weak entrepreneurship or the inefficient performance of banks. In their view, CGS are only effective in improving access to finance for SMEs when the four Ps are present: “Well-prepared entrepreneurs who present good projects to good performing banks that have professional staff to carry out an evaluation and come to the conclusion that the borrower cannot present sufficient collateral” (Deelen and Molenaar 2004, p.20). Indeed, it has been argued that the likeliness of a CGS being successful in promoting financial inclusion is the lowest in countries where the need for it is the greatest (Bennett, Billington and Doran 2005, p.26). After all, this stands in contrast to the wide-spread use of CGS as development tool in low-income countries with weak financial infrastructures to address not only entrepreneur’s lack of access to finance, but also to stimulate financial sector changes and promote SME development, which often includes the provision of TA to beneficiary firms.

With the objective to shed some light on this apparent contradiction and to further explore to what extent CGS can effectively promote SME sectors of developing economies through SME’s enhanced access to finance, a case study of the Afghan Credit Guarantee Foundation (ACGF) will be presented in the following section.

4. The Afghan Credit Guarantee Foundation (ACGF): A case study

To begin with, the Afghan Credit Guarantee Foundation (ACGF), which was established as a charitable foundation under German law in 2014, issues partial credit guarantees for loans that are disbursed to SMEs in Afghanistan by its partner financial institutions (PFIs). Similarly, ACGF also provides technical assistance to its PFIs for the purpose of establishing and developing their SME lending capacity and lending processes. Funding for the establishment for ACGF was initially provided by the German Federal Ministry for Economic Cooperation and Development (BMZ) and DEG – Deutsche Investitions- und Entwicklungsgesellschaft mbH (ACGF 2020a, p.1). According to ACGF’s Head of business development, Mr. Guranda, ”the objective of ACGF is to improve access to finance for Micro, Small and Medium Enterprises (MMSMEs) in Afghanistan by providing credit guarantees and technical assistance to PFIs” (Annex III, p.83). Due to the limited scope of this paper, the fund will be analyzed against the background of the macroeconomic context in Afghanistan, however a thorough macroeconomic analysis of the Afghan economy is beyond the scope of this paper.

4.1 ACGF’s business model, operations, and financial performance

Before analyzing the impact generated by ACGF, let us now take a closer look at ACGF’s operations over the past few years. To begin with, ACGF is a credit guarantee scheme that offers partial coverage for loans with a maximum guarantee coverage of 72 percent (except start-ups: 90 %; lower coverage for larger loans). In principal, ACGF guarantees for loans range from USD 1,000 to 1,000,000 for eligible SMEs, which will have to meet the following criteria (ACGF 2020b):

- a maximum of 500 employees
- a maximum annual turnover of USD 15 million
- a maximum of total assets valued at USD 15 million (ACGF 2020b).

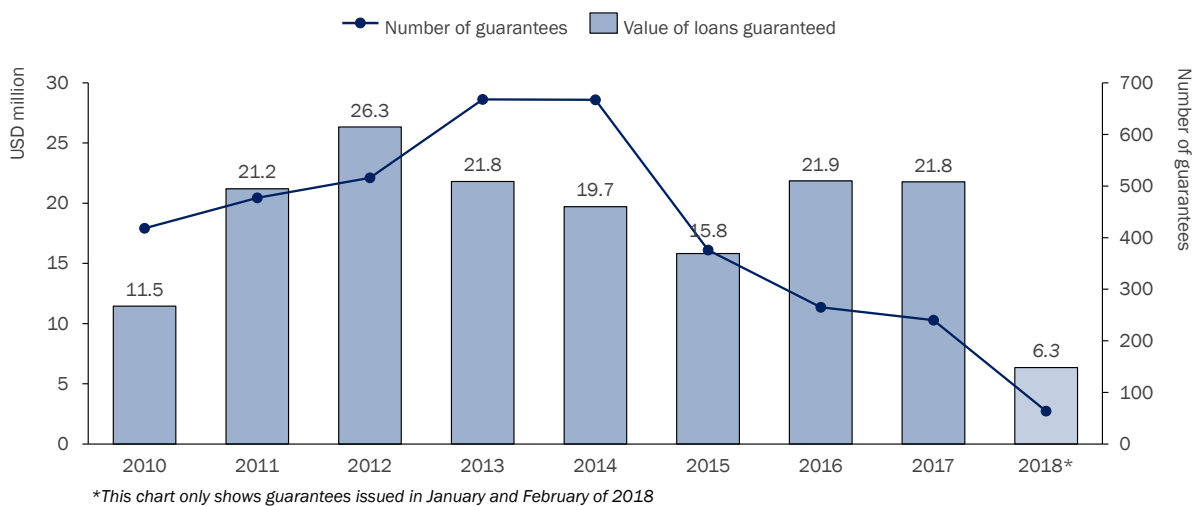
Eligibility criteria for ACGF loan guarantees also include sectoral restrictions, which are namely the housing sector and the lending to private sector activities, which are cited on the EDFI and IFC Exclusion Lists. Furthermore, SMEs that are solely engaged in importing or re-exporting of goods are excluded. Additionally, loan guarantees for trading companies require a physical presence of the firms in Afghanistan. With regards to eligible borrowers, they can be both individuals and incorporated firms, which are based in the country. Guarantees are only approved for loans that are used to finance firm’s working capital and/or fixed assets. Considering that the PFIs of ACGF are the ones who

make the ultimate decision regarding the approval of a loan request, aspiring borrowers will, of course, have to present feasible business models that can generate enough income in order to be able to repay the loan in the long term. On top of that, prospective borrowers will have to be creditworthy from the perspective of banks, both in terms of their entrepreneurial and management skills as well as with respect to their financial position (ACGF 2020b).

4.1.1 Overview of ACGF’s guarantee operations (include TA)

Between 2010 and 2018², ACGF (and its predecessor CGF-A) has provided guarantees that have secured almost 3,700 loans. Altogether, these loans have a cumulative value of USD 166 million. The average loan amount covered by ACGF guarantees during this period was USD 45,000. As it can be observed in figure 9, the quantity and value of ACGF guarantees fluctuated considerably between 2010 and 2018 (ACGF 2018, p.15). According to an internal analysis by ACGF (2018, p.15), these fluctuations are mainly attributable to changes in the external environment. Especially the drop in the quantity of issued guarantees between 2014 and 2015 was supposedly due to a worsening security situation in Afghanistan (withdrawal of NATO troops), which induced PFIs to reduce their risk exposure by issuing less, but individually larger loans (2018, p.16).

Figure 9: Number and value of guarantees issued by ACGF (2010-2018)



Source: ACGF (2018, p.16)

Based on the assumption that relatively smaller SMEs also, on average, obtain comparably smaller loan amounts (and vice versa), let us now break down the guaranteed

² This evaluation spans from 2010 to 2018, wherein solely the first quarter of 2018 is included (Q1).

loan portfolio of ACGF by loan size category to specify which type of SMEs benefit from it. As it can be observed in table 3, 80 per cent of the loans that ACGF covered with its guarantees between 2010 and 2018 were smaller than USD 50,000 and 39 per cent of the loans amounted to less than USD 15,000, suggesting that the majority of guaranteed loans reach relatively smaller SMEs (ACGF 2018, p.16).

Table 3: Overview loans per various loan size categories (2010-2018)

Loan size category ('000)	Number of approved loans	% of total loans	Total loan amount ('000)	% of total loan amount
<5	53	1%	\$ 245	0%
5 - 7.5	430	12%	\$ 2,562	2%
7.5 - 10	517	14%	\$ 4,545	3%
10 - 15	432	12%	\$ 4,979	3%
15 - 25	711	19%	\$ 13,505	8%
25 - 50	802	22%	\$ 26,920	16%
50 - 100	427	12%	\$ 28,604	17%
100 - 500	265	7%	\$ 48,584	29%
>500	54	1%	\$ 36,354	22%
Total	3,691	100%	\$ 166,298	100%

Source: ACGF (2018, p.16)

Another perspective is offered by examining the values of the guaranteed loans that are disbursed by ACGF's partner banks. Table 3 shows that roughly 68 percent of the total guaranteed loan amount disbursed by PFIs since 2010 are attributable to loans amounting to over USD 50,000, while 51 percent of the value of total disbursed loans since 2010 arose from loans amounting to over USD 100,000. Hence, a considerable portion of the total loan amount that ACGF has covered with its guarantees since 2010 stems from relatively large loans in the context of SMEs, thereby indicating that ACGF reaches larger SMEs as well. Nevertheless, ACGF has put an emphasis on supporting relatively smaller SMEs with its loan guarantees, which becomes apparent when considering that around 94 percent of the guarantees issued between 2010 and 2018 are covering loans for firms with less than 20 employees and that these firms make up 81 percent of the value of all loans covered by ACGF guarantees (ACGF 2018, pp.16-17). (also see Table 4)

Table 4: Overview loans per various employee size categories (2010-2018)

Employees of lending company	# of approved loans	% of total loans	Total loan amount (USD '000)	% of total loan amount	Average loan size per company (USD '000)
1	459	13%	\$ 5,370	4%	\$ 11.7
1 - 5	1814	51%	\$ 41,992	28%	\$ 23.1
2 - 10	698	20%	\$ 35,393	23%	\$ 50.7
10 - 20	384	11%	\$ 38,918	26%	\$ 101.3
20 - 50	169	5%	\$ 24,015	16%	\$ 142.1
50 - 100	27	1%	\$ 3,869	3%	\$ 143.3
100 - 250	8	0%	\$ 1,052	1%	\$ 131.5
250 - 500	3	0%	\$ 646	0%	\$ 215.4
> 500	2	0%	\$ 1,215	1%	\$ 607.3
Missing	127	n/a	\$ 13,828	n/a	n/a
Total	3691	100%	\$ 166,298	100%	

Source: ACGF (2018, p.17)

An analysis of ACGF's guarantee operations would be incomplete if it does not address the relationship of ACGF with its PFIs, which ultimately do the lending. As pointed out by Pavel Guranda in the interview conducted in the context of this dissertation, "currently ACGF work together with five financial institutions, which are namely The First MicroFinance Bank - Afghanistan (FMFB); Afghanistan International Bank (AIB); Ghazanfar Bank; OXUS, and FINCA" (Annex III, p.88). Nevertheless, AIB and FMFB were ACGF's main partners in enhancing access to finance for SMEs in Afghanistan between 2010 and 2018. This is because out of the 3,691 loans that were disbursed to SMEs and backed by ACGF guarantees in the aforesaid period, 3,621 loans were distributed by AIB and FMFB. In fact, 93 percent of these loans were issued by FMFB. The importance of AIB and FMFB as key partners of ACGF becomes clear when considering that their guaranteed, disbursed loans amounted to USD 156 million out of the USD 166 million, which were disbursed in the form of guaranteed credit to SMEs between 2010 and 2018. Despite of FMFB issuing far more loans in cooperation with ACGF than AIB, its loans only make up 57 percent of the total loan value of USD 156 million, while AIB accounts for the remaining 43 percent (ACGF 2018, pp. 18-19).

This situation can be explained by the fact that AIB, as a commercial bank, generally specialized in lending to fewer, but larger firms. On the other hand, FMFB is classified as a commercial bank as well as a microfinance institution, which focuses on relatively smaller loans to a relatively large pool of borrowers. The following table evidently shows how their different lending approaches affect their loan portfolio: While 87 per cent of

the loans FMFB extended were below a value of USD 50,000, the share of AIB’s loans that amounted to more than USD 50,000 was 82 % between 2010 and 2018 (ACGF 2018, pp. 18-19).

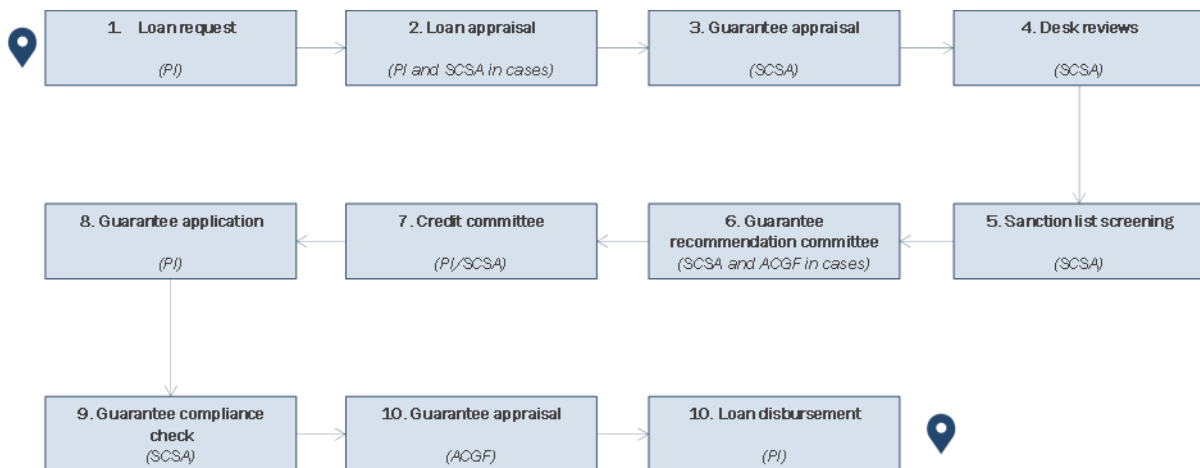
Table 5: Overview of ACGF-backed loans extended by FMFB and AIB(2010-2018)

Loan size category ('000)	FMFB				AIB			
	# of loans	% of total loans	Total amount (USD '000)	% of total loan amount	# of loans	% of total loans	Total amount	% of total loan amount
<5	53	2%	\$ 245	0%	0	0%	\$ -	0%
5 - 7.5	429	13%	\$ 2,555	3%	1	0%	\$ 7	0%
7.5 - 10	516	15%	\$ 4,536	5%	1	0%	\$ 9	0%
10 - 15	427	13%	\$ 4,913	6%	5	2%	\$ 66	0%
15 - 25	703	21%	\$13,357	15%	8	3%	\$ 147	0%
25 - 50	770	23%	\$25,612	29%	27	11%	\$ 1,118	2%
50 - 100	378	11%	\$25,284	28%	35	14%	\$ 2,455	4%
100 - 500	100	3%	\$12,545	14%	116	47%	\$27,554	41%
>500	0	0%	\$ -	0%	52	21%	\$35,354	53%
Total	3376	100%	\$89,046	100%	245	100%	\$66,712	100%

Source: ACGF (2018, p.19)

According to Pavel Guranda, Oxus, FINCA and Ghazanfar Bank are rather new partner banks of ACGF, which explains their small share in the fund’s outstanding guaranteed loan portfolio. While Ghazanfar Bank is rather specialized on lending to the upper SME segment, Oxus and FINCA “are specialized in microfinance, while also extending individual loans that are high enough to be covered by ACGF guarantees” (Annex III, p.88). In general, ACGF closely works with its PFIs and assesses their requests for individual guarantees through its subsidiary, SCSA, which is based in Kabul and Mazar-i-Sharif and exclusively employs Afghan citizens. Still, experienced credit and risk officers who are based in Berlin make the ultimate decision on guarantee approval. The process that starts with a loan request by a firm to a PFI until loan disbursement can be seen in the figure below (ACGF 2018, pp. 19-20).

Figure 10: Simplified overview of the guarantee process



Source: ACGF (2018, p.20)

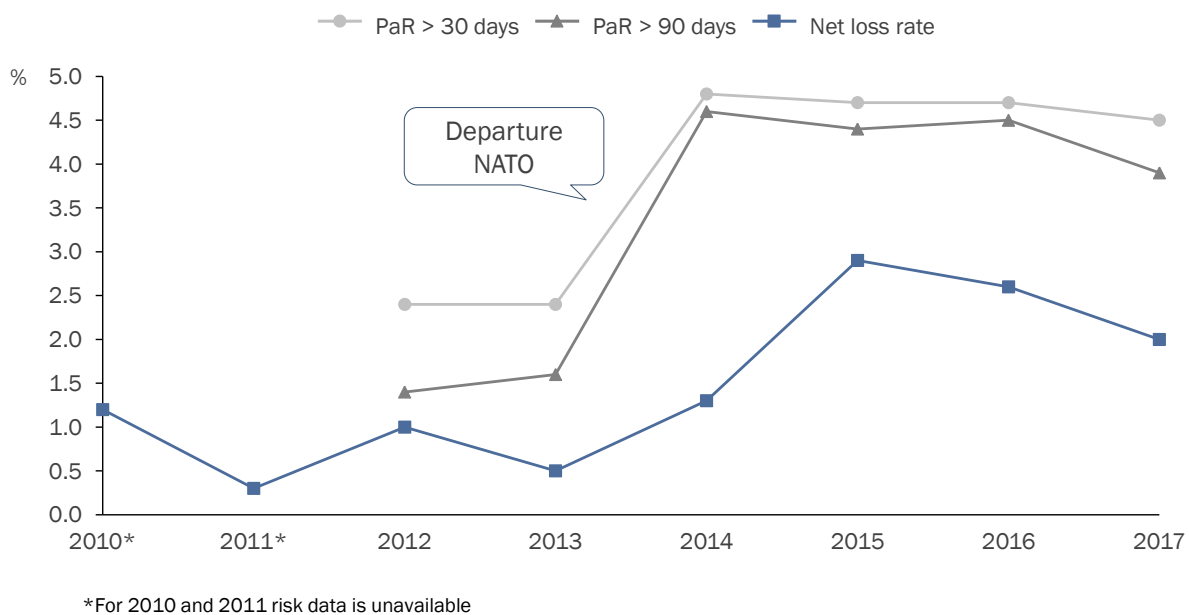
On top of this, SCSA helps partner banks with their risk assessment of loans, compliance and performance monitoring as well as financial reporting. These services are related to ACGF’s acknowledgment that its mission necessitates more than guarantees. Therefore, ACGF together with SCSA implement TA projects to support partner banks in establishing or improving their SME lending operations, for instance through training loan officers. For these services, but mainly for the risk coverage provided by the credit guarantee, partner banks pay ACGF with up-front and guarantee fees. To incentivize PFIs to perform well, guarantee fees are risk-adjusted. Moreover, there are pre-defined delinquency management procedures in case of a loan default on the part of a borrowing firm. After the loan is 180 days past due, the partner bank of ACGF can submit a guarantee claim, which will be evaluated by ACGF and most likely approved, thereby agreeing to pay its share in the lost principal of the loan plus the accrued interest. If banks manage to recover part or all of the defaulted loan after the pay-out of the guarantee claim, these will be shared evenly between the PFI and ACGF (ACGF 2018, p.20).

