COLUMBIA | SIPA
School of International and Public Affairs

Luciano Quinto Lanz

The potential role of SMEs' Credit Guarantee Schemes to promote financial inclusion in Brazil

Master's Thesis

This thesis is submitted in part fulfilment of the requirements of Columbia University – School of International and Public Affairs for the degree of Master of Public Administration.

Advisor: Professor Arvid Lukauskas

New York

August 2017

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School of International and Public Affairs

Term of Approval

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Catalog card

Lanz, Luciano Quinto

The potential role of SMEs' Credit Guarantee Schemes to promote financial inclusion in Brazil/ Luciano Quinto Lanz ; advisor: Professor Arvid Lukauskas. – 2017.
73 p. : il. (color.) ; 30 cm

Thesis (masters) – Columbia University - School of International and Public Affairs, 2017.
Includes references

1. Administration – Theses. 2. Small and Medium-sized enterprises. 3. Credit Guarantee Schemes. I. Lukauskas, Arvid. II. Columbia University – New York. SIPA – School of International and Public Affairs. III. Title.

CDD: 658

I dedicate this thesis to my wife, Renata Tauil Martins Lanz, for the support, love and patience throughout its elaboration and the whole course.

Acknowledgements

To my wife, Renata for the patience, companionship and understanding dedicated during the elaboration of this thesis.

To my mother, Iara for the education, caring and encouragement the search for knowledge and development at all times of my life.

I thank Professor Arvid Lukauskas for the constant challenge, demand, comments and constructive criticism in the process of guiding this work.

To BNDES employees and managers, for the assistance and collaboration provided during this research, without which this study would not have been possible. Especially to Fernando Antunes de Oliveira Mantese, Head of the Department of Policy and Management of Guarantee Instruments for the support and material on the FGI.

To my GEMPA colleagues for the exchange of ideas that contributed greatly to the conclusion of this work. To all of my SIPA and Columbia Global Center Rio de Janeiro professors, teachers' assistances, classmates and secretaries, for encouragement and support during and after the MPA course.

Resumo

Lanz, Luciano Quinto; Lukauskas, Arvid. **O potencial papel dos Sistemas de Garantia de Crédito das PMEs para promover a inclusão financeira no Brasil.** Nova Iorque, 2017. 73p. Dissertação de Mestrado - School of International and Public Affairs, Columbia University – New York.

A dificuldade de acesso ao crédito é um dos maiores obstáculos para a sobrevivência das pequenas e médias empresas (PMEs). Uma das principais razões para isso é a falta de garantias. Essa situação se reflete na baixa competitividade e alta desigualdade do Brasil. Os sistemas de garantia fornecem esta garantia. Esta tese analisa o papel potencial dos esquemas de garantia para promover a inclusão financeira no Brasil. Para alcançar esse objetivo, a pesquisa analisa a competitividade e a desigualdade do Brasil e sua relação com o acesso ao crédito. A metodologia utilizada foi um estudo de caso sobre o Fundo Garantidor para Investimentos (FGI), utilizando abordagem qualitativa e estatísticas descritivas. A coleta de dados baseou-se em entrevistas semiestruturadas, fontes secundárias, análise de documentos e dados operacionais. A análise utilizou os modelos de construção e reparação de confiança entre organizações, o papel dos bancos nacionais de desenvolvimento nos sistemas de garantia e o benchmark internacional para governança e eficácia dos esquemas de garantia. Os resultados demonstram que o FGI conseguiu criar uma governança adequada e estabelecer confiança com os bancos. Até 2017, 26 bancos contrataram mais de 32 mil operações no valor de 1,9 bilhões de dólares, com adicionalidades comparáveis ao benchmark internacional. No entanto, estudos adicionais são necessários para estabelecer uma ligação entre a adicionalidade dos esquemas de garantia e o desenvolvimento social e econômico.

Palavras-chave

Sistemas de Garantia; Micro, Pequenas e Médias Empresas; Adicionalidade.

Abstract

Lanz, Luciano Quinto; Lukauskas, Arvid (Advisor). **The potential role of SMEs' Credit Guarantee Schemes to promote financial inclusion in Brazil.** New York, 2017. 73p. Master Thesis – School of International and Public Affairs, Columbia University – New York.

Difficult access to credit is one of the greatest obstacles to the survival of small and medium-sized enterprises (SMEs). One of the major reasons for this is the lack of guarantees. This situation is reflected in Brazil's low competitiveness and high inequality. Guarantee Schemes provide this guarantee. This thesis analyzes the potential role of guarantee schemes to promote financial inclusion in Brazil. To achieve this objective the research analyzes Brazil competitiveness and inequality and their relation to credit access. The methodology used was a case study over the *Fundo Garantidor para Investimentos* (Investment Guarantee Fund - FGI), using a qualitative approach and descriptive statistics. Data collection relied on semi-structured interviews, secondary sources, document analysis and operational data. The analysis used inter-organization trust building and repair models, the role of national development banks in the guarantee systems and the international benchmark for governance and effectiveness of guarantee schemes. The results demonstrate that FGI achieve adequate governance and established trust with the banks. By 2017, 26 banks contracted more than 32,000 operations worth 1.9 billion dollars, with additionalities comparable to the international benchmark. However, additional studies are necessary to establish a link between the guarantee schemes additionality and social and economic development.

Keywords

Guarantee Schemes; Micro, Small and Medium Enterprises; Additionality.

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List of abbreviations and acronyms

ABGF - Agência Brasileira Gestora de Fundos Garantidores e Garantias S.A. – Brazilian Guarantee Management Agency

FA – Financial Agents

BNDES – Banco Nacional de Desenvolvimento Econômico e Social (Brazilian Development Bank)

FAMPE – Fundo de Aval da Micro e Pequena Empresa (Micro and Small Enterprise Guarantee Fund)

FGCN – Fundo de Garantia para Construção Naval (Naval Construction Guarantee Fund)

FGEE – Fundo de Garantia a Empreendimentos de Energia Elétrica (Electric Energy Endeavors Guarantee Fund)

FGHAB – Fundo Garantidor da Habitação Popular (Popular Housing Guarantee Fund)

FGI – Fundo Garantidor para Investimentos (Investment Guarantee Fund)

FGIE – Fundo Garantidor de Infraestrutura (Infrastructure Guarantee Fund)

FGO – Fundo de Garantia de Operações (Operations Guarantee Fund)

FGP – Fundo Garantidor de Parcerias Público- Privadas (Public-Private Partnerships Guarantee Fund)

FGPC – Fundo de Garantia para a Promoção da Competitividade (Competitiveness Promotion Guarantee Fund)

FNG - Fondo Nacional de Garantías (National Guarantee Fund – Colombia)

FOGAPE - Fondo de Garantía para Pequeños Empresarios

FOGAPYME - Fondo de Garantía para la Micro, Pequeña y Mediana Empresa

FUNPROGER – Fundo de Aval para a Geração de Emprego e Renda

MSME – Micro, small and e medium-sized enterprise

NAFIN – Nacional Financiera (National Finance – México)

OECD - Organization for Economic Co-Operation and Development

1
Introduction

1.1
Context of the Research

In 2016, 11.7 million micro, small and medium firms (MSMEs) accounted for 98.5% of all firms in Brazil and employed 17.1 million people (Sebrae, Dieese, 2017) and account for 27% of GDP. In 2014, MSMEs with up to two years of existence had a mortality rate of 23.4% (Sebrae, 2016). Lack of credit, due especially to insufficient guarantees, was one of the main reasons firms had to close operations (Sebrae, Fubra, 2004). This situation is reflected in Brazil's competitiveness. The most important competitiveness indexes demonstrate a problematic situation. The Global competitiveness index results show deficiencies in infrastructure, financial market development, business sophistication and innovation. The Global Entrepreneurship Monitor results shows problems with government policies, taxes, bureaucracy, commercial an legal infrastructure, internal markets burdens and entry regulations, between others. The country also has high inequality according to Gini index, even with the significant improvements since the 2000s.

Guarantee funds cover part of banks' credit risk in loan operations and constitute a public policy instrument designed to overcome the lack of collateral and provide credit access to MSMEs (Lopes et al., 2007). Brazil has some experience with public and private credit guarantee schemes, operated respectively by government agents (public banks, developments banks and a specific agency – ABGF) and mutual credit guarantee associations. However, these schemes have several deficiencies and shortcomings. This thesis tries to address these issues, using the case study method, analyzing *Fundo Garantidor para Investimentos* (FGI) performance. Since this fund is managed by the BNDES (The Brazilian Development Bank), the research also analysis its role in this system, considering other national development banks (NDBs) experience. The analysis tried to identify if guarantee schemes perform their role, improving credit access; verifying if this generates financial, economic and social additionalities; and proposing adjusts and additional measures to improve the guarantee system in Brazil.

1.2 Research Question

This study tries to contribute to fill a gap in the literature; there are few studies that relate SMEs' credit guarantee schemes with credit access, financial inclusion and social and economic development, especially in Brazil. Thus, the central question of this thesis is:

Do guarantee schemes improve credit access for SMEs in Brazil?

1.3 Final objective

The final objective of this thesis was to analyze if credit guarantee schemes operating in Brazil are successful in improving credit access for SMEs.

1.4 Intermediary objectives

To reach the final goal of the research, it took some stages, listed below, that represent the intermediate objectives:

- Analyze Brazil competitiveness and inequality situation.
- Identify the role of National Development Banks in the economy, focusing on SMEs and Guarantee schemes.
- Conceptualize credit guarantee schemes for SMEs.
- Analyze and compare credit guarantee schemes international experiences.
- Identify key features and best practices of credit guarantee schemes.
- Identify performance measurements related to additionality – financial, economic and social that could be influenced or correlated to results of these schemes.
- Analyze the Brazilian experience with credit guarantee schemes.
- Analyze the FGI experience and compare it with the previous national schemes and international practices, to identify its strengths and deficiencies.
- Propose adjusts to create credit schemes structures that are more suitable to improve SMEs' credit access in Brazil.

1.5
Justification of the research

This study is merited by the role that guarantee funds play in economic development, especially financial inclusion and increasing the share of microentrepreneurship and SMEs in the economy. The rationale for focusing on this issue is that guarantees have always deserved less attention than direct loans and government transfer programs.

This research intends to show that credit guarantee schemes are important tools to improve credit access and increase SMEs investments; to improve productive value chains and to foster innovation. The importance of credit guarantee schemes as an alternative to government loans, direct investments and cash transfers is that they stimulate economic activity, investment, foster entrepreneurship and innovation with fewer resources.

1.6
Research scope

The research focused on credit guarantee schemes in Brazil to identify their features, operational procedures, deficiencies, shortcomings and its effects on credit access and financial, economic and social additionality. More specifically, it focused on the analysis and proposal of credit schemes for MSMEs. The thesis analyzes the relation between credit guarantee schemes, competitiveness and inequality.

The study is limited to the credit guarantee schemes structure, governance and additionality, although many other variables affect credit guarantee schemes performance such as competition, regulatory aspects, marketing and strategy. However, this study did not intend to analyze these aspects, although all these issues are important, because they deal with topics currently researched in the literature and the proposal of this study aims to fill a gap in current scientific studies.

In order to analyze this relationship, a case study was conducted, an alliance between the BNDES and 26 financial agents in a guarantee fund that provides guarantees for micro, small and medium enterprises (MSMEs), the *Fundo Garantidor para Investimentos* - Investment Guarantee Fund (FGI). Since the fund is managed by the Brazilian Development Bank (BNDES), the role of national development banks (NDBs) in the guarantee systems is also analyzed. The analysis focused on additionality effects of this credit guarantee scheme for SMEs. It is not part of the scope of this research the longitudinal study, where there is

collection of data in at least two moments in time for analysis, despite the use of a retrospective analysis.

1.7 Thesis structure

The thesis is structured in seven chapters. The first one covers the introductory part of this study, research problem, the main and secondary objectives, the delimitation and relevance of the study.

In the second chapter, the theoretical framework used is presented, contemplating a bibliographic review on competitiveness, including competitiveness indexes and inequality; the role of the National Development Banks in the credit guarantee system; credit guarantee schemes ownership (public or private), governance structure, key features, motivation and performance indicators; and inter-organizational trust building and repair .

The third chapter describes the research methodology, which describes the nature and classification of the research, the population and sample, the techniques used for data collection, as well as for data analysis and treatment.

The fourth chapter presents the results and analysis of the competitiveness and institutional environment in Brazil, the role of BNDES as a National Development Bank and manager of the FGI, the relationship between the Fund and its partners, from the perspective of governance structure, trust dimensions and their reflexes on perceived performance, evaluated through interviews and objective indicators of additionality.

The sixth chapter presents conclusions, recommendations of governance structure, to build trust between the parties, aiming at better performance and decrease of conflicts between organizations. This chapter also presents recommendations for future research.

Finally, the bibliography consulted and the annexes are presented, which contains additional information, such as list of documents analyzed.

2
Literature Review

This chapter presents a literature review on competitiveness; the role of the National Development Banks (NDBs) in the credit guarantee system; credit guarantee schemes ownership (public or private), governance structure, key features, motivation and performance indicators; and interorganizational trust. This review was conducted in order to achieve the intermediary and final objectives of this study and support the analysis that tries to answer the research question.

The literature review on competitiveness focused on Global Competitiveness Index, Global Entrepreneurship Monitor and inequality, since the focus of this research is on micro, small and medium entrepreneurship and the role of credit guarantee schemes to provide credit access and financial inclusion.

National development banks are part of this literature review because of the important role that they play in financial system within a country, and especially because is very common that they have a central role in structuring or supporting credit guarantee schemes.

Credit guarantee schemes are the main topic of the research. The literature review focused on their structure and governance. The Brazilian experience with this kind of financial inclusion instrument is also presented. Measurement techniques of their effectiveness through additionality indicators are presented and were used to evaluate the case study.

Finally, interorganizational trust building and repair literature was include since this kind of instrument depend on the financial agents (banks) to operate, and FGI replace a previous initiative – FGPC - that fails to obtain trust with the banks and cease to operate.