4.1.2 ACGF’s portfolio quality, incomes and financial sustainability

Considering the challenges of an underdeveloped financial sector and a hostile business environment in Afghanistan, it can be said that ACGF has ensured a guarantee portfolio of good quality. Specifically, delinquent loans where repayment was overdue for over 90 days (PAR 90) only amounted to, on average, roughly 4 percent of the portfolio between 2012 and 2017. Moreover, the average net loss rate, which is defined as claims paid minus proceeds from claim refunds, divided by the average outstanding guarantee portfolio, was

1,5 percent in the years 2010-2017. Nevertheless, ACGF is not immune to the effects of the external environment on its operations, as the portfolio quality also showed considerable variation over the years. For instance, the full withdrawal of NATO troops in 2014 contributed an increase in portfolio risk, as it can be observed in the figure below. Still, ACGF managed to report declining risk rates (PAR30; PAR) and a falling net loss rate from 2016 onwards (ACGF 2018, p.25).

Figure 11: Portfolio at risk and net loss rate (2010-2018)



Source: ACGF (2018, p.25)

Next, let us consider the incurred costs and generated incomes of ACGF. For instance, ACGF was only able to cover, on average, around 76% of its costs (60% if provisions for claims are considered) with its generated income from its guarantee activities (TA is excluded) between Q4 of 2015 and Q4 of 2017. Hence, ACGF incurs financial losses through its guarantee operations, which inevitably endangers the financial sustainability of the fund (ACGF 2018, p.26). However, as pointed out by Mr. Guranda, ACGF’s mission is to contribute to the development of SME finance in Afghanistan and therefore considers its ’’incurred losses as part of a necessary investment into the future of Afghanistan’’ (Annex III, p.87). ACGF’s management also expects to further make losses in the foreseeable future, which explains the institution’s dependency on external funding by international donors (Annex III, p.87). After examining ACGF’s operations and financial performance, the next section will evaluate ACGF’s effectiveness in lifting credit constraints and its’ impact on various dimensions of Afghanistan’s economy.

4.2 ACGF's impact on Afghanistan's economy

Before evaluating the ultimate impact ACGF had on the financial and SME sectors in Afghanistan, it is essential to examine if and how the scheme helped to lift the credit-constraints, that traditionally impede SME's access to finance.

4.2.1 Criteria specification for analysis of ACGF's effectiveness and impact

To recall, section 2.4 identified four main reasons for the lack of access to finance for SMEs in developing countries, which are namely:

- Information asymmetries (moral hazard & adverse selection)
- High transaction costs of SME lending for banks
- Bank's high-risk perception of the SME sector
- SME's lack of collateral

Addressing to what extent ACGF helped lift those constraints to access to finance is therefore important for evaluating the fund's effectiveness. This analysis will also explore to what extent ACGF's operations have induced changes in the Afghan financial sector. Additionally, the impact evaluation of ACGF will include an assessment of the generated financial and economic additionality, as defined in section 3.3 of this thesis. Evaluating the fund based on these criteria will allow for a well-grounded conclusion with regards to ACGF's effectiveness and impact.

4.2.2 ACGF's role in lifting credit constraints for Afghan SMEs

Does ACGF reduce information asymmetries?

First, it is important to remember that beneficiary firms of loans that are covered by ACGF guarantees are not aware of the guarantee to avoid moral hazard. To determine whether ACGF has reduced information asymmetries in the credit market, one would have to assess whether ACGF has an informational advantage over banks with respect to the creditworthiness of prospective borrowers (De La Torre, Gozzi and Schmukler 2017, p.198). However, this is very difficult and cannot be answered unequivocally. On the one hand, ACGF is far more experienced in the peculiarities of SME lending and conducting risk assessments than its PFIs, but on the other hand it could be argued that Afghan banks know more about their clients and other developments in the Afghan context, which may give them an informational advantage and could lead to adverse selection as explained in section 3.4.

Also, it is complex to specify to what extent the introduction of ACGF as an additional player in the Afghan financial sector may have led to an increase of information asymmetries, as argued by Levitsky (1997, p.4). However, considering ACGF's risk-based pricing of guarantee fees, bank's interest to maintain a good reputation by means of a high-quality loan portfolio as well as the close cooperation of ACGF and its PFIs through its subsidiary SCSA all support the notion that ACGF most likely did not contribute to an increase of asymmetric information in the Afghan lending market. An internal survey revealed that PFIs of ACGF seem to share this view, as all of them did not see any credit market distortions caused by ACGF (ACGF 2018, p.36). Essentially, ACGF's presence is not primarily justified on the grounds of reducing information asymmetries, but rather based on development objectives such as improving financial inclusion for SMEs in Afghanistan to indirectly foster their growth and stimulate economic development in the country.

Has ACGF helped PFIs to lower their transaction costs in SME lending?

Most likely, ACGF's guarantees contributed to the reduction of transaction costs in SME lending by its PFIs. While data limitations on the part of ACGF's partner banks impede a thorough quantitative assessment, a brief qualitative analysis can also provide evidence to support this claim. Above all, by providing TA to its PFIs (such as training loan officers or introducing management information systems), ACGF helps them to develop valuable experience, knowledge and technologies in small-scale lending, which will, if effective, ultimately translate into lower operational costs for partner banks. The fact that ACGF's TA programs are effective is reflected in the positive feedback on its consultancy services by PFIs. For example, the Head of SME lending at FMFB, ACGF's most prominent partner bank, stated that "I want to say that FMFB would have started SME lending without ACGF, but I don't think so. It would have been very much restricted" (ACGF 2018, p.35). Considering that FMFB has disbursed the most guaranteed loans out of all PFIs cooperating with ACGF between 2010 and 2018, such a statement constitutes a strong argument for the effectiveness of ACGF's operations in general, but also with regards to lowering transaction costs of SME lending for banks. Furthermore, a survey of partner banks revealed that all PFIs fully agree that ACGF has effectively supported them to initiate and/or expand their SME lending, in which instance a reduction of incurred transaction costs is likely to have occurred (ACGF 2018, p.36). Nevertheless, ACGF's lack of information on the development of the transaction costs that PFIs incur when

lending to SMEs constitutes a weakness with regards to the fund's monitoring and evaluation system as it should represent a key indicator.

Have ACGF guarantees successfully acted as a substitute for collateral, which beneficiary firms lacked?

As in many developing countries, banks in Afghanistan face high risks when lending to SMEs, which induces them to ask for high collateral. As stated by the Central Bank of Afghanistan, collateral requirements make up 120 % of the loan amount, on average. Most SMEs do not have the resources to fulfill these requirements and consequentially are unable to obtain formal loans (OECD 2019, p.58). The fact that as per end of January 2019, ACGF reported to have covered over 5,100 loans with its guarantees since inception, which added up to a cumulative amount of USD 219 million, provides evidence of how ACGF has enabled the disbursement of SME loans, despite of the mismatch between the high risks involved for partner banks and the lack of collateral among SMEs (ACGF 2019a, p.2). Consequently, partner banks must have accepted ACGF guarantees as a risk-mitigation mechanism and, in effect, as a substitute for excessively high collateral requirements, because otherwise the loans would not have been approved in the first place. Another major milestone in this context was reached in 2017, when the Central Bank of Afghanistan officially recognized credit guarantees as collateral, thereby enabling SMEs and banks to have more opportunities to engage in the credit market (ACGF 2018, p.14).

Has ACGF induced banks to change their high-risk perception of serving the SME sector with credit?

Firstly, ACGF guarantees effectively lower PFI's risk exposure when they engage in SME lending. This reduced risk exposure gives partner banks the opportunity to start or expand lending to a heavily unsaturated market segment, namely the SME sector. According to the OECD (2019, p. 14), merely 5 percent of firms in Afghanistan have active lines of credit from a formal bank. Despite of bank's general reluctance in serving SMEs due to the high perceived risk, establishing SME lending as a profitable area of operations should seem attractive due to its untapped potential. However, the central question surrounding this issue is whether ACGF's partner banks make use of the guarantees with the intention to increase their SME loan portfolio and in the long-term exploit the immaturity of the SME lending market in Afghanistan or because they act

opportunistically by seizing every opportunity to decrease their risk exposure, with no intention to continue lending to SMEs in the absence of the guarantee coverage as they possibly consider it to be too risky and not profitable enough under such circumstances. Naturally, this is very difficult to assess from an external perspective. However, the fact that the average share of non-guaranteed SME loans of ACGF's partner banks' SME loan portfolios amounted to roughly 31,2 % in 2019 shows that roughly every third SME loan is not covered by a guarantee, which can be understood as a reflection of PFI's growing confidence to engage in SME lending (ACGF 2019b). Furthermore, it could be argued that irrespective of bank's perception of the risk involved when lending to the SME sector, banks' usage of ACGF guarantees will inevitably help them gain valuable experience in small-scale lending and learn more about the creditworthiness of borrowing firms, which reduces uncertainty, and therefore bank's risk perception of serving them. In brief, ACGF most likely contributes to PFI's reduced risk perception of serving the SME sector, however it remains debatable how sustainable this effect is.

4.2.3 Financial additionality of ACGF (lending volumes and loan conditions)

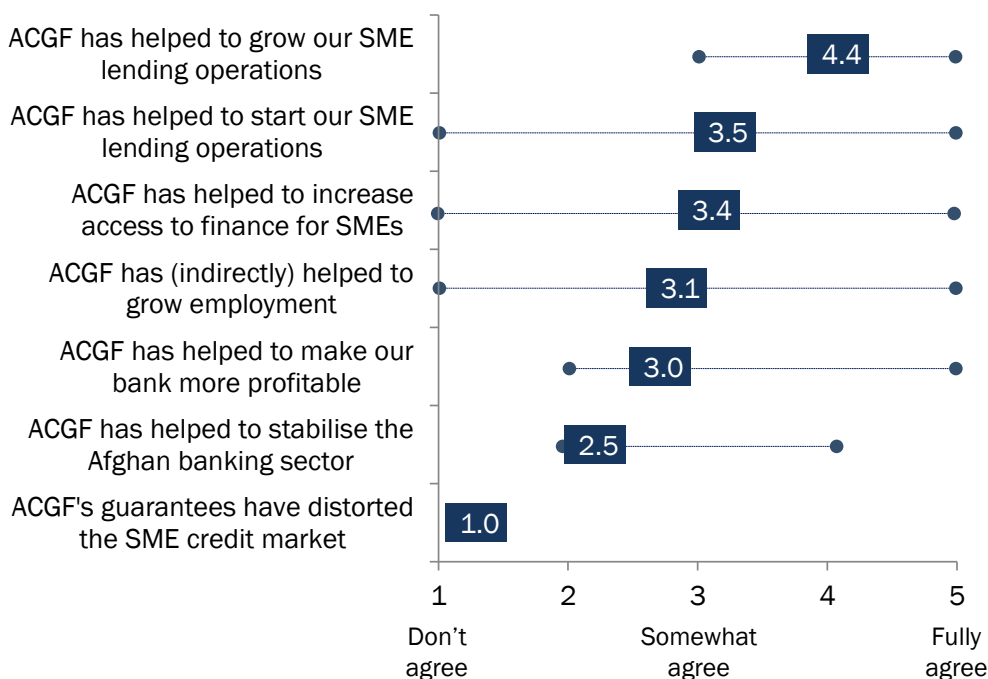
As stated by Mr. Guranda in the interview, "an internal survey of ACGF's partner banks in 2018 revealed that four out of the five PFIs of ACGF at the time were convinced that they would have extended less credit to SMEs in the absence of ACGF guarantees, while one bank would expect the same amount of SME lending" (Annex III, p.91). On top of that, three out of five partner banks asserted that ACGF's guarantees allowed them to approve individually larger loan amounts, on average, and enabled them to charge lower interest rates than without the risk-sharing agreement with ACGF (Annex III, p.91). Due to data limitations, it is unfortunately not possible to analyze why the other two PFIs did not observe similar effects of ACGF guarantees on their SME loan conditions.

From ACGF's perspective, it can be stated that it contributed to an enhancement of loan maturities, "considering that 48 % of ACGF's guaranteed loan portfolio had a maturity of 2,5 to 5 years at the end of 2019, compared to only 15 % in the end of 2016" (Annex III, p.91). Nevertheless, even if the guarantees had a positive effect on the development of PFI's loan conditions for SMEs, this does not imply that the conditions per se improved. After all, they are also affected by other factors such as the economic and political environment, which is very fragile and characterized by uncertainty in the Afghan context. Consequently, ACGF also reported deteriorating conditions of its

guaranteed loans as for example ”in more recent years the average guaranteed loan size (...) fell from USD 92,633 in 2017 to USD 58,603 in 2017” (Annex III, p.91). On the other hand, this significant drop in average guaranteed loan size is relativized when recalling that this indicator amounted to, on average, only USD 45,000 between 2010 and 2018, thereby suggesting that overall individual loan amounts still improved over the course of ACGF’s operations (ACGF 2018, p.15). The impact that ACGF has on the SME lending operations of its partner banks is further reflected in their positive feedback, which can be observed in the figure below:

Figure 12: PFI’s assessment of ACGF’s impact

Do you agree with the following statements? (n=5)



Source: ACGF (2018, p.36)

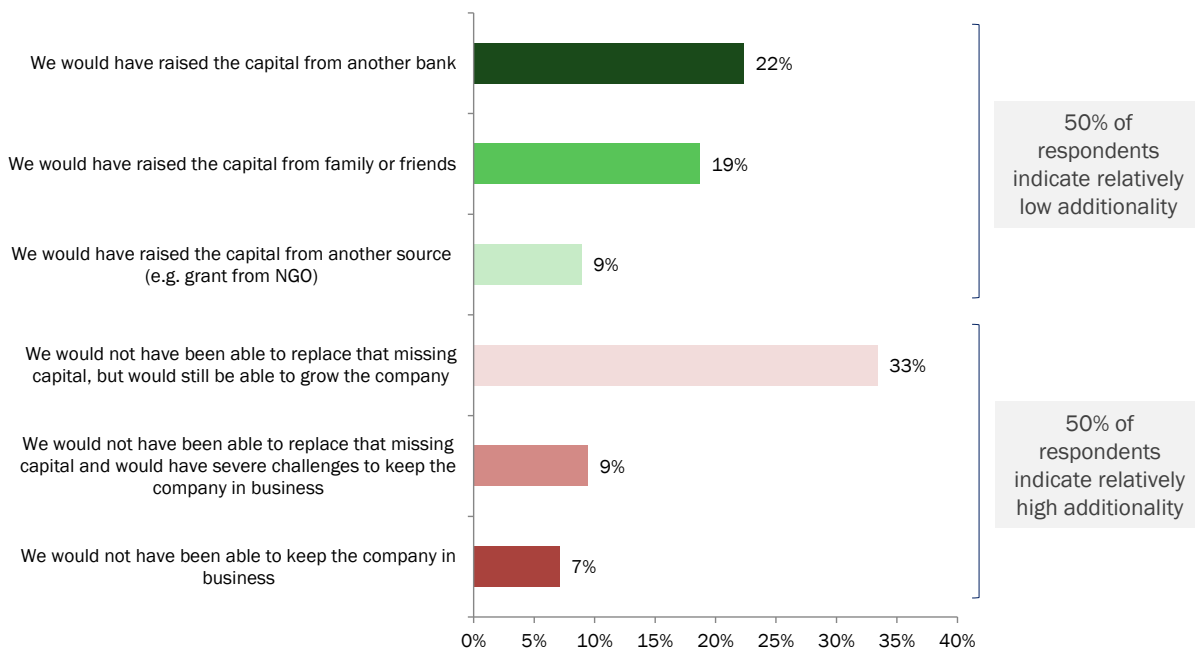
All in all, ACGF seems to effectively facilitate SME lending of its PFIs, thereby contributing to an increased access to finance for SMEs. Nevertheless, PFIs seem not too convinced of ACGF’s contribution to the stabilization of the Afghan financial sector, which is somewhat surprising. Still, it is important to remember that ACGF only tackles the issue of access to finance and that it is a relatively small institution in terms of employees and capital, hence it would be very ambitious to have the intention to stabilize the whole Afghan financial sector by the sole use of credit guarantees and TA.