2.1
Competitiveness

The analysis of competitiveness considered two competitive indexes - WEF Global Competitiveness Index and Global Entrepreneurship Monitor - and the inequality literature, including its measurement, to try to create a framework to analyze the institutional environment where the MSMEs operate in Brazil, compared with international benchmark.

According to Lall (2001), a competitive index should fulfill two conditions: (i) it must "confine itself to activities that involve competition" between countries, not dealing with productivity or growth; and (ii) it should evaluate "market failures that affect competitive ability, especially the evolution of dynamic comparative advantage". Önsel et al. (2008) identified that most current composite competitiveness indicators apply (i) predetermined fixed weights uniformly to all countries, or (ii) subjective weights to different clusters of countries.

2.1.1 Global Competitiveness Index

The Global Competitiveness Report (GCR) is a yearly report from the World Economic Forum (WEF) that ranks countries based on the Global Competitiveness Index (GCI). Since 2004, the GCR ranks countries based on the GCI, developed by Schwab and Sala-i-Martin (2017). WEF clusters countries by their stage of competitiveness, based on GDP and subjective weight structures.

The GCI comprises 12 pillars, with 114 indicators, 80 from the executive survey and only 34 from other sources. These other indicators are concentrated on macroeconomic environment, health and primary education and technological readiness. However, infrastructure, higher education and training and financial market development could be improved using more quantitative data, from sources like World Bank, OECD, IMF, UNCTAD, UNIDO and local statistical agencies from the countries. The executive survey results can be a valuable source of perceived market and regulatory failures within a country.

Lack of credit access is clearly a market failure. Many indicators in WEF GCI can be related or affect credit access and availability. Between these items is possible to identify items especially in 3 pillars: (1) Institutions: irregular payments and bribes, judicial independence, efficiency of the legal framework in settling disputes, ethical behavior of firms, strength of auditing and report standards; (3) Macroeconomic Environment: government budget balance, country credit rating; (8) Financial market development: financing through local equity market, ease to access loans, venture capital availability, soundness of banks, legal rights index.

2.1.2
Global Entrepreneurship Monitor

The 2016 Global Entrepreneurship Monitor (GEM) report, organized by Herrington and Kew (2017) presents results based on 64 world economies that completed the Adult Population Survey (APS), between the ages of 18 and 64 years and 65 economies that completed the National Expert Survey (NES). The countries included in the 2016 survey cover 69.2% of the world's population and 84.9% of the world's GDP. GEM uses the classification of economies by economic development level adapted from the World Economic Forum (WEF). The factor-driven phase is dominated by subsistence agriculture and extraction businesses, with a reliance on (unskilled) labour and natural resources. During the efficiency-driven phase, the economy become more competitive, use more-efficient production processes and increased product quality. the innovation-driven phase, businesses are knowledge-intensive, and the service sector expands.

The indicators are grouped in six categories: Self-perceptions about entrepreneurship, activity, motivational index, gender equality, entrepreneurship impact and societal value about entrepreneurship. The expert rating of the Entrepreneurship Eco-system evaluated entrepreneurial finance; governmental policies: support and relevance; governmental policies: taxes and bureaucracy; Government e-ship programs; E-ship education at school stage; E-ship education at post school stage; R&D transfer, commercial & legal infrastructure; internal market dynamics; internal market burdens or entry regulation; physical infrastructure; and cultural and social norms. As WEF GCI, GEM many indicators, especially in the expert rating, can be related, affect or be affected by credit access.

2.1.3
Inequality

According to Atkinson (2015), is important to understand the concepts of inequality of opportunity and inequality of outcome. Equality of opportunity is achieved when the circumstances do not play any role in the resulting outcome. If someone work harder at school, pass their exams, and get into medical school, then at least part of their higher salary as a doctor can be attributed to effort. However, if their place at medical school is due to parental influence, then there is inequality of opportunity. This concept is attractive, but inequality of outcome matters, for three reasons: (i) Even having the same start, some people face difficulties or just have bad luck along the way. It's morally unacceptable to simple

ignore those for whom the outcome is hardship. (ii) There is a distinction between competitive and noncompetitive equality of opportunities. Competitive equality means only that we have equal chance to take part in the competition. The determination of the prize structure may be very unequal and unfair. (iii) Inequality of outcome affects inequality of opportunity for the next generation.

Ostry et al. (2014) find out that (i) more unequal societies tend to redistribute more. It is important to understand the growth-inequality relationship to be able to distinguish between market and net inequality; (ii) lower net inequality is correlated with faster and more durable growth, for a given level of redistribution; and (iii) redistribution appears generally benign in terms of its impact on growth, only in extreme cases is there some evidence that it may have direct negative effects on growth. The combined direct and indirect effects of redistribution, including the growth effects of the resulting lower inequality, are on average pro-growth.

Ortiz et al. (2011) presents a selected sector interventions that promote equitable outcomes for 16 sectors: education, energy and mining, finance, health, housing industry, labour, macroeconomic policies, public expenditures, rural development, social protection, tourism, trade, transport and infrastructure, urban development and water and sanitation. Guarantee schemes can have positive effects on finance, labour and usually are part of macroeconomic policies.

2.1.3.1 Inequality measurement

According to Ortiz et al. (2011), there are two common approaches for estimating global income distribution—the global and inter-country accounting models. Results can be presented in terms of market exchange rates or under purchasing power parity (PPP) exchange rates.

The most commonly used measure of income inequality is the Gini index. It is derived from the Gini coefficient, which is based on the Lorenz curve whereby 0 is perfect equality (e.g. each person has exactly the same income) and 1 is perfect inequality (e.g. one person has all income).

Selecting Gini indices to gauge national income inequality can be controversial. There are differing household survey methodologies within and across countries—which are the basis for estimating Gini coefficients—and large data gaps over time. Therefore, Gini

indices cannot be compared globally due to the different assumptions behind their calculations.

The most comprehensive attempt at developing a cross-nationally comparable database of Gini indices across time is the Standardized World Income Inequality Database - SWIID (Solt, 2009). It standardizes Gini estimates from all major existing resources of inequality data - UNU-WIDER (2008), World Bank's PovcalNet, Socio-Economic Database for Latin America, Branko Milanovic's World Income Distribution data, and ILO's Household Income and Expenditure Statistics, besides a host of national statistical offices and other sources. The SWIID includes Gini estimates for gross and net income inequality for 171 countries from 1960 to 2016.

2.2 National Development Banks and Guarantees

National development banks (NDBs) are essential players in the developing financing regime. According to Studart and Gallagher (2016) there are over 250 national development banks holding $5 trillion in assets. However, much emphasis is given to multilateral development banks (MDBs). National development banks have an important role in implementing infrastructure, sustainable projects, supporting SMEs, providing guarantee and as "market makers", bringing the private sector to long-term financing and investment

According to Torres and Zeidan (2016), there is a life-cycle for the existence of development banks. It comprises four phases: establishment, development, engine for growth and developed financial markets. Each phase has typical instruments. The authors divide the instruments for earmarking credit in two categories: direct, the NDB autonomously originate debt or equity; and indirect origination, NDBs create incentives to stimulate other financial intermediaries to originate loans related to government targeted investment projects, companies or industrial sectors. These incentives can be divided into provision of long-term funds; guarantees; equalization; and penalties.

NDBs can provide guarantees for long term funds in either category: direct and indirect. The provision of guarantee to indirect operations or long-term operations using resources from the financial agents is common. Sometimes banks operate these instruments directly, sometimes through funds or related companies.

Guarantee support is consistent with Studart and Gallagher, view of NDBs support to sustainable projects five fronts. Guarantee can help in project development and scaling up,

leveraging finance, reduce the cost of capital to the borrower, crowding-in private capital, and improving governance and inclusiveness.

2.3 Guarantee Schemes for SMEs

According to Beck and de la Torre (2007), the high costs of transactions and the intrinsic high-risk account for the reluctance of financial institutions to provide financing to SMEs. To overcome these difficulties, many countries have created partial credit guarantee schemes (Beck, Klapper, Mendoza, 2010). Beck, Demirgüc-Kunt and Maria (2008) reported that banks view credit guarantee schemes as the most common and effective program of government support for loans to SMEs, ahead of directed credit and the use of interest rates of regulatory subsidies.

According to Honohan (2010), it is common for governments to become involved in guarantee systems to compensate for market flaws and attain social well-being by attempting to minimize the effect of the adverse selection and moral hazard on the rates charged from SMEs. Governments also attempt to correct the uneven distribution of credit allocation which, under normal circumstances, does not reach poorer areas. They also seek to explore the externalities of the dynamism of entrepreneurs who lack resources, increase loans to SMEs and avoid or minimize credit crunches. One of the arguments used is that banks do not provide loans directly to SMEs because they lack guarantees and do not realize the risk that they run. Guarantee systems break this vicious circle. In addition to the issue of well-being, other issues encourage governments to use credit systems: (i) their similarity to private risk sharing systems; (ii) optimistic pricing and separate accounting from the public budget, which minimizes fiscal costs; and (iii) little need for the allocation of capital as the systems have leverage.

According to Beck et al. (2010), we can classify the systems in accordance with their ownership (public or private) and governance structure: credit guarantee companies, national public programs and private corporate associations.

According to Lanz and Perufo (2013), partial credit guarantee schemes can be classified into three types: guarantee funds (GF), guarantee programs (GP) and mutual guarantee associations (MGA). Table 1 shows the characteristics of each guarantee scheme.

Table 1 - Main characteristics of each guarantee scheme

Type	Nature	Resources	Operation	Liquidity
Guarantee funds	Public, private or mixed	Public and private resources, seeking to be self-sustaining	The operational activities of analysis, concession and recovery are delegated to financial agents	High (resources are available in the fund)
Guarantee programs	Public (Managed by development agency or bank)	Resources limited by the public budget	Own or delegated operational activities (but with subrogation)	Low (subject to supervision and contingency of resources)
Mutual guarantee associations	Private	Private resources from your associates	Own operational activities for analysis, concession and recovery	Average (limited by its regional scope)

Source: Adapted by the author from Pombo and Herrero (2003), Zica and Martins (2008) and OECD (2010).

Based on Lanz and Tomei (2014), it is possible to identify some benefits of guarantee funds over the other models:

• The GF can have state and private resources. MGA usually have only private funds (with the exception of possible contribution of non-reimbursable public funds) and GP only use public budget resources in its capital.

• The GF have greater liquidity resources, because after its constitution the GF does not depend on the public budget (as GP) or funding from its members (as MGA). GF model seeks to be self-sustaining.

• The GF, being private, have greater freedom to delegate operational activities than GP, which has public character, and greater interconnectivity than MGA, usually made with regional characteristics or linked to local production clusters.

In order to identify the characteristics of guarantee schemes that could serve as models for FGI analysis, the experience of other countries was summarized in Table 2. The evaluation does not consider other schemes such as guarantee programs such as the Small Business Administration (SBA) of the United States, or entities that bring together various funds, such as Kodit from South Korea, nor any guarantee associations, such as Garantizar from Argentina or SNGM from Portugal.

Table 2 – Guarantee Schemes Characteristics from Selected Countries

Country	Chile	Colombia	Mexico	Argentina	France	Germany	Austria
Fund / Entity	Fondo de Garantía para Pequeños Empresarios (FOGAPE)	Fondo Nacional de Garantías (FNG)	Nacional Financiera S. A. (Nafinsa)	Fondo de Garantía para la Micro, Pequeña y Mediana Empresa (FOGAPyME)	BPI - France / former OSEO (manages several funds)	Verband Deutscher Bürgschafts-banken (VDB)	Austria Wirtschaftservice (AWS)
Type of entity	Public	Private (mixed economy)	Public	Public	Private (mixed economy)	Private (Registered association)	Public (state owned)
Resources	Government contributions, guarantee fees, return over investments and claims recovery.	Government contributions, guarantee fees, return over investments and claims recovery.	Government contributions, guarantee fees, return over investments and claims recovery.	Banco de la Nación Argentina, Secretaría de Hacienda and Banco de Inversión y Comercio Exterior	Government contributions, guarantee fees, return over investments and claims recovery.	17 guarantee banks. Counter-guarantee from Federal Republic of Germany and Federal States	Government
Equity structure	Banco Estado is the only shareholder	Government (Min. Hacienda, Min. Comercio), Banks and Funds (Bancóldex, Findeter)	Mexican Government	Argentinian Government	French Government (50%) and Caisse des dépôts et consignations - CDC (50%)	100% private. Legally and economically independent Guarantee Banks in each federal state (Bundesland)	Limited Company – Financial Institution
Management fee	0.15% of the formalized guarantees and 10% of the profit for the year	N/A	N/A	N/A	N/A	Administrative fees (Variable amount according to nominal amount of the guarantee commitment)	N/A
Governance structure	Administrator, Audit, Banking Supervision and Ministry of Finance	Administrators, Shareholders' Meeting, Audit, AMV, Banking Supervision, Controllership.	Committees for Credit, Risk, Audit, Internal Control, Audit of the Federal Government	Management committee composed of (state) shareholders. Government	Bank (merger of OSEO with BPI).	Bank. Specific banking license limited to guarantee activities	Financial Institution
Resources management /	Fixed income fund, in financial	Fixed income (government	Fixed income (bonds, bonus e	Fixed income (government bonds)	Variable and fixed income	N/A	N/A