Another perspective is offered by considering the beneficiary SMEs of guaranteed loans. In a survey of 380 of these firms, which was conducted in 2018, fifty percent stated that

they would not have been able to replace the loan covered by an ACGF guarantee with another formal loan in the absence of the risk-coverage (ACGF 2018, p.36). As it can be seen the figure below, a considerable portion of these companies believe that they still would have been able to grow, however a lot of firms also indicated that they would have faced serious challenges to keep the company in business without the guaranteed loan (ACGF 2018, p.36).

Figure 13: SME’s view on additionality generated by ACGF (survey results)

What would probably have happened had your company not received the loan? (n = 380)



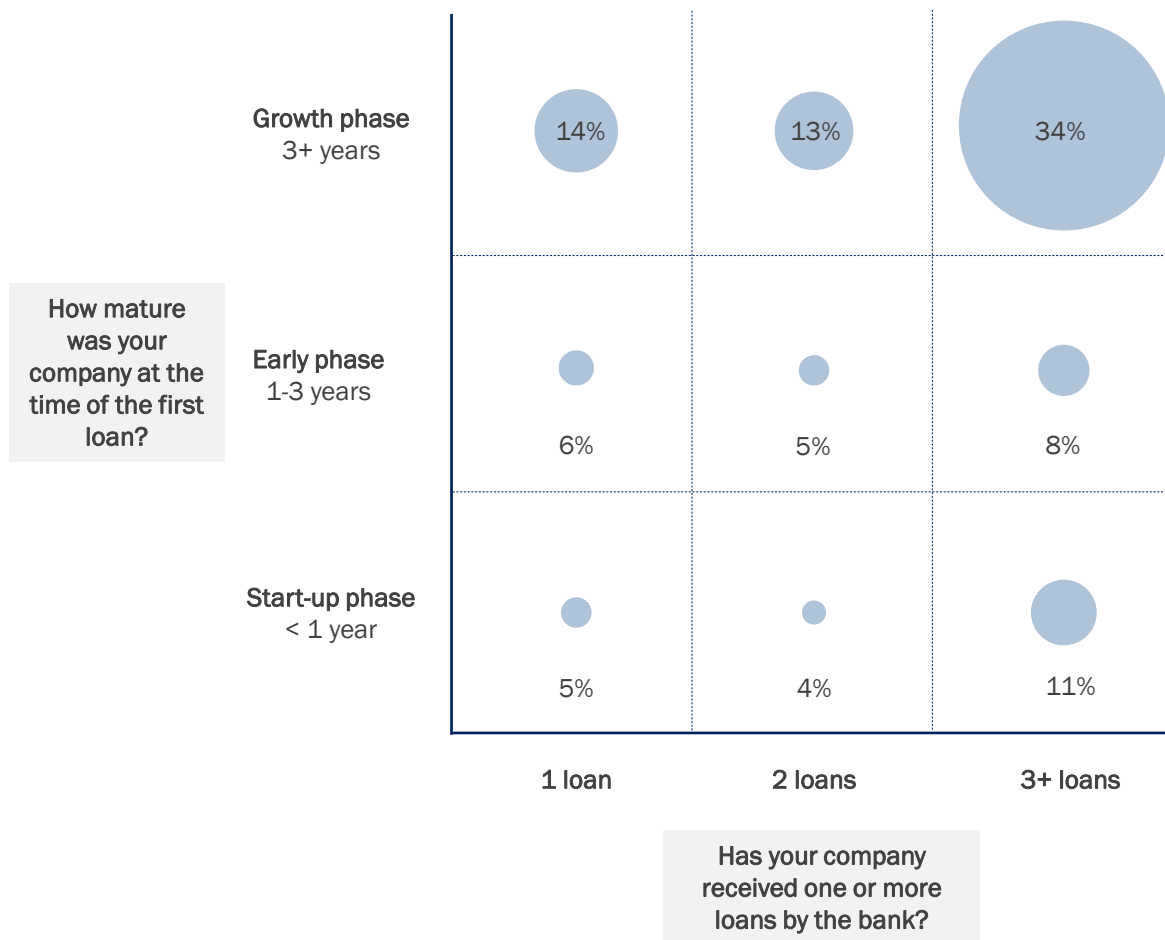
Source: ACGF (2018, p.37)

The fact that only 22 percent of respondents indicated that they would have been able to replace the loan with a credit from another bank demonstrates how underdeveloped and informally organized the Afghan credit market is. Additionally, the responses also show that ACGF represents a much-needed mechanism to enhance SME’s access to external finance as they have only very limited options (ACGF 2018, p.36).

Furthermore, the SME survey revealed that many firms that obtained guaranteed loans continued to obtain loans afterwards. Specifically, 53 percent of the surveyed firms received three or more loans, while 22 percent acquired two credits and 24 percent obtained only one loan. Interestingly, the more mature a firm was, the higher the probability that it obtained more lines of credit, considering that 34 percent of SMEs were operating for longer than three years and obtained three or more loans (ACGF 2018, p.36;

Also see Figure 14). Overall, these insights provide evidence of the increasing creditworthiness of borrowing firms once they received a first loan, which also suggests that ACGF effectively generates financial additionality and contributes to changes in the perceptions and behavior of banks towards the SME sector. Additionally, this situation also highlights ACGF’s role in addressing business informality of the Afghan SME sector by paving the way for SMEs to enter the formal credit market.

Figure 14: SME’s maturity at the time of the first loan, and number of loans since then



Source: ACGF (2018, p.37)

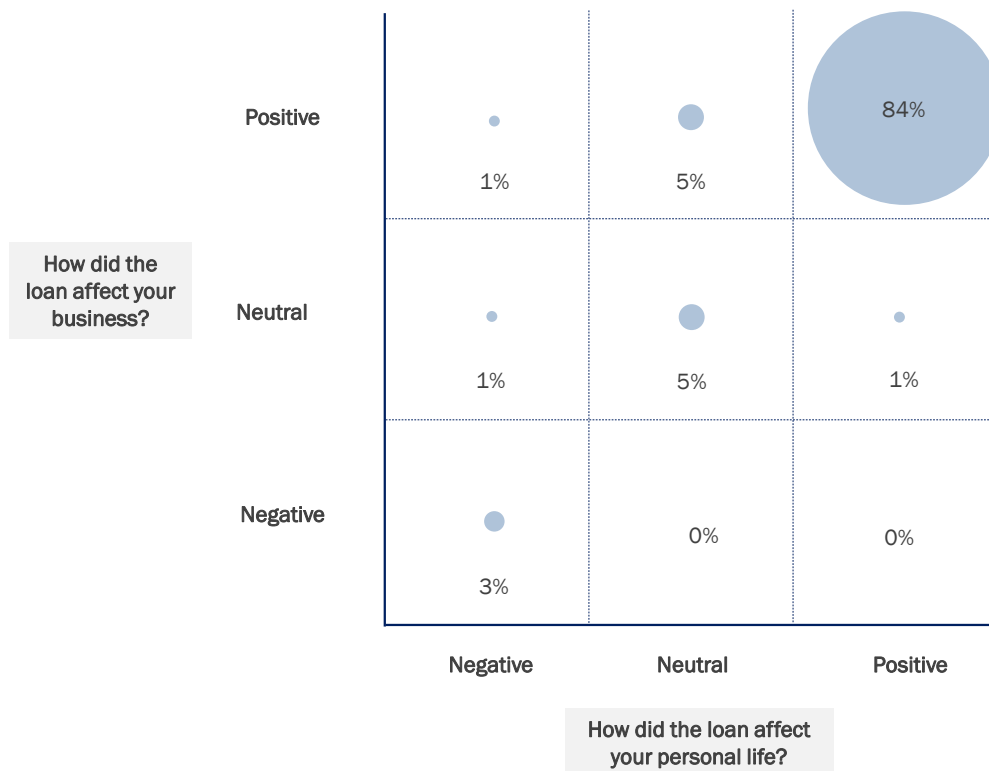
Another factor that supports the notion that ACGF provides a highly additional service is that it has contributed to the development of new SME financing products that are offered by its PFIs, thereby reaching firms that are more likely to have been previously excluded from the formal credit market. In 2019, for example, ACGF together with its partner banks have developed start-up loans, loans targeting the solar sector as well as Islamic loans adhering to Islamic law (ACGF 2019a, p.11). Finally, ACGF’s leverage also provides evidence of financial additionality. At the end of 2019, the estimated leverage

of ACGF was 2.76, which is equivalent to a capital to outstanding guarantee portfolio ratio of 36 per cent (ACGF 2019c).

4.2.4 Economic additionality of ACGF

Against the background of ACGF’s mission, it is necessary to evaluate the economic impact on the operations of beneficiary firms resulting from their improved access to finance. The survey of SMEs revealed that for 84 percent, the acquisition of a guaranteed loan affected them positively with regards to their businesses’ generated revenues as well as with regards to their personal income. On the other hand, only 3 percent of respondents claimed that the guaranteed loan had a negative impact on their firm’s revenues and personal income (ACGF 2018, p.38; also see figure 15).

Figure 15: Impact of loans on businesses and on people’s lives

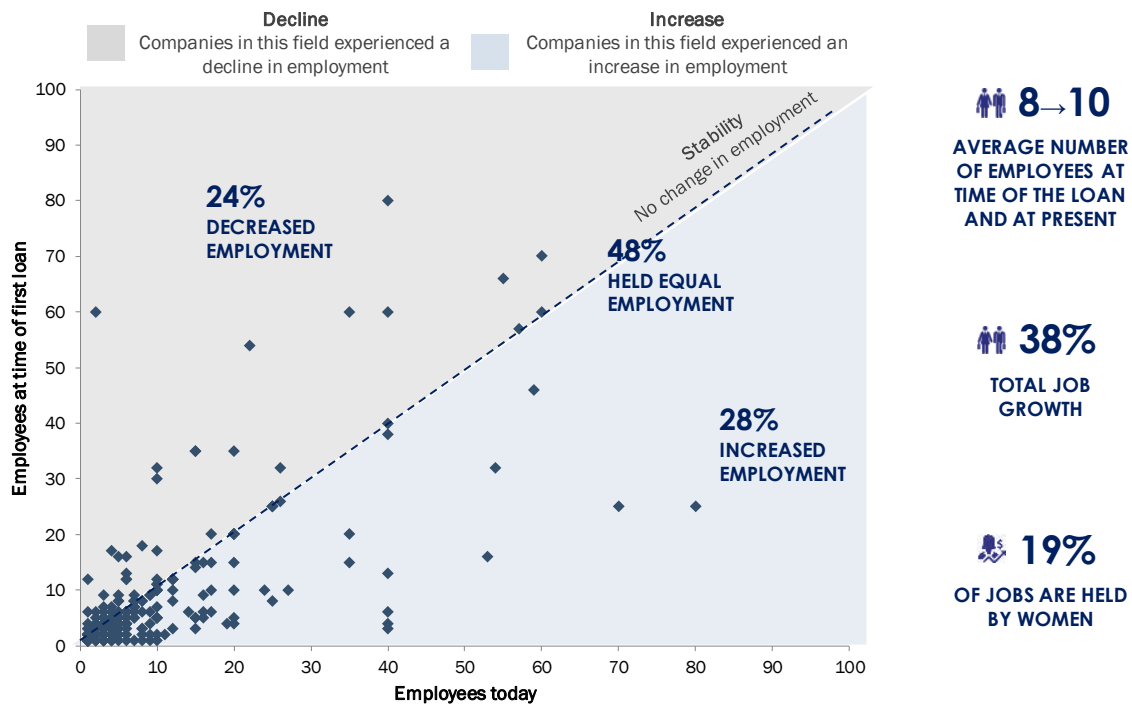


Source: ACGF (2018, p.38)

Therefore, it can be concluded that ACGF overwhelmingly secures loans that help firms to grow, as indicated by the growth in firm’s revenues. Apart from the revenues generated by SMEs, the economic impact of ACGF on SME’s operations can be measured by examining the employment effects. In fact, the SME survey suggests that the total number of firms’ employees rose by 38 percent, on average, between the acquisition of their first guaranteed loan and the time of the assessment. This can be explained by the fact that the rise in the number of employees of the growing SMEs strongly surpassed the decrease of

the number of employees at companies, whose work force declined after obtaining a guaranteed loan. While employment at growing companies increased by 260 % on average, the average fall in employment of companies whose work force declined amounted to -42 percent. In effect, this means that there is, on average, a positive relation between the ACGF’s activities and the employment growth of beneficiary SMEs (ACGF 2018, pp. 38-39).

Figure 16: Employment development at SMEs (n = 369)



Source: ACGF (2018, p.40)

Moreover, the denseness of dots in the lower left blue corner of the figure above shows that small companies with less than 10 employees at the time of loan acquisition made the biggest contribution to overall employment growth. Hence, this suggests that ACGF has helped particularly smaller SMEs to overcome finance constraints that impeded their capability to hire more staff and live up to their growth potential (ACGF 2018, p.39).

According to ACGF’s own estimations, the positive employment effects of its operations on SMEs have contributed to the retention of more than 50,000 jobs and allowed for the formation of over 9,200 new jobs between 2004 and June 2018 (ACGF 2020c). Based on these numbers and considering that ACGF secured around 5,059 loans with its guarantees since inception, this implies that an individual guaranteed loan helped, on average, to retain approximately 10 jobs and contributed to the creation of almost two new jobs (ACGF 2018, p.38). If these calculations are adequately reflecting reality, then ACGF’s guarantees undoubtedly have a strong positive impact on the economic performance of

beneficiary firms, thereby effectively achieving a high level of economic additionality. Nevertheless, the way economic additionality was calculated remains unclear and considering the previously mentioned methodological difficulties in measuring economic additionality, these claimed achievements should be treated with caution. In any case, the generally positive development of firm's revenues and employment numbers following the acquisition of a loan secured by an ACGF guarantee indicates that there generally seems to be a positive relation between ACGF's efforts and SME's operations. At this point, it must be pointed out, however, that no causal link was established by means of an empirical analysis, which certainly constitutes a weakness in the analysis of ACGF's impact. In addition, the monitoring and evaluation system of ACGF shows potential for improvement as it does not have any information on the development of other performance indicators of beneficiary SMEs, such as the level of investment, productivity, default rates or innovative capacity.

4.3 A critical evaluation of ACGF's role in enhancing access to finance for SMEs in Afghanistan

4.3.1 Discussion on the role of ACGF in promoting SME finance in Afghanistan

Considering the presented findings of financial and economic additionality against the background of ACGF's mission, it is legitimate to conclude that ACGF positively contributes to enhanced access to finance for SMEs in general, thereby giving firms the opportunity to improve their economic performance and to grow accordingly. Besides, the analysis of ACGF has shown that the fund effectively reaches its target group by securing loans that are disbursed by its PFIs to firms in the lower, middle and upper SME segment. The central role that ACGF plays in the SME lending market of Afghanistan becomes more apparent when taking into account that the outstanding loans in ACGF's portfolio amounted to around USD 19,3 million at the end of 2019, which, according to ACGF's estimations, equaled around half of all outstanding SME loans in Afghanistan at the time (ACGF 2019b). Consequently, ACGF has "become a player of systemic relevance for the financial sector of Afghanistan", and for the Afghan credit market in particular (Annex III, p.93). ACGF's high SME loan market coverage clearly demonstrates that its operations represent a highly relevant intervention that help to address a key issue in Afghanistan, namely a lack of access to finance for SMEs. As explored in this case study, ACGF has evidently contributed to alleviating the effects of the constraints of access to finance for SMEs by providing guarantees in conjunction with capacity building and TA programs. Consequently, ACGF contributed to a more pronounced engagement of its PFIs in the SME lending market and allowed for better loan conditions from the perspective of borrowing firms.

Nevertheless, the positive effects of ACGF's operations on the status quo of SME finance in Afghanistan must also be put into the country's macroeconomic context to properly assess ACGF's effectiveness. To begin with, it must be acknowledged that ACGF has managed to maintain a loan portfolio of good quality with an average historical net loss rate of 1,2 percent, despite of the challenging business environment and underdeveloped financial sector in Afghanistan (ACGF 2019a, p.2). This was partly made possible by the fund's individual guarantee approach, which follows a case-by-case approach to loan appraisals instead of the provision of portfolio guarantees, thereby allowing ACGF to retain a strong level of control. On the other hand, this is a very time-intensive approach

and contributes to a relatively high average cost per guarantee, which in turn adds to the fact that ACGF is not financially sustainable and incurring losses (ACGF 2018, p.2).

When attempting to evaluate whether the incurring of these losses is and was ‘worth it’, it is necessary to take a closer look at the bigger picture. After all, the World Bank (2020b, p.5) estimates that only around 16 percent of total bank lending reach MSMEs in Afghanistan. As reported by the 2017 MSME Finance Gap report, this situation causes 54 percent of Afghan MSMEs to be financially constrained, of which 40 percent are fully constrained (World Bank 2020b, p.5). Clearly, this low level of financial inclusion of SMEs is not a satisfactory outcome from the perspective of ACGF and casts serious doubts on the fund’s effectiveness. Still, given the findings of financial additionality generated by ACGF, it may be assumed that SME lending levels would likely to be even lower in the absence of ACGF guarantees. Also, the high level of financially constrained SMEs demonstrates that ACGF is filling an important void in the Afghan credit market. With regards to economic additionality, similar observations can be made. While most SMEs that benefited from loans covered by ACGF guarantees also reported a subsequent growth in terms of their revenues and employees, these positive effects did not satisfactorily translate into a positive development on a national level. Specifically, the World Bank reports that formal employment of people over 15 years as a share of the total Afghan population only increased by roughly 1,5 percent from 41,97 percent in 2000 to 43,47 percent in 2019 (World Bank 2020c). Moreover, the poverty rate has been increasing from 38 percent in 2012 to 55 percent in 2017, giving rise to a situation in which 93 percent of the population lives from less than USD 2 per day. Furthermore, Afghanistan’s economic growth over the last years (average real GDP growth of 3 % since 2012) has hardly surpassed the population growth rate, which amounts to 2,7 percent annually (World Bank 2020b, p.4). Stronger economic growth rates in earlier years (for example in 2009,2010,2012) also did not offset the effects of a growing population, which can be explained by a demographic boom and falling mortality rates. In fact, it is estimated that real GDP growth would have to be at least 8 percent per year such that the growing work force can be absorbed without rising levels of unemployment (OECD 2019, p.18). Furthermore, Afghanistan’s private sector development has been severely affected by a very complex security situation, widespread corruption, and political instability over the last years (OECD 2019, p.20).

This situation sadly provides a poor outlook on the future of Afghanistan, especially when considering that the Covid19-pandemic will have a further detrimental effect on the Afghan economy. Apart from the disruptions to economic activity caused by border closures and lockdowns, it is estimated that over 100 000 refugees fled to Afghanistan due to the pandemic outbreak in Iran over the last few months. Accordingly, Afghanistan's GDP in 2020 is forecasted to contract by 5,5 percent or more (World Bank 2020b, p.3). For these reasons, it is not surprising that the financial and economic additionality generated by ACGF is hardly noticeable when examining macroeconomic indicators. This, however, does not mean that ACGF was not effective in enhancing access to finance for SMEs to contribute to a more sustainable economic development of the country. In fact, the analysis rather supports the notion that ACGF represents a much-needed instrument to facilitate SME lending in a crisis-ridden country, which is why a ramp-up of ACGF's operations is called for if the mission is to realize a significant and positive development impact. In this context, the OECD (2019, p.66) has also recommended to make use of the existing structure provided by ACGF and to expand its activities to improve access to finance for SMEs in the country. Indeed, this is in line with the government's growth strategy, which has identified private sector development as the main new engine and driver of economic growth (OECD 2019, p.20). To conclude, ACGF's contribution to overcoming access to finance as a barrier to SME sector growth is effective, despite of the low level of financial development in the country, and bears much more potential to help spur private sector-led economic growth in Afghanistan, which is why the incurred losses of ACGF have been 'worth it' and represent "a necessary investment into the future of Afghanistan" (Annex III, p.87).

4.3.2 Recommendations for the way forward

The analysis of ACGF has also revealed some potential for improvement in various aspects. To begin with, the fact that 98,1 % of ACGF's guaranteed loans between 2010 and 2018 were disbursed by only two partner banks, namely FMFB and AIB, shows that ACGF does not effectively diversify the credit risk of its loan portfolio by becoming too exposed to the operations of only two PFIs, which clearly represents a weakness in terms of ACGF's risk management. Furthermore, an internal evaluation of ACGF has shown that between 2016 and 2018, around 9 out of 10 guarantees were approved for loans that reached SMEs in Kabul (44%), Balkh (26%) and Herat (20%) (ACGF 2018, pp.34-35). This concentration of ACGF's activities is naturally also due to the complex security

situation, but also reflects a limited outreach, especially with regards to rural areas (ACGF 2018, p.34). Therefore, it is recommended for ACGF to onboard new PFIs and to intensify their cooperation with recently added partner banks such as Oxus or FINCA in order to reduce the risk exposure of its guarantee portfolio as well as to increase its outreach. Additionally, it might be worthwhile for ACGF to develop a strategy in collaboration with its PFIs to more effectively reach SMEs outside of Afghanistan's urban centres, as these SMEs are likely to be even more credit-constrained as their counterparts in the cities. The case study has also shown that ACGF could improve its impact measurement as the computation of key results remains obscure and unclear. Also, some important indicators such as development of PFI's transaction costs or the default rates of beneficiary SMEs are not being monitored. Furthermore, ACGF should assess whether introducing the use of portfolio guarantees could help to minimize costs while still being able to maintain a sufficient level of oversight. The use of portfolio guarantees should also be considered against the background of new funding approved for ACGF by the World Bank, which is intended to strengthen ACGF's role in enhancing access to finance for SMEs. Naturally, the re-capitalization of ACGF will increase the administrative burden and poses a challenge for ACGF due to limited capacities and hence, portfolio guarantees may constitute a viable solution.

5. Conclusion

This research aimed to explore the role of credit guarantee schemes in promoting SME finance in developing countries. Based on a theoretical discussion of how credit guarantees can help to lift credit-constraints for SMEs as well as a literature review of empirical studies analyzing the effectiveness of CGS in generating financial and economic additionality, it can generally be concluded that CGS bear enormous potential in enhancing access to finance for SMEs in developing countries. Moreover, by conducting a case study on the Afghan Credit Guarantee Foundation (ACGF), this thesis has demonstrated that credit guarantee schemes may constitute an effective instrument to improve access to finance for SMEs and to promote the economic performance of beneficiary firms, despite of low levels of financial sector development. Therefore, the results of the case study confirm the hypothesis of this thesis, which claimed that credit guarantee schemes can be an effective financial instrument to enhance access to finance for SMEs and thereby to promote SME sectors of developing economies, despite of the presence of low levels of financial sector development.

These findings are highly relevant for the field of international development cooperation, which seeks to help overcoming key bottlenecks and constraints to sustainable economic growth of developing countries. As explored in section 2 of this paper, the lack of access to credit represents a major constraint to doing business and this is particularly true for young firms and SMEs (World Bank 2014, p.43). Given that the literature seems to generally have reached a consensus with regards to the positive impact of enhanced access to finance of firms on economic growth, income inequality and poverty levels in developing countries, the role of CGS as a concrete instrument to help reduce the global MSME finance gap was set out to be explored.

The theoretical review of the workings of credit guarantee schemes has shown that such risk-sharing facilities address key constraints to access to finance for SMEs, which are namely information asymmetries in credit markets, high transaction costs of SME lending, bank's high-risk perception of the SME sector as well as small firm's lack of collateral. Nevertheless, while these insights provide strong arguments for the use of CGS in international development cooperation, it must be pointed out that credit guarantees are not the only way to boost SME lending. In fact, policy solutions to a lack of access to finance of SMEs comprise the introduction of suitable laws and registers for

movable collateral, engaging in other direct state interventions in the credit market, promoting the generation and exchange of reliable credit information and improving the legislative and institutional framework for leasing, factoring and insolvency. Unsurprisingly, improving the framework conditions of SME lending is indispensable when attempting to promote SME finance in developing countries and these measures cannot be simply replaced by establishing a CGS to address deficiencies of the institutional and regulatory environment of SME lending markets. While the relationship between improved framework conditions for SME lending and the effectiveness of CGS was not explored in this research, which also constitutes a limitation of this thesis, it is expected that both tend to act in a complementary and mutually reinforcing manner.

Furthermore, section 3 of this paper has discussed the role of CGS in improving access to finance for SMEs and the rationale for their use. As described, there are various justifications for the intervention in credit markets via private and public CGS. In any case, CGS in developing economies are often implemented as development tools and not primarily used to correct imperfections in credit markets as it is the case in industrialized economies (Green 2003, p.16). Consequently, public CGS tend to be rather based on distributional arguments or externalities that arise because of the enhanced economic performance of beneficiary firms (Beck, Klapper and Mendoza 2008, p.5). Specifically, effective credit guarantee schemes generate financial and economic additionality as defined in section 3. To do so, such risk-sharing facilities will also have to induce changes in the structure, perceptions, and behavior of banks towards the SME sector. Indeed, guarantees can help to change lender's high-risk perception of the SME sector through a learning process by facilitating banks to find out about the initial creditworthiness of borrowing firms while facing a lower risk exposure. On the same time, SMEs can develop a credit history and banks are gaining experience in SME lending, thereby enabling them to serve the previously unknown sector more effectively. Assuming that as a result some banks successfully establish SME lending as a profitable area of their operations, credit guarantees also bear the potential of stimulating competition in SME lending markets (Green 2003, p.17)

Nevertheless, several researchers have criticized the widespread use of CGS for various reasons. As described in section 3.4 of this paper, these concerns are multifold and to some extent legitimate. Due to the limited wordcount of this thesis and without intending

to downplay said criticism, a summary of these concerns will not be presented at this point. To assess the effectiveness and impact of CGS with regards to financial and economic additionality and to validate the explained benefits and downsides of such risk-sharing facilities, a literature review of empirical studies on the performance of CGS has been conducted in the following part. First, it must be emphasized that assessing financial and economic additionality of a CGS is very complex for the reasons explained in section 3.5 of this paper. Notwithstanding, extensive empirical research has been conducted on the issue by applying various strategies to deal with methodological difficulties. Overall, most empirical studies analyzing CGS around the world have found evidence of financial additionality, either in terms of increased lending volumes or enhanced lending conditions such as lower interest rates.

In contrast, the empirical literature on economic additionality generated by CGS is rather mixed. While some studies observed economic additionality, most empirical impact evaluations of CGS are not able to establish a causal link between the presence of loan guarantees and any economic real effects on firm's performances. However, this is also partly due to the methodological difficulties. Therefore, more empirical research is called for to properly assess the effect of CGS on the economic performance of beneficiary SMEs. With respect to the contribution of CGS to overall economic growth, the literature is scarce. Nevertheless, some authors have claimed to establish a link between enhanced access to finance for SMEs facilitated by guarantees and higher economic growth. While these results are encouraging with respect to the usefulness of CGS, they should be treated with caution due to the methodological issues involved as well as other influencing factors that have most likely not been accounted for completely.

All in all, the findings on the effectiveness of CGS in generating financial and economic additionality indicate that well-implemented risk-sharing facilities can be a powerful financial instrument to increase access to finance for SMEs, potentially leading to economic additionality. In the context of international development cooperation this insight should be hard to ignore, when considering that especially in low income countries domestic credit to the private sector as a percentage of GDP is traditionally low with 13.7 per cent in 2018 compared to 139,9 per cent for high income countries (World Bank 2020a). Accordingly, it is unsurprising that CGS have gained considerable momentum on

a global scale and are increasingly implemented to achieve key development goals such as the mobilization of the private sector, poverty reduction and job creation.

Still, CGS are certainly not a substituting mechanism for the need of institutional reforms to establish an efficient credit system (Honohan (2008, p.8). Indeed, it has been argued that the likeliness of a CGS being successful in promoting financial inclusion is the lowest in countries where the need for it is the greatest (Bennett, Billington and Doran 2005, p.26). After all, this stands in contrast to the wide-spread use of CGS as development tool in low-income countries with weak financial infrastructures to address not only entrepreneur's lack of access to finance, but also to stimulate financial sector changes and promote SME development. With the objective to shed some light on this apparent contradiction and to further explore to what extent CGS can promote SME sectors of developing countries through the improved access to finance, a case study of ACGF was conducted in section 4.

The case study has demonstrated that ACGF positively contributes to enhanced access to finance for SMEs in general, thereby giving firms the opportunity to improve their economic performance and to grow accordingly. ACGF has evidently contributed to alleviating the effects of the constraints of access to finance for SMEs by providing guarantees in conjunction with capacity building and TA programs. As a result, beneficiary firms overwhelmingly reported a growth in their revenues, which shows that enhanced access to finance for SMEs also translates into a better economic performance of these firms. As it was unfortunately beyond the scope of this thesis, this research did not explore sufficiently the specific design features of ACGF in comparison to international best practices, which presents another limitation of this paper.

Anyways, the positive impact of ACGF on the SME lending market in Afghanistan did not satisfactorily translate into a positive macroeconomic development on a national level. It is the author's view that this is mostly due to the highly complex economic, political and security situation in Afghanistan and not because ACGF was not effective in enhancing access to finance for SMEs or because their improved access to finance didn't benefit beneficiary SMEs. In fact, the analysis rather supports the notion that ACGF represents a much-needed instrument to facilitate SME lending in a crisis-ridden

country, which is why a ramp-up of ACGF's operations is called for if the mission is to realize a significant and positive development impact.

Finally, the important role guarantees can play in promoting SMEs is reflected in a survey of banks in 45 countries, which found that around half of the surveyed banks in developed countries and 55% of banks in the developing countries view CGS as the most common tool and the most effective financial instrument compared to alternative government programs in order to foster SME finance (Beck, Demirgüç-Kunt and Martínez Pería 2008, p.8). If we then recall that SMEs constitute the foundation for private sector-led economic growth in developing countries, loan guarantees for SMEs can potentially play a powerful role in contributing to a more sustainable economic development in low-income countries.

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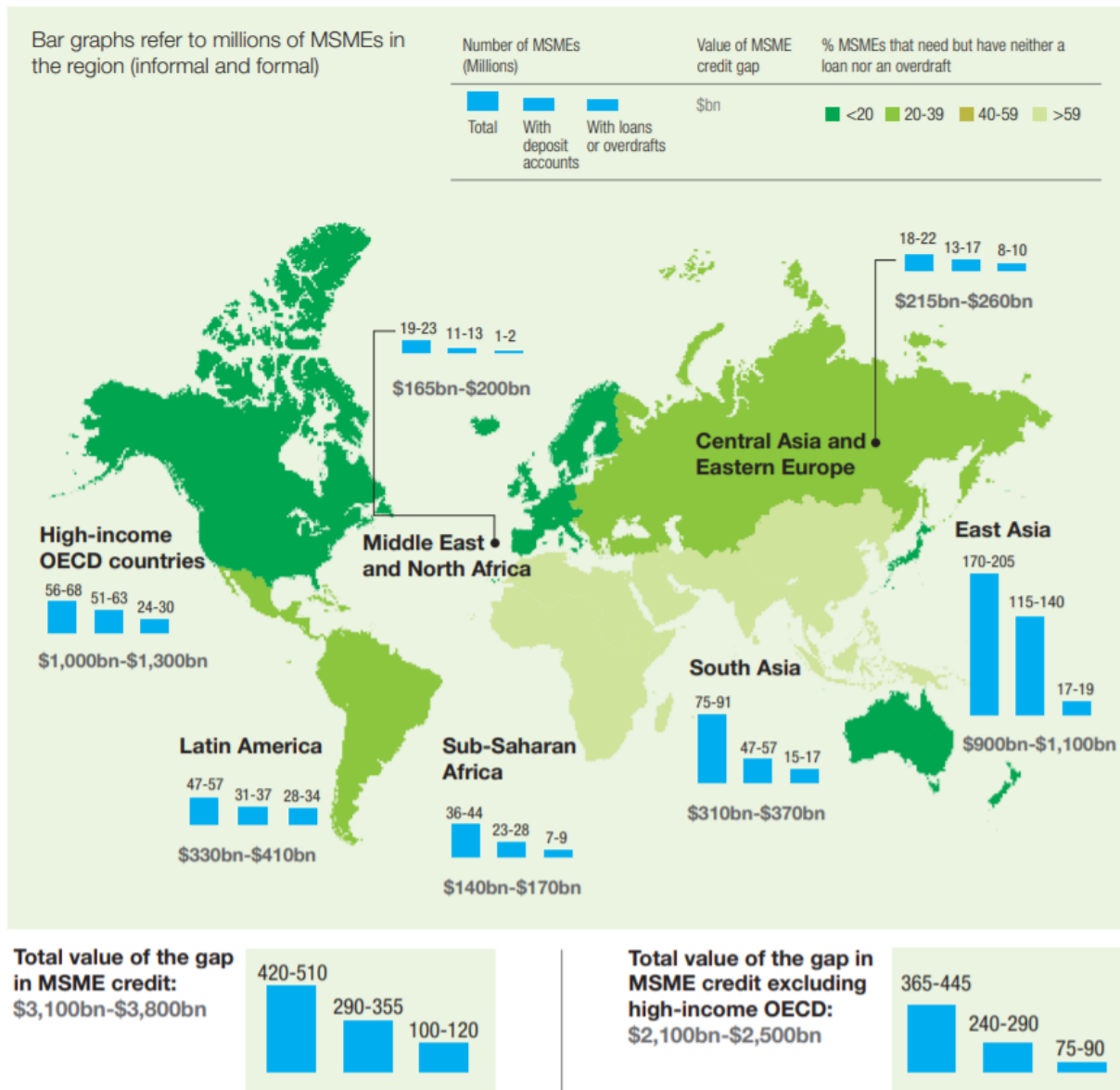
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7. Appendix