application	instruments authorized by the Central Bank	bonds)	certificates)				
Scope of coverage	Credit of the financial agents themselves.	Credit of the financial agents themselves.	Credit of the financial agents themselves.	Credit of the financial agents themselves.	Credit of the financial agents themselves.	VDB covers the national level whereas each Guarantee Bank covers only its federal state	National (Central Scheme only)
Purpose of guarantee operations	Investment and working capital	Investment, working capital and revolving credit	Investment and working capital.	Investment and working capital. Second tier MGAs.	Investment, working capital and start-ups	Agriculture, Industry, Crafts, Retail, Liberal professions, Cooperatives	All sectors (with the exception of Agriculture and Tourism)
Beneficiaries	MSME (Micro, small and medium enterprises)	MSME and housing of social interest	MSME, productive chains and microcredit.	MSME	MSME	SMEs, Micro-enterprises, Independent/Self-employed	Mainly SMEs
Type of guarantee	Operation/loan	Operation/loan (limits by borrower, financial agent and credit line)	Operation /loan. Portfolio, and first losses (reverse auction)	Operation/loan. For MGAs by portfolio	Operation/ loan. Mezzanine financing guarantees,	Loan default guarantees, Mezzanine financing guarantees, Leasing guarantees and specialized programs for energy contracting and agriculture guarantees	Loan default guarantees, Leasing guarantees, Working capital loan guarantees, Project guarantees and Mezzanine financing guarantees
Guarantee Coverage / Limits by Beneficiary	Up to 80% for Micro and small enterprises and export companies; 50% Mediums enterprises e 30% large enterprises	Up to 50%	Up to 85% for start-ups, e 70% for MSMEs.	Up to 65% for MSMEs. Up to 40% for MGAs. Average coverage is 25% for MSMEs	Up to 70%. Most cases below 50%	Up to 90% (SMEs and stat-ups) € 2 million	Up to 80% to SMEs
Stop loss mechanism	No	No	No	25%	No, except new funds w/o credit	No	No

					history.		
Leverage limit	10 times	Basel Rules (11% solvency index)	Solvency margin	Total guarantees	Solvency margin	Basel rules (solvency margin)	Basel rules (solvency margin)
Claim	Proof of judicial execution	Proof of extrajudicial or judicial execution	Proof of extrajudicial or judicial execution	Proof of extrajudicial execution	After the conclusion of judicial execution	N/A (each bank associated)	N/A
Credit recovery responsible	Financial Agent	Own and delegated to the Financial Agent	Financial agent	Financial agent or MGA.	Financial Agent	N/A (each bank associated)	N/A
Financial agents' habilitation	There is not. (Banks, factoring, cooperatives and guarantee associations).	Simplified for financial system entities, complex for cooperatives, associations and foundations.	Assessment of analysis, evaluation, monitoring and recovery policies.	Contract of Qualification of the agent or MGA.	Evaluation analysis and recovery of credit.	Terms and conditions	N/A

Source: Prepared by the author based on the Ibero-American Forum of Guarantees, 2016; FNG, 2017, FOGAPYME, 2017, FOGAPE, 2017; NAFINSA, 2017; BPIFRANCE, 2017.

2.3.1 Guarantee Systems in Brazil

According Chieza and Ambros (2006) a milestone in Brazil guarantee systems is the creation of public guarantee funds in 1996 as an alternative to improve SMEs credit access through providing guarantees to banks. However, the funds had limited scope of actuation because they were linked only to certain institutions operations as SEBRAE, with the Guarantee Fund of Small and Medium Enterprises [*Fundo de Aval para Micro e Pequenas Empresas* - FAMPE], BNDES with the Guarantee Fund for the Promotion of Competitiveness [*Fundo de Garantia para Promoção da Competividade* - FGPC] and Banco do Brasil, with the Guaranty Fund for Employment and Income Generation *[Fundo de Aval para a Geração de Emprego e Renda* - FUNPROGER]. Besides that, their structure, by its public nature, was closer to the guarantee program model, than a guarantee fund, as public budget dependent funds, with low liquidity.

According to Lanz and Tomei (2014), since 2009 guarantee funds have been structured in Brazil that seek to combine the best characteristics of governance from existing models, such as being of a private nature with assets segregated from those of the shareholders and administrator, with no of guarantees required from the borrower and government guarantees that are self-sustaining.

In 2009, against the backdrop of the world economic crisis and the contraction in lending to firms, the Brazilian government created new guarantee funds of a private nature, for MSMEs. One of these funds was the *Fundo Garantidor para Investimentos* (Investment Guarantee Fund) – FGI, managed by the *Banco Nacional de Desenvolvimento Econômico e Social* (Brazilian Development Bank) – BNDES. In March 2017, this fund had assets of R$ 904 million (USD 290 million), with a R$ 9 billion (USD 2,9 billion) guarantee-granting potential (Bndes, 2017).

2.3.2 Guarantee Schemes effectiveness

As these guarantee systems can usually rely on public resources, it is important to verify the benefits of the system to society. Jonsson (2009) identified additionality as the main benefit and proposed the evaluation of performance based on the benefits for the three parties involved: the guarantor, the borrower and the lender.

Additionality refers to the impact of the system on the borrower and whether he would have access to the credit under better conditions or if the guarantee implies the receipt of higher values. According to Saadani, Arvai and Rocha (2011), the measurement of the performance of a guarantee system expressed by additionality is technically challenging, with a number of different indicators being used for this evaluation, as shown in Table 3.

Table 3 - Alternative methods for evaluating additionality

Method	**Description**
Interviews	The basic form of measuring additionality consists of asking users of the guarantee and bankers the following question: would you have obtained (or authorized) the financing without the guarantee system?
Descriptive statistics	The guarantees offered to other riskier borrowers (e.g., small businesses, start-ups, companies seeking long-term financing or SMEs with low risk scores) can be used as a proxy for evaluating additionality.
Propensity score matching	This method is based on researching companies and employs econometric techniques to make the "control group" more comparable to the group of guarantee users, monitoring the characteristics of the companies.
Regression discontinuity	Many guarantee systems use credit scoring to allocate guarantees to applicants. This method compares companies around the cut-off. The "control group" is only made up of companies that are above the line, while the "treatment group" is made up of companies just below it.
Natural and quasi-natural experiment	This method is based on an event that occurs naturally and affects different groups of companies in different ways (e.g., alteration of criteria for eligibility, use of guarantees by different banks at different points in time or in different regions).
Randomized experiment	A control group is selected at random. Some eligible enterprises that request the guarantee are rejected. Additionality is measured by comparing these companies with a random sample of users of the guarantee.

Source: Saadani et al. (2011)

According to Jonsson (2009), additionality can be labeled as financial and economic. Financial additionality indicates whether the SME would have access to financing in the absence of a guarantee. Economic additionality refers to the economic and social benefits, positive externalities such as the creation of jobs and expanded production.

According to Green (2003), an evaluation of the system from the viewpoint of the guarantor seeks to ensure maximum additionality in the long term. The indicators evaluate the cost-effectiveness and sustainability relationship. According to Jonsson (2009), sustainability is measured by the capacity of the guarantor to cover his costs, either through charges, direct subsidy, donations or income from the investment of resources in the fund. The percentage of financing in the country for SMEs with guarantees is an indicator of the global impact of the system. The degree of leverage is considered an indicator of the successful exploitation of the stabilizing resources of guarantees. Another important indicator is the default rate.

From the viewpoint of the borrower, the effectiveness of the system can be translated by indicators such as the number of loans and improved conditions, increased values and deadline and lower tax rates, reduced collateral and faster processing of loan applications (Jonsson, 2009; Green, 2003).

For the lender, the performance indicators are linked to behavior in relation to SMEs and the rate of coverage requests. Lanz and Tomei (2013) identified further indicators, such as the period of time between the application and payment of coverage and the rate of rejected coverage requests linked to the conformity of operations with the rules of the guarantee system, which should seek simplicity and clarity.