Annex I: Figures

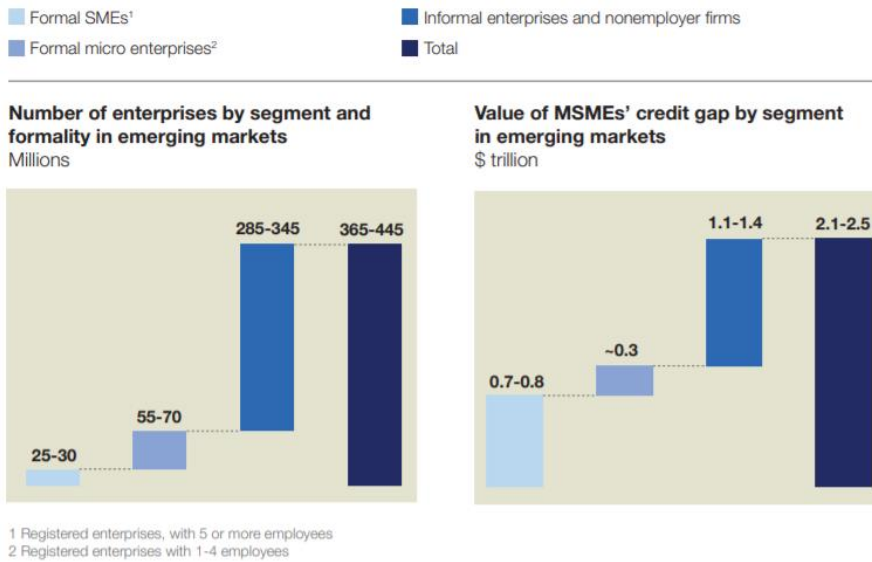
Figures 1 & 2: They can be found in the text (Section 2.3)

Figure 3: Overview of MSMEs' access to finance by region



Source: Stein, Goland and Schiff (2010, p.2)

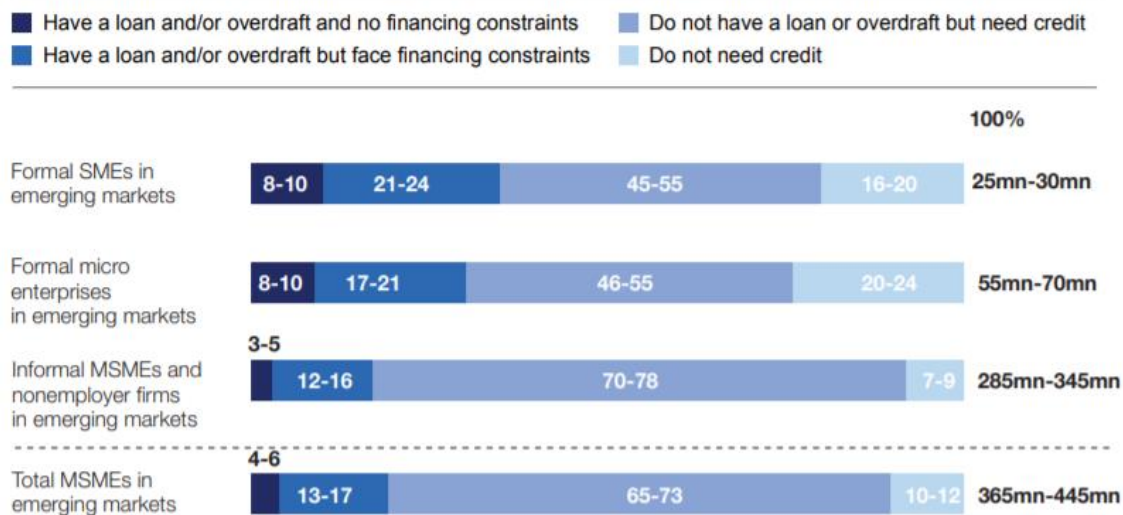
Figure 4: Number of MSMEs and value of MSMEs' credit gap in emerging markets by segment



Source: Stein, Goland and Schiff (2010, p.4)

Figure 5: MSMEs' use of bank loans or overdrafts and financing constraints

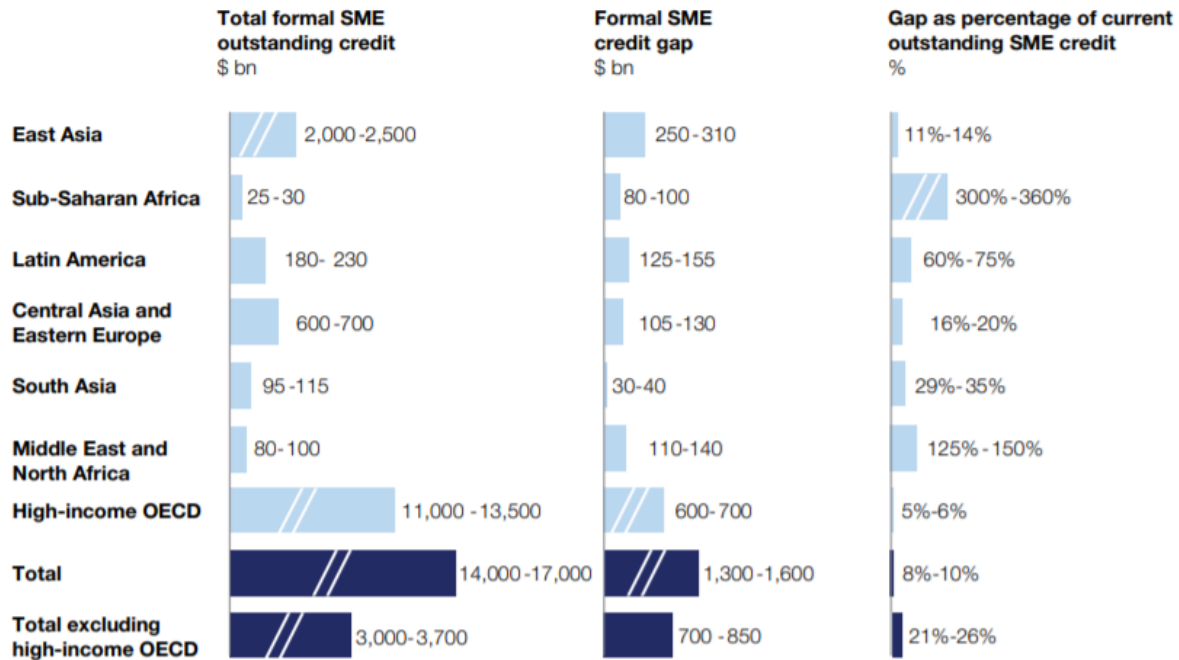
% of total enterprises in emerging markets (i.e., excluding high-income OECD)



1 The number of MSMEs unserved or underserved is calculated based on MSMEs' access to bank loans and overdrafts (i.e., not including MSMEs' access to trade financing, leasing, factoring, and other forms of credit). However, the value of the credit gap in dollars takes into consideration credit available through loans, overdrafts, leasing, factoring, trade finance and other forms of formal credit.

Source: Stein, Goland and Schiff (2010, p.4)

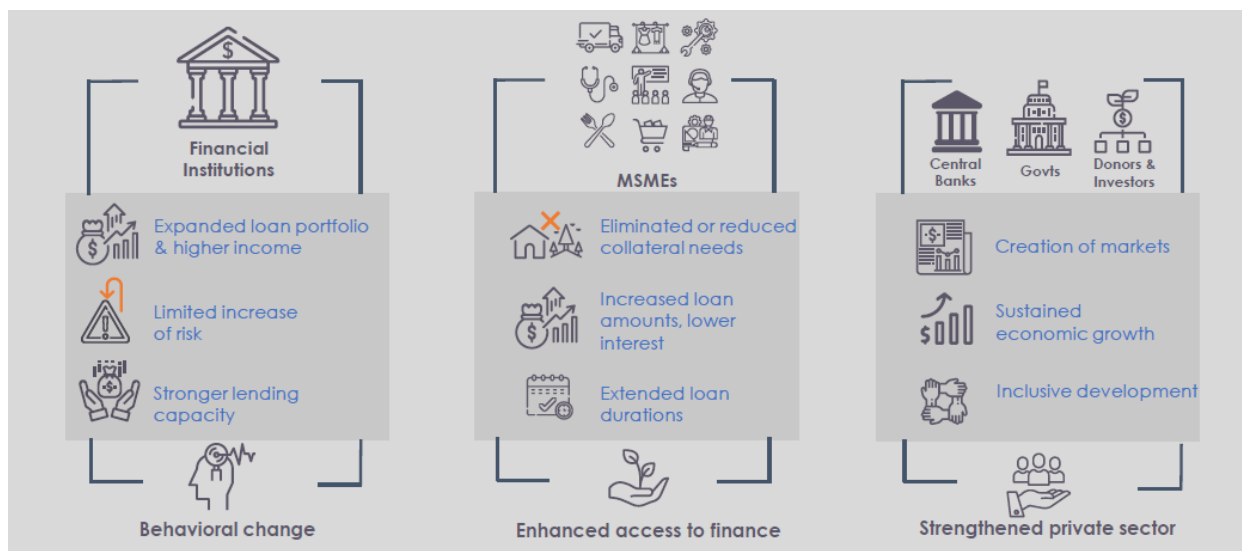
Figure 6: Credit gap relative to current outstanding SME credit



Source: Stein, Goland and Schiff (2010, p.6)

Figure 7: It can be found in the text (Section 2.4)

Figure 8: The impact of credit guarantee schemes



Source: LANDT (2020)

Annex II: Tables

Table 1: Stylized 4x2 Matrix of Financial System Characteristics

	Financial Institutions	Financial Markets
DEPTH	Private sector credit to GDP Financial institutions' assets to GDP Money (M2 aggregate) to GDP Deposits to GDP Value-added of the financial sector to GDP	Stock market capitalization plus outstanding domestic private debt securities to GDP Private debt securities to GDP Public debt securities to GDP International debt securities to GDP Stock market capitalization to GDP Stocks traded to GDP
ACCESS	Accounts per thousand adults (commercial banks) Branches per 100,000 adults (commercial banks) Percent of people with a bank account (from user survey) Percent of firms with line of credit (all firms) Percent of firms with line of credit (small firms)	Percent of market capitalization outside of top 10 largest companies Percent of value traded outside of top 10 traded companies Government bond yields (3 month and 10 year) Ratio of domestic to total debt securities Ratio of private to total debt securities (domestic) Ratio of new corporate bond issues to GDP
EFFICIENCY	Net interest margin Lending-deposits spread Noninterest income to total income Overhead costs (percent of total assets) Profitability (return on assets, return on equity) Boone indicator (Herfindahl, or H-statistic)	Turnover ratio (turnover/capitalization) for stock market Price synchronicity (co-movement) Price impact Liquidity/transaction costs Quoted bid-ask spread for government bonds Turnover of bonds (private, public) on securities exchange Settlement efficiency
STABILITY	z-score (or distance to default) Capital adequacy ratios Asset quality ratios Liquidity ratios Other (net foreign exchange position to capital, etc.)	Volatility (standard deviation/average) of stock price index, sovereign bond index Skewness of the index (stock price, sovereign bond) Price/earnings (P/E) ratio Duration Ratio of short-term to total bonds (domestic, international) Correlation with major bond returns (German, United States)

Source: Based on the review of literature in Čihák, Demirgüç-Kunt, Feyen, and Levine 2012.

Note: This is a stylized matrix. For details, see Čihák, Demirgüç-Kunt, Feyen, and Levine (2012). Variables that are highlighted in bold are the ones suggested for the benchmarking exercise. Private sector credit to GDP is domestic private credit to the real sector times deposit money banks to GDP. Accounts per thousand adults (commercial banks) is the number of depositors with commercial banks per 1,000 adults. For each type of institution, this figure is calculated as the (reported number of depositors)*1,000/adult population in the reporting country. The net interest margin is the accounting value of the bank's net interest revenue as a share of its average interest-bearing (total earning) assets. The z-score (or distance to default) is $(ROA + equity)/assets/sd(ROA)$, where ROA is average annual return on end-year assets and $sd(ROA)$ is the standard deviation of ROA. Stock market capitalization plus outstanding domestic private debt securities to GDP is defined as the value of listed shares to GDP plus amount of outstanding domestic private debt securities to GDP. Percent of market capitalization outside of top 10 largest companies is the market capitalization out of the top 10 largest companies to total market capitalization. Turnover ratio (turnover/capitalization) for stock market is the ratio of the value of total shares traded to market capitalization. Volatility (standard deviation/average) of stock price index is the standard deviation of the sovereign bond index divided by the annual average of that index.

Source: World Bank (2012, p.23)

Table 2: Overview of studies analyzing the effectiveness of credit guarantee schemes (Author's own elaboration)

→ The sources can be found in the bibliography

Research by	Regional focus	Research objectives	Applied methodology	Main conclusions	Financial additionality	Economic additionality	Financial sustainability
Anke Green (2003)	Global perspective	To evaluate whether credit guarantee schemes are efficient and effective instruments to promote private sector-led growth	Narrative synthesis/ Literature review	Well-implemented CGS can lead to financial and economic additionality. The author concludes that it is not clear whether CGS are an efficient tool to promote private-sector led growth. According to Green (2003), there is a lack of compelling evidence on the economic benefits of CGS. Furthermore, good practices for the design and successful implementation of CGS are identified.	✓	✓	
Jacob Levitsky (1997)	Global perspective	Analysis of the implementation of CGS around the world to determine benefits of and challenges faced by CGS	Narrative synthesis/ Literature review	The review of 70 CGS showed that most schemes cover between 60 and 80 per cent of the loans guaranteed for. Within the first 10 years of operation, a sound level of leverage should provide for a loan portfolio of between 5 to 10 times the amount allocated to the fund. CGS in developing countries often have relatively low leverage levels. Best practice of CGS suggest a reasonable claim rate to amount to 2-3 per cent. CGS can improve the conditions of a loan for the borrower, which is one form of additionality. Financial additionality of well-designed and adequately implemented CGS' usually amounts to at least 30-35 per cent. Economic additionality of at least 60 per cent constitutes the acceptable minimum as a justification for a CGS. Finally, there is no international consensus that CGS are an effective instrument to enhance access to finance for SMEs.	✓	✓	
Kevin Cowan, Alejandro Drexler, Álvaro Yañez (2015)	Chile	Assessment of the financial additionality of a Chilean CGS and its effects on the incentives of SMEs and banks	Empirical tests by running a regression analysis of data obtained from the guarantee administrator and firm-level information provided by banks	The authors find a significant, positive effect of the Chilean CGS on the availability of credit for SMEs, thereby providing evidence of financial additionality of the scheme. To be more precise, one additional dollar in the form of guarantees led to an increase of US\$ 0,65 of total credit available to SMEs. Also, the study finds that the issued credit guarantees disincentivize banks in their efforts to collect the loan repayment, which in turn increases the borrower's delinquency rate.	✓		
Thorsten Beck, Leora F. Klapper, Juan Carlos Mendoza (2010)	Global perspective	Assessment of the different typologies of CGS around the world as well as an evaluation of the role of the government in this context	Using cross-country data obtained by a survey of 76 PCG funds from 46 developed and developing countries, the study provides evidence on the variation of funds around the world. This is done by providing descriptive statistics and correlation analysis, which	CGS vary greatly around the world with respects to various features such as their organizational structure, the distribution of the respective roles of the government and the private sector in the scheme as well as the pricing and risk mechanisms. Furthermore, most public guarantee schemes are not financially sustainable as they are unable to cover their operating expenses by means of their charged fees. Out of 15 public CGS in the survey, the authors show that eleven schemes have operating losses.			✗