According to Lanz and Tomei (2014), the main benefits of this type of fund for the bank are the shared credit risk, the application of a favorable risk weighting factor to determine the regulatory capital required by the Central Bank, and the liquidity of collateral, which has no restraints on its trigger and depends only on default by the beneficiary, similar to a bank guarantee.

2.4
Inter-Organizational Trust Building and Repair

Trust is essential for the development of an effective relationship between organizations. Based on Mayer et al. (1995) and Zaheer et al. (1998), trust is accepting to be vulnerable to another party, based on the expectation that this party will fulfill his obligations, behave as expected, act and negotiate fairly, especially when an opportunity for opportunistic behavior appears.

According to Handley and Benton (2013), one of the main concerns in the management of inter-organizational relationships is the behavioral or relational uncertainty that arises due to the misalignment of goals or incentives between the parties. Establishing trustworthy relations minimize the impacts of uncertainty and relational risk. It is important to align the behavior of the companies with the interests of the alliance.

High levels of interdependence create an environment that cultivates and perpetuates trust and commitment by making the costs of opportunistic behavior prohibitive for partners (Gulati, Sytch, 2007). The possibility of monitoring to determine if there are deviations from the standard or rules and institutional structures (safeguards) that allow standards and rules to be re-established, even in a coercive way help to minimize opportunistic behavior (Das, Teng, 2001).

Lewicki and Bunker (1995) suggest that repeated interaction and the creation of a relationship between parties create predictability, which is a source of trust. Becerra and Gupta (2003) identified that the frequency of communication has a similar role, the greater the frequency, the lower the receiver's perception of dependence on the person responsible for communication aimed at establishing a relationship of trust and greater the trust. According to Gulati and Sytch (2007), the quality of the exchange of information between partners, in terms of details, accuracy and timeliness, influence inter-organizational performance.

Faems et al. (2008) analyzed governance structures for interorganizational relationships and identify two perspectives: structural and relational. The structural perspective focus analysis on single transactions, expects partners to behave opportunistically and use complex contracts to prevent this kind of behavior. This perspective is unsuited to long-term relations. The relational perspective, based on social exchange theory uses trust as a governance mechanism.

Malhotra and Murnighan (2002) investigated the effect of contracts on interpersonal trust and found evidence that the use of binding contracts, i.e. that can be enforced by applying penalties and the force of law have negative impacts on trust building. Non-binding contracts, on the other hand, lead to cooperation between parties and provide a basis for trust building.

Boehs and Segatto-Mendes (2007) identify some mechanisms used to create trust in joint ventures, such as establishing controls on entry (distribution of resources, information management) behavior (policies, rules, procedures, standardization) and exit (targets, budgets, results); socialization of values in order to define and create common values; personal involvement, in which the managers of partnerships pay visits, arrange meetings and make verbal communications; and the existence of specific hierarchical structures that emphasize and support partners.

According to Sundarämurthy and Lewis (2003), the context is important in determining the prevalence of control or collaboration/trust in governance. In a context of low performance control tends to be reinforced and lead to decline, whereas in a high-performance environment trust is reinforced which tends to enhance performance. The cycle of low performance can be broken with some measures: encourage trust in the abilities of others while recognizing cognitive limitations and conflicts so as to improve controls and build constructive debates; foster the diversity of ideas and heterogeneous backgrounds, in addition to creating shared understandings.

Tomlinson and Mayer (2009) present proposals for repairing trust: demonstrate that the breakdown of trust or the negative result was caused by an external agent and not the internal agent's inability or lack of benevolence or integrity. Repair is more effective if conflicts are reduced, diminishing anxiety and the fear that situations will repeat themselves, by apologizing, presenting justifications and demonstrating that the attributions of trust remain intact and that the new situation is stable.

Mesquita (2007) affirms that the rebuilding of trust between firms may require the services of a facilitator who has a reputation for trustworthiness, recognized leadership, mediation and negotiation skills. The process has a greater chance of success when (a) it takes place inside legitimate institutional environments, (b) is aimed at specific groups and tasks and (c) the conflicts involved have more to do with business matters than personal antipathy.

Gillespie and Dietz (2009) identify two components of trust repair interventions: curbing behaviors viewed as being untrustworthy and reinforcing/demonstrating trustworthy behaviors.

According to the literature, trust is essential for interorganizational relationships and develops in the presence of information exchange, communication, relational structures with non-binding contracts and long-term orientation. When trust is broken is important to repair the relationship to improve performance, and to do so is important to apologize, justify actions taken, and diminish potential conflicts by reinforcing trustworthiness' behavior

3
Methods

3.1
Type of Research

The methodology was based on a qualitative approach and use of descriptive statistics. To exemplify the type of measures that could be used to relate financial inclusion, inequality and guarantee schemes a case study about *Fundo Garantidor para Investimentos* (Investment Guarantee Fund – FGI) from Brazil is presented. FGI can be described as an alliance between the BNDES and 26 financial agents in a guarantee fund that provides guarantees for micro, small and medium enterprises.

According to the classification of Creswell (2003) the approach used for this research was the use of mixed methods, appropriate for pragmatic research. According to Mustak et al. (2012) and Greene et al. (1989), it is possible to identify five justifications for the accomplishment of a research with mixed methods:

- Triangulation: It seeks the convergence and the verification of the results of different methods and designs studying the same phenomenon.
- Complementarity: search elaboration, improvement, illustration and clarification of the results of a method with results of another method.
- Initiation: discovering paradoxes and contradictions that lead to a reframing of the research question.
- Development: use of results from one method to help inform the other method.
- Expansion: seeks to broaden the scope and scope of the research using different methods for different research components.

The main justifications for the use of this one in this research are the triangulation of sources and the complementarity of the analysis. According to Eisenhardt (1989) the combination of methods can provide synergies. For Russo (2007) quantitative data may indicate non-apparent relationships, avoiding often false impressions of qualitative data. On the other hand, qualitative data are very important for understanding the context and interpreting the quantitative data.

The data were collected according to the principle of triangulation of methods / sources recommended for the case studies (Eisenhardt, 1989; Patton, 1987; Yin, 2013). By adopting this principle, which allows the confrontation of data captured from different sources and by different methods, the results are more consistent and the limitations inherent in each of the methods employed are reduced.

3.2 Research Configuration

The research analyzes guarantee schemes performance in financial inclusion, using mixed methods. First, an analysis of Brazil competiveness (GCI e GEM), inequality and the Brazilian Development Bank (national development bank) were conducted, compared with the international benchmark, focusing on credit access. For the single case study a sequential strategy of data collection was adopted, according to the classification proposed by Creswell (2003), composed of three stages:

(1) The analysis of FGI governance, as a fund managed by an NDB, considered the contractual and normative instruments that regulate FGI relations with the banks and its effective application, in specific situations, changes of norms and the application of penalties to parts of the alliance. This was compared to the international experience, considering the Brazilian competitiveness and inequality situation.

(2) Semi-structured interviews with managers and operational staff of the FGI administrator – BNDES, encompassing the research constructs: inter-organizational trust building and repair, governance and performance perception. These were analyzed through content analysis.

(3) Additionality analysis using descriptive statistics from FGI.

3.3 Review of the literature

The bibliographic research was conducted in specific texts on the subjects of the study, seeking to review the literature on the subject and to deepen the theoretical reference on competitiveness, inequality, national development banks, guarantee schemes structure, governance and performance. For that, books, articles, dissertations, theses, specialized magazines, newspapers and other instruments were used.

3.4 Governance

Guarantee schemes governance data collection relied on secondary data, especially information released by governments, multilateral institutions, development banks, guarantee funds, journals and theses about inequality and guarantee schemes for MSMEs. The data on contracts, regulations and their application in alliance governance were collected retrospectively using a methodology based on Faems et al. (2008) and Berends et al. (2011), which uses documentary analysis, interviews with retrospective analysis and three stages of analysis, as detailed below. Retrospective data collection allowed a more focused process because it reduced the danger of data overload and unusable data collection (Leonard-Barton, 1990; Poole et al., 2000).

However, retrospective case analysis also has its drawbacks. For example, respondents tend to filter events that do not fit or make their history less coherent (Poole et al., 2000). To improve the validity of these retrospective analyzes and to minimize the acceptance of the respondent's bias, a series of strategies were applied.

First, the data were triangulated, applying two sources of data: interviews and documents (Eisenhardt, 1989; Yin, 2013). Secondly, respondents were asked to reflect on concrete events rather than abstract concepts to reduce the risk of cognitive bias and print management (Miller, Cardinal, Glick, 1997). Finally, it was sought to check the validity of individual evaluations, asking similar questions to several informants (Cardinal, Sitkin, Long, 2004).

Following Pettigrew (1990) and Pentland (1999) I tried to distinguish three different stages in data collection and analysis. In the first stage, unstructured interviews were conducted with two FGI managers to obtain some initial information on the history and characteristics of the Fund and previous experiences of the BNDES and other players with the granting of guarantees to MSMEs.

For the alliance formed in the constitution of the FGI, the relevant documents were evaluated, in addition to publicly available information (i.e. annual reports, statute, regulations, circulars, press releases).

3.5 Interviews

The interviews were conducted with the fund manager team – the BNDES – in Rio de Janeiro, Brazil. For data collection purposes, ten semi-structured interviews (Kvale, 1996) were undertaken with managers of the fund at the BNDES in order to gauge their perceptions regarding the themes examined in the theoretical references, using the interview script outlined in Table 4, between 2014 and 2016.

Table 4 – Interviews Questions

Question	**Aim of the question / Theoretical reference**
1. Did FGI used any national or international benchmark to set up its governance structure? Which one(s)?	Identify national and international benchmarks used to set up governance.
2. What kind of governance structure does the FGI have? What distinguishes it from the FGPC's structure? Explain.	Identify whether the structure uses the structural or relational perspective (Faems et al. 2008)
3. How does the FGI behave towards the financial agents? How is the relationship between the parties?	Identify managers' behavior / relationship between FGI and financial agents (Lewicki and Bunker, 1995):
4. How would you define the FGI's reputation? And the BNDES's? What has been done to generate trust in this guarantee fund?	Identify their view of the fund's reputation (Tomlinson and Mayer, 2009).
5. Describe the communication and information exchange process between the FGI and banks.	Identify the communication process and openness degree between parties (Becerra and Gupta, 2003; Gulati and Sytch, 2007).
6. How is contract fulfillment formalized and verified? Explain and give examples.	Identify contract type: binding or non-binding (Malhotra and Murnighan, 2002).
7. How does the FGI's monitoring and control system work? What are the control mechanisms used?	Identify what kind of controls the Fund uses (Boehs and Segatto-Mendes, 2007).
8. How are conflicts between banks and the FGI resolved? Are their many conflicts? What type?	Identify types and level of conflict (Mesquita, 2007; Sundarämurthy and Lewis 2003).
9. What are the main benefits provides by the Fund to the Financial Agents and to the SMEs?	Identify the main benefits provided by the Fund (Lanz and Tomei, 2014; Jonsson, 2009, Green, 2003).
10. Describe the FGI's performance in financial terms, number of customers (market share) and in terms of banks' satisfaction?	Identify performance perception (Faems et al. 2008).

Source: Prepared by the author.

The subjects' selection criteria were convenience and accessibility. Interviews were conducted face to face, recorded and transcripted. Content analysis was used to extract

respondents' perceptions about the topics covered. The managers interviewed have between 5 and 10 years of BNDES. Their academic formations are economists, business, accountants and lawyers. Table 5 shows respondents' responsibilities. The interviews followed the guidelines of the BNDES ethics code. Confidential data and information protected by law about the FGI were omitted from the final report.

Table 5 – Interviews Participants

Divisions	**Respondents**	**Attributions**
Department Chief	1 interviews	Responsible for FGI
Product and Project	3 interviews	Development of new products and adjustments to existing products and standards.
Institutional Relationship	2 interviews	Institutional relations and training of financial agents
Operations	2 interviews	Operating activities as analyzing honor claims and payments, credit recovery and auditing.
Legal	2 interviews	Responsible for legal support to all divisions, contracts elaborations and fund "by-laws".

Source: Prepared by the author.

3.6 Additionality

To evaluate the impact of the use of the FGI in terms of the feasibility of MSMEs gaining access to credit, several measurements were used to evaluate additionality, such as comparing success in gaining access to credit by companies with similar characteristics, with and without the guarantee of the FGI from the beginning of operations in 2010 until December 2016.

3.7 Limitations

The methodology chosen for the research presents some difficulties and limitations regarding the collection, treatment and analysis of data for each of the methods used.

In the analysis of contractual and regulatory instruments access to and dissemination of data is limited by the degree of confidentiality of information assigned by the Fund to certain documents.

The method is limited by the selection of the interviewees, given the impossibility of being covered by the research instruments all managers and operational staff of the BNDES, especially by the optional nature of the participation. Much of the research depends on the

quality of the interviews, so the interviews are conducted very carefully, and try to avoid the induction of responses as much as possible.

The qualitative data, used in the two initial phases of the research, entail a greater difficulty of systematization and, consequently, of interpretation and analysis. The analysis of these data emphasizes the perceptual aspects, how perception is subjective, can result in distorted data, because there is a big difference between what people do or feel and what they say about it. In order to minimize this difference in the closed questions of the questionnaire, one seeks, as far as possible, to omit questions that most people do not know or do not want to answer. We also try to control this possible bias by using indirect questions (Gil, 1991).

This method also suffers from a limited apprehension of the process of change, since the survey provides a static view of the studied phenomenon, does not indicate its tendencies to variation, much less the possible structural limitations (Gil, 1991). To the extent that the questionnaire used was based on data that reflect the respondents' perception, there is a risk that the responses do not faithfully represent the reality of the alliances. Ideally, objective measures should be used. Nevertheless, the inclusion of both managers and operational staff involved in alliances tends to minimize this effect;

Although the longitudinal study, with data collection in two moments, in the interviews and in the analysis of the performance data was not part of this research, a retrospective analysis was adopted, including the evaluation of the documentation regarding the main changes of the alliance between BNDES and the financial agents, at FGI.