Research by	Regional focus	Research objectives	Applied methodology	Main conclusions	Financial additionality	Economic additionality	Financial sustainability
Alessio D'Inazio, Carlo Menon (2020)	Italy	To evaluate the degree to which SMEs benefited from enhanced access to finance as a result of the implementation of credit guarantee scheme in Italy	Descriptive statistics and empirical tests by running a regression analysis of bank-firm-level data	According to the study, the CGS had no effect on the amount of disbursed credit to firms. Furthermore, the delinquency rate slightly rose. Nevertheless, the guarantees contributed to better financial conditions of the loans for firms with a, on average, relatively higher share of long-term loans and lower interest rates. The authors did not observe any significant effect on investments by firms, thereby indicating that enhanced access to finance did not directly translate into any "real effects" in the short-term.	Financial conditions of loans improved, however the volume of disbursed credit to the SME sector did not increase	✗	
Salvatore Zecchini, Marco Ventura (2009)	Italy	Assessment of the extent to which the borrowing cost and credit supply to SMEs are affected by the guarantees of the CGS	Descriptive statistics and a causal fixed-effect panel data estimation. By applying the Difference-In-Difference (DID) approach, temporal variation is accounted for.	The analysis identifies a causal relationship between the guarantees and a higher credit supply to firms as well as a lower cost of the loans provided by banks. The cost reduction of loans ranges between 16-20 per cent, meanwhile the supply of credit increased by approximately 12,4 per cent at the median. As a result, the CGS proved to be successful.	☑		
Claire Lelarge, David Sraer, David Thesmar (2010)	France	Evaluation of the effects of the French loan guarantee program (SOFARIS) on various firm-level variables: debt, employment, and capital growth, as well as financial expenses and bankruptcy probability.	Descriptive statistics and empirical tests by running a regression analysis of data on the firm-level as well as on the industry-level. By applying the Difference-In-Difference (DID) approach, temporal variation is accounted for.	The authors find a correlation of SOFARIS guarantees and the lower cost of capital for beneficiary firms. The study finds that the availability of SOFARIS loan guarantees did not have an effect on the total amount of new firms created, however, on average, newly created firms grow larger in terms of assets and employment compared to firms who did not obtain a guarantee for their loan. In addition, SOFARIS' guarantees led to a significant increase of firms' probability to default, which indicates that irresponsible risk shifting may pose a serious disadvantage of such credit guarantee schemes.	☑	☑	
Jae Wong Kang, Almas Heshmati (2008)	South Korea	Assess the relations between the credit guarantee scheme (KOTAC), the survival of guaranteed firms, and their productive performance	Descriptive statistics and empirical tests by running a regression analysis of data on the firm-level. By applying the Difference-In-Difference (DID) approach, temporal variation is accounted for.	The study finds that firms that obtained loan guarantees performed better, both in terms of productivity and in terms of sales. However, the effect of guarantee amounts has shown unclear results with a difference in the contemporary and lagged effect. The authors conclude that CGS was moderately successful in enhancing access to finance for SMEs.	☑	☑	
Sakkapop Panyanukul, Wipawin Promboon, Wanwisa Vorranikulkijs (2014)	Thailand	Assessment of the effectiveness of the portfolio guarantee schemes of the Thai Credit Guarantee Corporate (TCG) with regards to the financial additionality of the scheme, the ex-post performance of firms that received a guaranteed loan as well as the incentive misalignment between the involved actors	Empirical tests by running a regression analysis of by-bank individual firms' credit information + Descriptive statistics + Literature review	The empirical analysis shows that the availability of TCG loan guarantees was positively correlated with firms' increased probability of acquiring additional credit followed by an accelerated asset growth of SMEs. Furthermore, TCG loan guarantees led to lower collateral requirements by banks and to a general interest rate reduction for disbursed loans. However, the authors identify incentive misalignment on the part of guaranteed borrows as a cause for an increased probability of participating firms to default. To maximize the effectiveness of CGS, the authors recommend to target specific sectors, particularly those that make significant contributions to the economy as a whole.	☑	☑	

Research by	Regional focus	Research objectives	Applied methodology	Main conclusions	Financial additionality	Economic additionality	Financial sustainability
Guido de Blasio , Stefania De Mitria, Alessio D'Ignazio, Paolo Finaldi Russo, Lavinia Stoppani (2018)	Italy	Evaluation of the effects of the Italian CGS, Fondo di Garanzi, on the level of access to finance for SMEs	Empirical tests by using regression discontinuity techniques (RDD regression analysis)	The scheme's guarantees led to an increase of bank loans to firms, thereby enhancing access to finance for SMEs. However, the interest rate for these guaranteed loans remained constant and the probability of firms to default increased in the presence of guaranteed loans. The acquired external finance was mainly used by SMEs to finance working capital.	☑		
Purbayu Budi S, Firmansyah, Febriandi Prima Putra, Wahyu Widodo, (2019)	Global perspective	Systematic review of studies on the effectiveness of CGS to reduce credit-constraints on SMEs	Narrative synthesis/ Literature review	The authors are unable to identify a consensus in the literature on the effectiveness of CGS in reducing credit-constraints for SMEs. Nevertheless, the research demonstrates that risk-sharing facilities are financial instruments that are widely-used by governments and other institutions to enhance access to formal finance for SMEs.			
Linda Deelen, Klaas Molenaar (2004)	No regional focus	To provide a manual for the successful implementation of effective CGS	No research methodology identified as it is an instruction manual based on pre-existing knowledge	CGS are not instruments to address weak entrepreneurship or the inefficient performance of banks. According to Deelen and Molenaar(2004, p.20), CGS are only effective in improving access to finance for SMEs when the four Ps are present: "Well-prepared entrepreneurs who present good projects to good performing banks that have professional staff to carry out an evaluation and come to the conclusion that the borrower cannot present sufficient collateral." In addition, it is important that borrowers also face some sort of risk in order to ensure the repayment of the loan.	☑		
José Miguel Benavente, Alexander Galetovic, Ricardo Sanhueza (2006)	Chile	To assess whether it is possible to set up a public CGS that ensures that guarantees end up backing loans to only good but excluded borrowers + To evaluate the effectiveness of the Chilean CGS, FOGAPE, with regards to financial and economic additionality	Formal economic model building and analysis of secondary literature	To ensure that guarantees only back up loans to good borrowers who were financially excluded, the individual coverage rate should be very high and close to 100 per cent. Furthermore, the total amount guaranteed by the public CGS should be relatively "small". Additionally, the authors demonstrate that substitution of public for private guarantees increases when individual coverage rate falls. With regards to FOGAPE, the authors conclude that the facility was reasonably successful in making sure that only good borrowers receive guaranteed credit. Nevertheless, banks appear to substantially substitute public for private collateral. The default rate of FOGAPE's guaranteed loans roughly corresponds to the default rate in the whole banking sector, indicating that banks do not get disincentivized by the reduced risk to analyze firms' ability to repay the loan. As a result, the authors assert that FOGAPE is financially sustainable. Evidence is presented that proves an overall improved access to finance for SMEs. The authors argue that the FOGAPE has been successful due to an auction system that provides an incentive structure for banks to closely monitor their borrowers, thereby avoiding moral hazard problems.	☑		☑

Research by	Regional focus	Research objectives	Applied methodology	Main conclusions	Financial additionality	Economic additionality	Financial sustainability
Iichiro Uesugi, Koji Sakai, Guy M. Yamashiro (2010)	Japan	Evaluation of the “effectiveness” of the “Special Credit Guarantee Program for Financial Stability” (SCG program) between 1998 and 2001. The authors assess the impact on loan availability for firms, asset allocation and the resulting performance of firms that obtain guaranteed loans	Empirical analysis of a firm-level panel data set employing a matching estimation approach	Loan availability for participating firms of the SCG program increased. However, the elevated credit availability only lasted for a few years if guaranteed loans were disbursed by undercapitalized banks. The authors also found that banks repeatedly substituted guaranteed loans for non-guaranteed loans to minimize their risk exposure. In addition, participating firms’ performance deteriorated over time in comparison to the firms that did not obtain guaranteed loans. The authors conclude that this suggests that CGS aggravate moral hazard problems in credit markets. However, if firms had a considerable net worth, then the positive investment effect dominated the negative moral hazard effect on firms’ performances.	☑	✗	
Diana Hancock Joe Peek James A. Wilcox (2008)	United States	To assess (1) to what extent reduced bank capital and increased interest rates affected businesses of different sizes in the US between 1990-2000, (2) to which degree SBA-guaranteed loans helped small business and the economy as a whole as well as (3) whether the effects were more substantial in times	Empirical tests by running OLS regressions of state level data ranging from 1990-2000	The authors show that SBA-guarantees had positive effects on the economic performance of SMEs. SBA-guaranteed loans for firms were correlated with growth in employment, wages and output. To a modest degree, SBA-guarantees were associated with less bankruptcies of firms. The stimulating impact of the SBA-guarantees was particularly significant in times of tight monetary policy and slow economic growth. The authors conclude that CGS may be viewed as financial instrument to safeguard macroeconomic stability in times of an economic downturn and in the light of a struggling financial sector.		☑	
Ben R. Craig, William E. Jackson III and James B. Thomson (2005)	United States	To evaluate whether SBA-guaranteed loans had considerable effects on the local and regional economic performance in terms of growth of per capita income.	Empirical tests by running a panel data regression analysis	The authors find a small, but positive and significant relationship between the guaranteed SBA-loans and the growth of future personal income of participating agents		☑	
Marc Cowling (2010)	United Kingdom	To assess whether the Small Firm Loan Guarantee Scheme (SFLGS) enhanced access to finance for SMEs in the UK	Empirical analysis of data originating from all the records for loans issued under SFLGS between 1993-1998	The empirical analysis shows that SFLGS has managed to successfully lift credit constraints on SMEs and thereby enhanced their access to external finance.	☑		

Research by	Regional focus	Research objectives	Applied methodology	Main conclusions	Financial additionality	Economic additionality	Financial sustainability
Fred Bennett, Harriet Billington, Alan Doran (2005)	Global perspective (Chile, Egypt, India and Poland)	To evaluate the contribution of CGS to financial sector deepening, which is referred to as the degree to which access to external finance for previously excluded firms increased. To determine whether CGS lead to sustainable changes in the lending behavior of banks with regards to SMEs.	Case study of four CGS and qualitative analysis	The authors show that financial sector deepening was observable in the studied countries and that this was partly due to presence of the examined CGS'. This causal link was more apparent with regards to direct deepening, which is referred to as the effects that are directly related to bank's use of guarantee products. Occurrences of indirect deepening, which are related to the rather wider effects on lender's behavior by their experiences and observations of guarantee operations, were difficult to identify. The study also identifies various macro- and micro factors of success and failure surrounding the effectiveness of CGS. Macro factors of success encompass, among other things, a competitive banking sector, a dynamic business environment, a supportive policy environment with an effective banking supervisory authority as well as the presence of a credit bureau that ensures the generation and exchange of high quality credit information. Micro factors of success comprise a competitive appetite of banks, the aspiration to contribute to a long-term and permanent deepening of the financial sector, a focus on the sustainability of lender's operations, the alignment of objectives amongst donors, CGS' and lenders as well as the presence of ownership principles by clearly communicating the benefits of financial sector deepening for banks. Broadly speaking, CGS are most likely to be effective in countries where the necessary conditions for the development of the financial sector are already present. Therefore, Bennet, Billington Doran (2005, p. 26) conclude that "CGS serve as accelerators, not drivers, of financial sector deepening. In other words, CGS are not a necessary condition for financial sector deepening. In fact, where the need for financial sector deepening is greatest, CGS are least likely to be successful in promoting that deepening".	✓		
Bilal H. Zia (2008)	Pakistan	To identify the impact and allocation of subsidized credit in the export sector of Pakistan	Empirical tests of loan-level panel data within a regression framework	The author shows that nearly half of guaranteed loans of the sample in Pakistan went to firms that were not credit-constrained and suggests that such inefficient allocation of credit amounts to an economic cost, which is equal to 0.75 % of Pakistan's GDP	✗	✗	
Inha Oh, Jeong-Dong Lee, Almas Heshmati & Gyoung-Gyu Choi (2009)	South Korea	To assess the effectiveness of the credit guarantee policy in South Korea between 2000 and 2003 in supporting firm's (SMEs) growth performance	Empirical tests of panel data applying a propensity score matching methodology	The authors show that the participation of firms in public CGS in South Korea between 2000 and 2003 is correlated with an increase of firm sales and employment growth, as well as wage growth and enhanced survival rates of firms. However, the authors could not provide evidence of a positive effect of guaranteed loans on the firm's R&D, investment levels and productivity growth. Finally, the authors show how firms with relatively lower productivity levels were granted guaranteed loans due to adverse selection problems.		✓	

Research by	Regional focus	Research objectives	Applied methodology	Main conclusions	Financial additionality	Economic additionality	Financial sustainability
José Augusto Castillo Bonillaa, Luis Eduardo Girón (2014)	Colombia	To evaluate the effect of National Guarantees Fund (Fondo Nacional de Garantías) on the access to credit for SMEs for the period 2003-2010	Empirical tests of panel data by conducting a dynamic ordinary least square estimation	The empirical analysis demonstrates that the guarantees issued by the National Guarantees Fund led to an increase in the volume of credit to SMEs. However, no signs of economic additionality could be observed as a result of the issued guarantees.	☑	✗	
Irani Arraiz, Marcela Melendez, Rodolfo Stucchi (2014)	Colombia	To assess the effect of the governmental partial CGS (National Guarantee Fund) on the economic performance of beneficiary borrowing firms	Empirical tests of firm-level panel data covering the period 1997 to 2007 by applying a combination of propensity score matching and fixed-effects estimations	The authors show that the NGF has successfully lifted credit-constraints for firms that were previously unable to obtain credit due to a lack of collateral. The constant default rate of loans indicates that firms' risk-taking behavior remains unaffected by the guaranteed loans. Furthermore, firms that obtained guaranteed loans were able to boost their sales in foreign markets, while gains in productivity and wage levels could not be observed. Additionally, firms' capital accumulation was not affected by guaranteed loans provided by NGF, indicating that the obtained credit is mainly used by SMEs to finance their working capital. This is in line with the short maturity of the guaranteed loans. The authors emphasize that despite the fact that NGF generated financial and economic additionality, CGS like NGF should only be considered as a temporary second-best solution to overcoming the lack of access to finance for SMEs as they do not directly affect the financial infrastructure and the respective structural problems that cause credit-constraints.	☑	☑	
Facundo Abraham, Sergio L. Schmukler (2017)	Global perspective	To assess whether the increased global popularity of public CGS as a financial instrument to expand access to finance for SMEs is legitimate and reflecting a need for persistent state intervention and to evaluate to what extent CGS have generated financial and economic additionality	Narrative synthesis/ Literature review + Theoretical discussion	<p>The literature has found evidence of financial additionality of CGS in various countries (Canada, Italy, Colombia, Chile, Japan). However, public CGS can also have negative effects such as a deteriorating creditworthiness as well as increased default rates of participating firms, higher risk-taking by financial institutions or the provision of guarantees for loans to firms that did not necessarily need them to obtain credit, thereby leading to deadweight losses to the economy as a whole.</p> <p>Evidence on economic additionality of CGS around the world is also mixed. The different levels of success of public CGS partly depend on whether they are addressing a market failure in an effective way. Design differences of such schemes are another explanation for the varying degrees of success in generating financial or economic additionality.</p> <p>Furthermore, there are serious methodological challenges to overcome when attempting to measure additionality of CGS. For example, displacement effects are hard to identify such as in the case when a firm benefits from a guarantee, obtains a loan and this translates into faster firm growth, this growth could lead to a displacement of competitors, which could mean there would be no positive aggregate effect on economic growth.</p>	Mixed results	Mixed results	

Research by	Regional focus	Research objectives	Applied methodology	Main conclusions	Financial additionality	Economic additionality	Financial sustainability
Juan Carlos Gozzi, Sergio Schmukler (2015)	Global perspective	To provide a brief overview of how public CGS work, a discussion of some important design issues of such schemes that can affect their effectiveness, as well as a conceptual discussion of the role of public CGS in enhancing access to finance and an analysis of the rationale for state intervention	Narrative synthesis / Theoretical discussion	<p>In general, the authors claim that public CGS can be useful financial instruments to enhance access to credit for SMEs. Their success in terms of generating financial additionality depends on the adequate design. The failure of many public CGS in developing countries indicates that properly designing CGS poses a major challenge to policy-makers. In addition, evidence on the effects of public CGS is still limited. There is a lack of in-depth assessments of CGS that consider sustainability and additionality and compare those indicators with alternative financial instruments.</p> <p>An argument that legitimizes state intervention in the credit market via the implementation of a CGS is that they can help to overcome information problems in the long-run by enabling banks to cover the costs of the initial learning process of serving a new segment of borrowers. Based on this rationale, CGS should be temporary and terminated when banks have developed the necessary knowledge and experience in serving a certain target group. Another argument is that CGS can help to address principal-agent problems, but this argument is only valid if the government has informational or enforcement advantage over banks, which usually is not given. Lastly, public CGS can be justified on the grounds that the government has an inherent advantage with regards to risk bearing in comparison to risk averse private institutions, which calls for public encouragement for private lending during uncertain times.</p>	✓		
Patrick Honohan (2008)	No regional focus	To assess the rationale behind credit guarantee schemes	Narrative synthesis / Theoretical discussion	Well-designed public CGS that provide incentives for lenders to increase their lending may lead to an enhanced access to finance for SMEs, especially when they target firms that are credit-constrained due to a lack of collateral. Nevertheless, such schemes can't substitute for reform of the fundamental institutional requirements of an efficient credit regime. Moreover, CGS may be introduced due to their political attractions instead of expected improvements of social welfare. The operational design of CGS affect their costs and effectiveness. Best practices include setting precise goals for welfare improvement, adequate accounting standards to control costs effectively, designing the scheme carefully to incentivize lenders and borrowers and transparent communication of the scheme's operations.	✓		
Richard L. Meyer, Geetha Nagarajan (1996)	Developing countries	To discuss the key issues related to the evaluation of CGS and their impact on lending to agricultural firms and SMEs in developing countries. To evaluate the impact of CGS in developing countries on SME-lending.	Theoretical discussion and literature review	All in all, there is scarce quantitative information to justify the use of CGS to stimulate lending to agricultural firms and SMEs in developing countries. The authors point out that this is also due to the methodological challenges of evaluating the impact of CGS on SME-lending in terms of financial and economic additionality. In addition, the authors suspect that CGS in developing countries are typically collapsing after some time. Nevertheless, the results of the study should be treated with caution as it is quiet old and during those times a lack of data and adequate empirical methodologies further complicated a precise empirical analysis of CGS.	✗	✗	✗

Research by	Regional focus	Research objectives	Applied methodology	Main conclusions	Financial additionality	Economic additionality	Financial sustainability
Allan Riding, Judith Madill, George Haines Jr. (2007)	Canada	To measure the financial additionality of the Canada Small Business Financing (CSBF) program	Empirical tests of panel data by applying propensity score matching	The authors estimate the financial additionality of the CSBF guarantee scheme (with 95% confidence) to amount to $74.8 \pm 9.0\%$. In other words, around 75% of firms who obtained a guaranteed loan would not have been able to get a loan without the guarantee	☑		
Youssef Saadani, Zsofia Arvai, Roberto Rocha (2011)	Middle East and North Africa	To review the design of 10 CGS in MENA and to evaluate their outcomes based on a survey conducted in early 2010	The review of the CGS in the MENA region is based on a survey conducted in early 2010. The questions covered areas such as the institutional structure, operations as well as the performance of the schemes. The evaluation of the schemes was based on a literature review and was guided by international best practices for CGS.	The authors claim that CGS can play a vital role in improving SME finance in MENA, even though reforming the financial infrastructure remains the priority for this purpose. This is particularly true in times where governments intend to mitigate the effects of a deficient credit information system and a weak protection of credit rights. The average size of CGS in MENA is in accordance with the international average (outstanding guarantees equivalent to approx. 0.3% of GDP). On average, schemes seem to issue a relatively low number of guarantees compared with international standards, however the average value of these guarantees appear to be relatively high. This indicates that guarantees are likely to be targeting a limited amount of SMEs. The authors were not able to assess the additionality of the schemes included in the survey due to a lack of data and impact evaluations. Also, CGS in MENA are mostly financially sound and have potential to grow. Lastly, CGS in MENA could take over a more proactive role in capacity-building, such as supporting financial institutions in enhancing their lending technologies.	☑		☑
Angela Hansen, Ciku Kimeria, Bilha Ndirangu, Nadia Oshry, Jason Wendle (2012)	Ghana, Kenya, South Africa and Tanzania	To evaluate the design, implementation and effectiveness of CGS in Ghana, Kenya, South Africa and Tanzania	Interviews + surveys + focus groups + Analysis of information of specific CGS and bank operations + Theoretical literature review	The authors develop a framework to evaluate features of various CGS and their performance. Even though banks view the SME sector as an important target group, serving this segment is associated with reluctance among banks due to the complexity in evaluating and managing risk. Most SMEs of the survey confirm a resulting lack of access to finance. Among banks, there is a consensus on the capacity of CGS to support lenders to target new segments and to increase the overall level of SME lending. In contrast, banks only perceive CGS to a lesser extent as having a considerable effect on the terms of lending as well as on the development of new financial products. Finally, the authors present common challenges faced by CGS in enhancing access to SME finance and provide some lessons learned to enhance the effectiveness of CGS. For instance, the survey showed that CGS providers, banks and SME experts agreed that priorities for improving the effectiveness of the guarantee schemes should include to reduce administrative obstacles in the loan disbursement process, to simplify the processing of claims and to provide technical assistance with regards to capacity building of banks. According to the authors, the ability to have a persistent and positive impact on SME access to credit hinges upon the targeting of borrowers, the adaptation of loan processing procedures and the behavioral change guarantees can induce among banks.	☑		

Research by	Regional focus	Research objectives	Applied methodology	Main conclusions	Financial additionality	Economic additionality	Finanical sustainability
Taiwo Mafimisebi Adegboyega Oguntade Ojuotimi Mafimisebi (2010)	Nigeria	To evaluate the performance of the Nigerian Agricultural Credit Guarantee Scheme Fund (ACGSF) for the period 1978-2005	Empirical test of time-series data ranging from 1978 to 2005 by using an exponential growth function as well as a multiple co-integration test	The authors ascertain that ACGSF is partial CGS and mainly a program to subsidize the Nigerian agricultural sector. The empirical analysis shows that key performance indicators such as total fund resources, paid-up share capital, the max. loan amount acquirable by farmers, the amount and value of guaranteed loans, the amount and value of repaid loans and the amount and value of settled default claims displayed continuous growth between 1978 and 2005. In addition, the authors demonstrate a long-run convergence between the amount and value of guaranteed loans and the correspondent agricultural GDP of Nigeria. For the authors, this provides evidence that ACGSF has contributed to the economic development of the agricultural sector. Therefore, the authors point out the need for more guarantees for agricultural loans to spur the development of the strategically important agricultural sector of the Nigerian economy.	✓	✓	✗
Robert C. Vogel, Dale W. Adams (1997)	No regional focus	To discuss the costs and benefits of loan guarantee programs and determine what prevails	Theoretical discussion and literature review	The authors argue that the justification of public CGS to address market imperfections in the credit market is often invalid as their design is not appropriately set-up to do so. The study asserts that most schemes are subsidized and this is especially true for low-income countries. The authors also point out that the high costs of CGS are often heavily understated. On the other hand, the economic benefits of CGS are inadequately documented and due to a lack of complete information all evaluations of additionality are inaccurate. The authors conclude that it is not possible to determine whether the benefits or the costs of CGS prevail due to insufficient information and knowledge about, for example, secondary displacement effects.			✗
Dr. Hakan Tunahan, Dr. Ahmet Selçuk Dizkirici (2012)	Turkey	To assess the organizational and operational structure as well as the performance of the Turkish Credit Guarantee Fund (KGF)	Literature review + Benchmarking analysis by comparing KGF with international standards and best practices for CGS	Compared to CGS in European and Asian countries, the share of KGF's guaranteed loans in total loans and GDP remains relatively low due to complex banking regulations and bank's hesitation to utilize these guarantees. The average KGF guarantee amount per firm is above EU average, however the default rate of guaranteed loans is also higher while the leverage ratio is lower in relation to international standards and best practices, which indicates that KGF pursued a rather conservative lending strategy. Overall, the scheme improved its performance over time, but there is still lots of potential room for improvement. Since the authors chose to conduct a benchmarking analysis, an accurate evaluation of financial or economic additionality was not possible.			

Research by	Regional focus	Research objectives	Applied methodology	Main conclusions	Financial additionality	Economic additionality	Financial sustainability
Ruth-Helen Samujh, Linda Twiname, Jody Reutemann (2012)	No regional focus	To review CGS literature between 1990 and 2011	Literature review	Guarantee schemes are implemented with different objectives around the world, however they are more and more utilized to improve the access to finance for SMEs. This assumes that credit-constrained SMEs need access to credit to achieve their objectives. The literature on CGS and the empirical impact evaluations of individual schemes are inconclusive and often not substantiated by sufficient financial information. The authors find a lack of research that compares the effectiveness of CGS with other alternative financial instruments to improve access to credit for SMEs. The literature review demonstrates that empirical evaluations of CGS are only considering the input costs of such schemes to a limited extent, while the costs of setting up and operating a scheme are not considered. The authors further demand from banks to change their ways of assessing risks via creditworthiness as today we live in a knowledge-based world economy, where intangible assets and intellectual property become more relevant and traditional collateral requirements lead to inefficient economic outcomes.			
Axel G. Schmidt, Marco van Elkan (2010)	Germany	To estimate the share of revenue as well as investment volumes of SMEs which can be attributed to the activities of German Guarantee Banks for the period 2009-2015	Scenario-based, macroeconomic forecast model	In all three scenarios, the issuance of loan guarantees contributed to GDP growth, employment growth and the fall of unemployment. In the most 'realistic scenario' of the model (permanent guarantee stimulus), the authors show that the guaranteed loans between 2009-2015 by the German Guarantee Banks led to financial and economic additionality amounting to 71 % and 31 % percent, respectively. Compared to a world where no guarantees would have been issued, Germany's GDP for the period 2009 to 2015 is EUR 1.7 billion higher and the value of German exports is increased by EUR 700 million. Furthermore, guarantees have contributed to the creation of 24,100 jobs between 2009 and 2015. Furthermore, the guarantees helped the state to increase their financial net balance by EUR 1.1. billion over the 6 years.	☑	☑	☑
Thorsten Beck, Asli Demirgüç-Kunt, María Soledad Martínez Pería (2008)	Global perspective	To characterize the state of bank financing to the SME sector around the world with respect to its drivers, obstacles, business models and lending practices	Using data from a survey of 91 banks in 45 countries, the authors conduct various analyses including empirical testss by running a regression of panel data as well as a benchmarking analyses and qualitative assessments of data + Literature review	The survey revealed that around half of the surveyed banks in developed countries and 55% of the banks in the developing countries view guarantee schemes as the most common tool and the most effective financial instrument compared to alternative government programs (such as interest subsidies, directed credit programs or regulatory subsidies like lower provision requirements) in order to enhance access to finance for SMEs.	☑		

Research by	Regional focus	Research objectives	Applied methodology	Main conclusions	Financial additionality	Economic additionality	Financial sustainability
Dang Thai Binh (2015)	Hungary	To assess the effect of the Hungarian CGS, Garantiqa Creditguarantee Closed Co. Ltd., on the Hungarian economy by supporting banks in providing their financial services and by enhancing access to finance for SMEs	Qualitative assessment of quantitative data + benchmarking + literature review	The author finds that the Hungarian CGS has successfully enhanced access to finance for SMEs between 2005 and 2015. Furthermore, the guaranteed loans had more favorable conditions for SMEs with longer maturities and lower interest rates, thereby reducing the cost of borrowing for SMEs. According to the author, the high ratio of outstanding guarantees to GDP of the Hungarian CGS indicates that it played a key role in promoting economic growth and stabilizing the economy in times of the financial crisis of 2008. The Hungarian CGS also provides benefits for banks as their risks were reduced by the guarantees and their lending portfolio expanded. Furthermore, knowledge-sharing has allowed the scheme to support banks in improving their lending processes, thereby cutting costs and saving time. Improved information-sharing induced by the scheme has also helped to improve bank's risk assessments of lending to SMEs while minimizing the determined risk. Finally, the scheme has helped banks to become more aware of the SME sector as a profitable segment to lend to.	✓	✓	
Vincent Chandler (2012)	Canada	To evaluate the economic impact of the Candada Small Business Financing Program on firm's revenues, number of employees, wage level and profits in the period 2004 to 2006	Empirical tests by running a regression analysis of data obtained by the 2004 edition of the survey on financing of SMEs in Canada + Descriptive statistics	The authors find that the Canadian guarantee program had a significant positive effect on the economy of Canada. Firms that obtained guaranteed loans reported growth in their wage levels, employment levels and revenues. Specifically, firms' participation in the scheme led to a growth of the employment level, wage level and revenues by 12, 12 and 7 percentage points, respectively (in comparison to borrowers who obtained non-guaranteed loans). Nevertheless, the authors could not find a causal relationship between the guarantees and the profitability of firms. This may be due to the fact that profitability may only rise after some time following the incurred investment, but the study only considered a time period of 2 years (2004-2006).	✓	✓	

Annex III: Interview with Pavel Guranda

This interview was conducted via e-mail and in writing in August 2020 by Robin Schiffler together with Pavel Guranda. Mr. Guranda is the head of business development at the LANDT Group, thereby being highly involved in ACGF's operations. Mr. Guranda has been working at LANDT/ ACGF for around 5 years.



Robin: Dear Pavel, thank you for taking the time to answer some questions for my thesis on the Afghan Credit Guarantee Foundation. I highly appreciate it.

Pavel: You're very welcome. I am glad to share some insights on ACGF's operations and I hope I can provide you with some helpful input for your analysis.

Robin: I hope so, too! Then let us get started. Is ACGF's approach based on primarily targeting banks to help them increase their MSME lending or does ACGF consider borrowing MSMEs as their primary target group?

Mr. Guranda: The objective of ACGF is to improve access to finance for Micro, Small and Medium Enterprises (MMSMEs) in Afghanistan by providing credit guarantees and technical assistance to Partner Financial Institutions (PFIs) – banks, micro-finance and micro-deposit institutions.

Robin: Does ACGF have pre-defined objectives that are related to inducing a change in banks' attitude and behavior towards the MSME sector? If so, how are these goals of operations defined?

Mr. Guranda: Yes, we aim to help to enhance access to finance for Afghan MSMEs and to contribute to a strengthened financial sector. For instance, the number of credit officers at PFIs that were trained constitutes one quantitative indicator for how ACGF measures whether it was able to improve MSME lending processes. By providing tailored guarantees, ACGF also aims to contribute to the development of more adequate MSME

lending products in the framework of its technical assistance program. The number of new guarantee and MMSME lending products therefore also serve as indicators as to whether ACGF has had an impact on the quality of financial products provided by banks. Similarly, ACGF attempts to measure its contribution to broadening Afghanistan's financial sector by monitoring the number and value of its implemented TA projects. Of course, another key indicator is the guarantee loan portfolio and whether PFIs grew their relative MSME lending portfolio following the partnership with ACGF. In addition, we keep an eye on the share of guaranteed MSME loans in total PFI's MSME portfolio. Also, several indicators are closely monitored to ensure the attainment of the overarching goal to enhance access to finance for MSMEs (default rate, claims rate, number of guarantee requests, etc.).

Robin: What are the main reasons for PFIs to participate in ACGF's guarantee program? Are ACGF's PFIs interested in continuing their cooperation with ACGF? More importantly, do PFIs consider ACGF as a valuable institution that helps them to expand their lending operations or do PFIs feel pressured to participate in the scheme, while incurring potential additional costs?!

Mr. Guranda: Access to finance remains a main challenge to be overcome by firms in Afghanistan. The level of financial intermediation in Afghanistan is among the lowest in the world with domestic credit to the private sector as a percentage of GDP amounting to only 3,2 % as of 2019. However, MSMEs are struggling to obtain loans even more than big companies considering that they are estimated to have received only 16 percent of overall domestic bank lending in 2019. Financial institutions that are interested and able to expand their loan portfolios are often unable to do so, because of the high perceived risks in lending to MSMEs. The inability of MSMEs to provide sufficient collateral to compensate for that high perceived risk in lending to them leads to a dilemma, for both MMSMEs and financial institutions. However, ACGF's guarantees help to mitigate default risk for banks and offer a replacement for high collateral requirements. By providing technical assistance to banks, ACGF can help banks to build capacity in their MMSME lending departments and improve their MSME credit processes to also reduce the high perceived transaction costs of lending to MSMEs. Finally, PFIs may be able to establish MSME lending as a profitable area of operations while increasing their market share and loan portfolios, which undoubtedly constitute central objectives of any bank involved in lending to firms. A survey of ACGF's PFIs has revealed that all of them are

convinced that their lending portfolios would be significantly lower without the security provided by ACGF guarantees. Therefore, it can be said that PFIs consider ACGF as a valuable institution that supports them in the expansion of their lending operations.

Robin: Can the benefits from the guarantee program be concretely quantified by PFIs? How substantial are these perceived benefits from the perspective of banks? Do PFIs consider their MSME lending, including the guaranteed loans, as a profitable area of operations?

Mr. Guranda: In a survey of PFIs conducted in the context of an internal assessment, ACGF's partner banks pointed out that the guarantees played a very important role in assisting them in their MSME lending operations. In fact, the CEO of "The First MicroFinance Bank (FMFB)", a partner bank that makes up a large share of ACGF's lending portfolio, stated that the bank would not have been able to increase their MSME lending without ACGF's support. Similarly, the CEO of Afghanistan International Bank (AIB), acknowledged that the bank would have extended lower credit volumes to MSMEs and focused on less riskier borrowers. All in all, the survey conducted in 2018 revealed that four out of the five PFIs of ACGF at the time were convinced that they would have extended less credit to MSMEs in the absence of ACGF guarantees, while one bank stated that it would expect the same amount of MSME lending. In addition, three PFIs claimed the individual loan amounts would likely be lower on average and that they would have extended loans at higher interest rates. For all these reasons, ACGF's partner banks strongly agreed that the guarantee institution contributed to enhancing access to finance for MSMEs.

Robin: Does ACGF have specified processes for PFIs to provide feedback on ACGF's services and financial products, and vice versa?

Mr. Guranda: ACGF closely works together with its PFIs via our team at the subsidiary SCSA. The personal, daily exchange between ACGF's credit risk team based in Cologne and the team at SCSA in Kabul and Mazar-i-Sharif represent an important feedback channel for partner banks. Despite of that, regular internal assessments also examine our partnerships with banks in Afghanistan and consider their views on ACGF's operations and potential room for improvements.

Robin: What factors constrain an expansion of ACGF's operations?

Mr. Guranda: Of course, Afghanistan poses a challenging country context to engage in considering the political insecurity and difficult business environment. In fact, Afghanistan is one of the most difficult countries to do business in as businesses cannot rely on legal frameworks to register property, enforce contracts, or engage in international trade. Particularly MSMEs are struggling do business against the background of widespread corruption and exploitation. Additionally, the informal nature of doing business, the lack of financial literacy among entrepreneurs as well as the lack of trust in the banking sector all pose challenges to the successful operation and expansion of ACGF. With regards to the PFIs, ACGF is faced with limitations regarding their geographical outreach, which is mostly due to instable security situation as well as the limited financial infrastructure of the country. With regards to the PFIs, ACGF is faced with limitations regarding their geographical outreach, which is mostly due to instable security situation as well as the limited financial infrastructure of the country. Nevertheless, it is important to remember that ACGF is not engaged in Afghanistan by coincidence. ACGF is trying to address many of these issues and as a counter-cyclical financial instrument, it attempts to mitigate the effects of these issues on the Afghan economy. In fact, CGS thrive in crisis. Of course, funding can always become a constraining factor for ACGF, however we recently received substantial funding from the World Bank so that we are planning to expand our operations despite of the challenges that we face in Afghanistan.

Robin: What are ACGF's lessons learned since its establishment with regards to enhancing its strategic partnerships with its PFIs?

Mr Guranda: The selection of suitable partner banks has proven to be a challenge for ACGF and is critical as the Kabul Bank scandal in 2011 showed. Against the background of a "young" financial sector, which has started from scratch after the Taliban were overthrown, therefore requires a careful assessment of potential PFIs. ACGF only works with banks that have a good reputation in Afghanistan's financial sector and which are privately-owned. Furthermore, ACGF necessitates to initiate a due diligence process following the selection of potential PFIs.

In addition, ACGF acknowledges the critical importance of its subsidiary, MSME Client Support Afghanistan LLC (SCSA), in Kabul and Mazar-i-Sharif. The team comprises of more than 30 employees on the ground, whom are all Afghan nationals. The team of

SCSA is involved in day to day guarantee operations and occupied with providing technical assistance to PFIs with the objective of enhancing their MSME lending capacity and lending processes. The empowerment of Afghan nationals to support their fellow citizens has helped to overcome cultural barriers and strengthen the exchange and communication with PFIs. In fact, the TA operations carried out by SCSA have helped to build and strengthen ACGF's relationships with its strategic partners. Therefore, having a team of Afghan citizens on the ground and the resulting close cooperation with PFIs represent two important success factors in this context. Furthermore, SCSA visits ACGF's partner banks on a weekly basis, which has helped to maintain a high level of efficiency concerning the approval of guarantees for loan applications.

Finally, in an internal survey of our partner banks, we learned that our PFIs would appreciate if ACGF and our subsidiary SCSA would more openly share analysis and feedback on loans that were not approved for guarantee coverage. Also, they suggested that it could be helpful if ACGF were to share more of its analysis of and views on Afghanistan's financial and MSME sector as well as PFI's loan portfolios. By doing so, ACGF could further strengthen its trusted partnership with its PFIs.

Robin: Is ACGF financially self-sustainable? Does self-sustainability constitute a specific objective of ACGF? Or are ACGF's operations dependent on continuous external funding and if so, to what extent?

Mr. Guranda: ACGF is set up with as a charitable foundation without the expectation of becoming profitable, though striving to achieve financial sustainability, which is far from being achieved due to the high risks in Afghanistan. Indeed, ACGF's statutes explicitly state that it can incur losses. At ACGF, it is not our primary mission to be financially sustainable, but to contribute to the development of a MSME lending market in Afghanistan. Therefore, we and our partners consider the incurred losses as part of a necessary investment into the future of Afghanistan. Considering the complex situation on the ground, we expect to continue to make losses in the near future, Nonetheless ACGF manages the funds in a more long-lasting way in comparison to other grant-oriented interventions.

Robin: How does ACGF balance the trade-off between financial sustainability, outreach and additionality?

Mr. Guranda: As already mentioned, ACGF strives for high impact instead of financial sustainability and this constitutes the fund's trade-off. The mandate of ACGF provides this balance. Still, this does not mean that ACGF willingly takes on risky loans of the PFIs in its books. In terms of ACGF's outreach, we have room for improvement, however it is also affected by the difficult security situation and lack of reliable partners in the financial sector.

Robin: Does ACGF securitize its guaranteed loans or consider doing so to increase the scheme's value added for PFIs?

Mr. Guranda: No, ACGF does not securitize its guaranteed loans, because it is not allowed by ACGF's mandate.

Robin: Out of all banks in Afghanistan that are engaged in MSME lending, how many take part in ACGF? Why do certain banks engaged in MSME lending refrain from participating in the guarantee program?

Mr. Guranda: Afghanistan's banking sector encompasses fourteen banks, out of which there are three branches of foreign banks, three state-owned banks and eight commercial banks. Also, there are 13 microfinance institutions active in Afghanistan as well as one microfinance bank in the full sense. These were and are the potential partners for ACGF, but as already mentioned we carefully screen and select our partners based on pre-defined eligibility criteria. Currently, ACGF works together with five financial institutions, which are namely: The First MicroFinance Bank - Afghanistan (FMFB); Afghanistan International Bank (AIB); Ghazanfar Bank; OXUS. Out of those, AIB and Ghazanfar are commercial banks, whose target group is rather the upper MSME segment. OXUS and FINCA on the other hand are specialized in microfinance, while also extending individual loans that are high enough to be covered by ACGF guarantees. Finally, FMFB is classified as a microfinance institution as well as a commercial bank and represents the fifth and one of the strongest partners of ACGF in Afghanistan. Considering that ACGF only guarantees for loans that amount to at least 1.000 USD, most of the microfinance institutions were not considered in the selection of PFIs. Therefore, it can be said that most of the banks that ACGF does not collaborate with are banks that did not meet our eligibility criteria for PFIs rather than certain banks disregarding the opportunity to obtain guarantees for their loan portfolios.

Robin: Did the guaranteed loans mostly reach the defined target group?

Mr. Guranda: Yes, loans covered by ACGF guarantees always reached its pre-defined target group of MSMEs, since we have an guarantee approval process that is based on an individual case-by-case approach and which follows clearly defined eligibility criteria. In general, ACGF serves clients that operate at the lower, middle and upper ends of the MSME spectrum. Roughly 59% of the guaranteed loans are disbursed to firms whose sales are below USD 100,000, accounting for 40% of the value of all loans extended by ACGF's Partner FIs. So, while ACGF's main emphasis is on relatively small and medium MSMEs, it does reach many companies with a significant annual turnover, particularly when viewed in the Afghan context. While its main business is MSME lending, it does have a relatively diversified portfolio that also includes larger MSMEs. Another way of measuring the size of firms is by examining the number of employees they have. In doing so, ACGF's emphasis on small companies comes out strongly: 94% of the loans reach businesses with fewer than 20 employees and these businesses account for 80% of the value of all loans issued by ACGF.

Robin: What is the share of guaranteed loans that were disbursed to first time borrowers? How many beneficiary firms of guaranteed loans were new customers to the respective PFIs?

Robin: In the survey of MSMEs conducted in 2018, roughly two-thirds of beneficiary firms of loans covered by ACGF guarantees indicated that it was their first time acquiring a formal loan from a bank.

Robin: Do ACGF's structure and operations allow for up-scaling?

Mr. Guranda: Yes, ACGF's structure and operations do allow for up-scaling. Upscaling may be in the form of organic growth of the existing operations as well as the promotion of unserved markets such as agricultural finance, solar finance, women finance and start-up finance. Furthermore, ACGF will be responsible for the implementation of a matching grant program for MSMEs in Afghanistan, funded by the World Bank. This will be a complementary measure to the existing guarantee business. All in all, ACGF has tremendous potential for up-scaling, provided there is additional capital inflow.

Robin: Has ACGF induced a change in banks' perception of serving the MSME sector with respect to the risks involved and expected returns?

Mr. Guranda: ACGF's partner banks strongly agreed that the guarantee institution contributed to enhancing access to finance for MSMEs, because the risk-sharing agreements by means of credit guarantees lowered their risk of lending to MSMEs while being able to develop valuable experience in serving the MSME sector. However, it is difficult to assess whether PFIs have actually changed their perception of the MSME sector with respect to risks involved and expected returns, especially when considering a situation where no credit guarantees are issued by ACGF.

Robin: Did PFIs of ACGF increase their lending to the MSME sector over time?

Mr. Guranda: Yes, as already indicated all PFIs of ACGF have increased their MSME loan portfolio's over time. As already mentioned, our partner banks highly value the risk-sharing facility and its provision of technical assistance to build up and operate MSME lending departments. Based on internal survey results, we can claim to have provided strong incentives to PFIs to engage in the MSME lending market and that most banks would have provided less credit to MSMEs in the absence of ACGF.

Robin: What proportion of the total MSME lending volume in Afghanistan is secured by ACGF guarantees?

Mr. Guranda: Based on own calculations, approximately 50 % of outstanding loans to MSMEs in the Afghan financial sector are backed by ACGF guarantees. This makes ACGF an actor of systemic relevance in Afghanistan's MSME finance sector. On the one hand, this situation can be interpreted as a proof of ACGF's success in promoting MSME finance in Afghanistan, on other hand it shows how small the MSME lending market really is.

Robin: In the case of a falling level of lending to MSMEs, can this be explained by external factors such as a systemic crisis in the financial sector or a deteriorating macroeconomic environment rather than bank's increasing averseness towards the MSME sector?

Mr. Guranda: Since 2010, Afghanistan's financial sector has witnessed a substantial fall of its provision of credit to the private sector as a percentage of GDP. Even though this indicator also includes large loans to big companies and corporations, it can be used as a proxy-indicator for the development MSME finance in Afghanistan. One of the main reasons for this fall in the provision of credit to the private sector was a large corruption scandal at the Kabul Bank in 2011, which almost brought the country's financial sector

on the brink of collapse. Overall lending volumes to the private sector are yet to recover from this systemic crisis in the financial sector and this includes MSME finance. Furthermore, the increasing level of political instability, declining foreign aid and investment volumes as well as the withdrawal of international security forces have all contributed a consistently slow economic growth performance since 2012. Naturally, these factors all affected the financial sector and bank's willingness to lend to MSMEs.

Robin: Are PFIs keen on a ramp up of ACGF's guarantee program? Would they be interested in intensifying their cooperation with ACGF?

Mr. Guranda: Yes, considering the positive feedback of ACGF's PFIs on the effectiveness of its guarantees and provision of technical assistance, it is fair to say that our partner banks would be interested in an intensified cooperation ACGF, which however is subject to the amount of external funding by donors and limited human resources and capacities.

Robin: Did the loan conditions (such as maximum loan amounts, maturities, interest rates and collateral requirements) for MSMEs obtaining loans covered by ACGF improve since its inception?

Mr. Guranda: As mentioned before, an internal survey of our PFIs in 2018 revealed that that four out of the five PFIs of ACGF at the time were convinced that they would have extended less credit to MSMEs in the absence of ACGF guarantees, while one bank stated that it would expect the same amount of MSME lending. In addition, three PFIs claimed the individual loan amounts would likely be lower on average and that they would have extended loans at higher interest rates. However, the development of loan conditions is also affected by the economic and political environment and despite of the positive impact that ACGF guarantees have on loan conditions, not all MSME loan conditions improved. For instance, in more recent years the average guaranteed loan size in the context of ACGF fell from 92,633 USD in 2017 to 58,603 USD in 2019 due to a deteriorating external environment. In contrast, the average guaranteed loan duration improved from 25 months in 2017 to 27 months in 2019. Moreover, the improvement of loan maturities becomes clearer when considering that 48 % of ACGF's guaranteed loan portfolio had a maturity of 2,5 to 5 years at the end of 2019, compared to only 15 % in the end of 2016.

Robin: Has ACGF helped its PFIs to improve their MSME lending approach by transferring valuable insights with regards to effective technologies, policies, and processes?

Mr. Guranda: Yes, ACGF has facilitated the transfer of valuable know-how and skills to PFIs via its subsidiary SCSA, which provides ongoing technical assistance (TA) to partner banks. The key components of this ongoing TA are to provide support to PFIs regarding issues related to the risk-sharing agreement with ACGF, to help banks establish MSME lending departments and to train PFIs' loan officers in developing their competencies in MSME lending. Training of loan officers encompasses various aspects such as performance evaluation of borrowers, compliance monitoring and reporting as well as risk management, among other things. Finally, ACGF's ongoing TA includes the implementation of measures in relation to the development of a stable banking system and to strengthen the MSME sector in Afghanistan by providing basic MSME strategy consultancy. The 2018 PFI survey demonstrated that TA projects are generally viewed positively by beneficiary banks as they claimed that the trainings were effective and addressed highly relevant issues, thereby helping them to enhance their operational efficiency.

Robin: What is the geographical outreach of ACGF's operations in Afghanistan?

Mr. Guranda: Given the widespread insecurity in many regions of the country, ACGF's operations are mainly concentrated in a few areas. Between 2016 and 2018, around 90 percent of guarantees covered loans for businesses in Kabul (44%), Balkh (26%) and Herat (20%).

Robin: Would MSMEs, which have benefited from ACGF guarantees, have been able to obtain loans without the guarantee coverage?

Mr. Guranda: In an internal survey of beneficiary MSMEs in 2018, around fifty percent of the respondents stated that they would not have been able to receive a loan elsewhere had they not obtained the guaranteed loan from one of ACGF's PFIs. It is important to mention, however, that MSMEs are not aware of the guarantee for the loans they receive. Nonetheless, the other half responded they could have replaced the loan with an alternative source of external finance, though not necessarily through formal channels.

Robin: How did the guaranteed loan affect MSME's business operations?

Mr. Guranda: The internal survey of 380 beneficiary Afghan MSMEs in 2018 revealed that around 91 % of MSMEs perceived the guaranteed loan as having a positive effect on their business due to an increase in revenues, while only 3 % reported a fall in revenue following the loan acquisition. Furthermore, 85 % of entrepreneurs that borrowed from

ACGF's PFIs reported to have an increase in their income after loan disbursement while 10 % did not witness an effect on their income and 5 % witnessed their income falling. Furthermore, the survey showed that beneficiary MSMEs grew in terms of employment by 38 % on average since obtaining the guaranteed loan. While this employment growth includes different time intervals for individual firms, it indicates that ACGF effectively promotes MSME sector growth, so that these firms can provide enough job opportunities for Afghanistan's rapidly growing labor force. Interestingly, we found out that most employment growth following the obtainment of guaranteed loans was achieved by small firms with less than 10 employees at the moment of loan disbursement. This situation shows how the guaranteed loan filled a void at many small companies which prevented them from growing.

Robin: What are other concrete achievements of ACGF since inception?

Mr. Guranda: Since inception of CGF-A in 2005, which was the predecessor of ACGF, CGF-A and ACGF together guaranteed for roughly 5,500 loans amounting to USD 240 million as of end of Q2 2020. To better grasp the importance of ACGF for improving access to finance in the country, one should consider the fact that in 2017 ACGF covered MSME loans amounting to a total of USD 21.8 million. With total MSME loans in 2017 amounting to 39 USD, ACGF covered approximately 56 % of loans disbursed by banks to MSMEs in Afghanistan in that year. When also including MSME loans of MFIs in the calculation, ACGF's MSME loan market coverage amounted to roughly 48 % in 2017. Since then, we were able to maintain our MSME loan market coverage at similar levels and therefore become a player of systemic relevance for the financial sector of Afghanistan. At the end of 2019, for example, ACGF's volume of outstanding MMSME loans secured by ACGF through its PFIs was US\$19.3 million with 520 loans partially covered by credit guarantees. Based on our estimations of the size of the MSME loan market, we are convinced that we still guarantee for around half of all outstanding MSME loans in Afghanistan. Additionally, ACGF estimates that since its establishment its guarantees helped to retain more than 50,000 jobs and allowed for the formation of 9,200 additional jobs. From inception to the end of 2017, ACGF issued 5,059 guarantees, meaning that each guaranteed loan, on average, helped to retain approximately 10 jobs and create nearly 2 new ones. Finally, through its eligibility criteria for loan guarantees and its TA program, ACGF is able to incentivize PFIs to develop certain loan products, such as Islamic finance, credits targeting female entrepreneurs or businesses in the solar

energy sector, thereby further promoting economic, social and environmental causes that additionally contribute to ACGF's mission. Furthermore, we believe that our loan guarantees may incentivize informal MSMEs to enter the formal economy in order to be able to obtain loans at better conditions. Hence, ACGF plays an indirect role in addressing business informality in Afghanistan.

Robin: Were there any relevant improvements in the political and regulatory environment of MSMEs since the establishment of ACGF? To what extent can these improvements be attributed to the efforts of ACGF and its strategic partners?

Mr. Guranda: In 2017, the Central Bank of Afghanistan introduced regulations which officially recognized guarantees as collateral for a loan. This improved regulatory framework reduces the risk involved for lenders and borrowers to engage on the credit market in cooperation with ACGF and without. Furthermore, the central bank of Afghanistan is considering loan loss provisioning for guaranteed loans, which adds another improvement to the regulatory framework for guarantee operations in Afghanistan. As ACGF is the main player in terms of MSME loan guarantees in Afghanistan, these actions by the Afghan government can at least be partly attributed to the presence of ACGF in the country. With contribution from ACGF in 2019, the DAB has adopted Financial Inclusion Strategy, which illustrated that with inspiration and support of ACGF, the Central Bank is actively pursuing a mandate that is not always typical for a Central Bank – financial inclusion.

Robin: In contrast, did ACGF cause any distortions or negatively affect other beneficial developments for MSME finance in Afghanistan?

Mr. Guranda: We are convinced that due to careful approach, which is tailored to the needs of the Afghan financial and MSME sectors, we were able to enhance access to finance for MSMEs over time without causing any significant distortions in the credit market.