In this method, respondents tend to filter events that do not fit or make history less coherent (Poole et al., 2000). To improve data validity, the data triangulation approach, interviews and documents, as proposed by Eisenhardt (1989) and Yin (2013) and the emphasis on interviews on the reflection on concrete events, as proposed by Faems et al. (2008) to minimize the risk of cognitive bias and print management.

The performance evaluation contemplates not only the perceptions of the respondents expressed in the answers to the interviews, but also the use of business indicators.

It is believed that the limitations of the methods adopted have been overcome, at least in part, by the triangulation of the adopted methods, which involved both quantitative and qualitative methods for the treatment of the data (Eisenhardt, 1989; Patton, 1987; Yin, 2013). The adoption of mixed methods, according to Creswell (2003) and Greene et al. (1989) allows in addition to triangulation the complementarity of data and results of each

method employed, in order to overcome the limitations of each method in isolation, obtaining results that contribute to the theory.

The limitation in the case study methodology, as far as its results cannot be generalized statistically, does not apply to this research, since its purpose in the present research was to contribute to the theory, illustrating and refining the proposed analytical framework.

The next chapter presents the details of the research field, describing the main complementary collateral systems, the contextualization of alliances in an endorsement fund, and the characterization of the relationship between FGI and its financial agents.

4
Results

In this chapter, the results are presented, for each step of the research, according to the script presented in the Methodology chapter.

First, there is an evaluation of competitiveness (GCI, GEM), inequality and the institutional environment. The role of NDBs in development and especially in guarantee systems is presented, compared with the international benchmark. Then, a comparison between guarantee schemes for SMEs is presented.

Considering this framework this research then presents the FGI case study, using the sequential approach. The evaluation of the governance, contractual and normative instruments was done by analyzing the content of these instruments and evaluating their effective operationalization obtained from the interviewees, in relation to the theoretical predictions.

It is possible to perceive the advantage mixed methods use, combining qualitative and quantitative analysis. The results for each stage are better understood considering the results obtained in the previous stage, demonstrating the complementarity of this methodology and allowing one to overcome the limitations of each step analyzed individually.

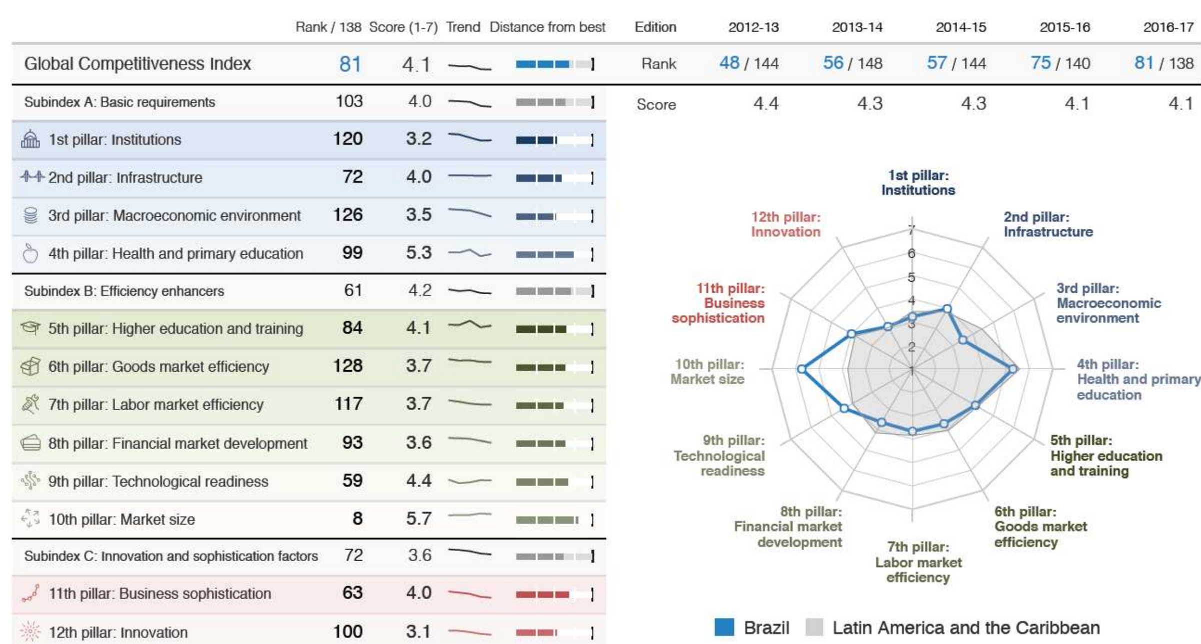
4.1
Competitiveness and Institutional Environment

WEF Global Competitiveness index (Schwab, Sala-i-Martin, 2017) 12 pillars, 114 indicators, 80 from the executive survey and only 34 from other sources seems to fulfill Lall (2001) two conditions, even receiving some influence from the growth, especially in the executive survey, being a comparative analysis between countries and having a time series available, allow the researcher to mitigate the pro-cyclical effect.

The GCI adequately capture perceptions over factors that influence productivity and growth, assessing various dimensions that affect competition. The index is useful to identify changes in the country position over the years and perform peer countries comparison. However, critics, like Önsel et al. (2008) identify a concentration on subjective perceptions and qualitative data. The difference between sample sizes over the countries, a bias to local

executive's evaluation, combined from a pro-cyclical influence of current economic conditions, could turn the index more into a confidence index than a reliable competitiveness index. According to Bowen and Moesen (2011), the use of cluster analysis and endogenous weights could mitigate potential bias from the use of predetermined weights. Finally, according to Fagerberg et al. (2007), the use of economic and statistical indicators could improve the effectiveness of the index. However, these adjusts are beyond the scope of this work. Figure 1 shows Brazil data for 2016-2017.

Figure 1 – Global Competitiveness Index Brazil Performance Overview



	Rank / 138	Score (1-7)
Global Competitiveness Index	81	4.1
Subindex A: Basic requirements	103	4.0
1st pillar: Institutions	120	3.2
2nd pillar: Infrastructure	72	4.0
3rd pillar: Macroeconomic environment	126	3.5
4th pillar: Health and primary education	99	5.3
Subindex B: Efficiency enhancers	61	4.2
5th pillar: Higher education and training	84	4.1
6th pillar: Goods market efficiency	128	3.7
7th pillar: Labor market efficiency	117	3.7
8th pillar: Financial market development	93	3.6
9th pillar: Technological readiness	59	4.4
10th pillar: Market size	8	5.7
Subindex C: Innovation and sophistication factors	72	3.6
11th pillar: Business sophistication	63	4.0
12th pillar: Innovation	100	3.1

Edition	2012-13	2013-14	2014-15	2015-16	2016-17
Rank	48 / 144	56 / 148	57 / 144	75 / 140	81 / 138
Score	4.4	4.3	4.3	4.1	4.1

Source: WEF - The Global Competitiveness Report 2016-2017.

Brazil is a country as classified as Stage 2 - Efficiency-driven, by WEF methodology. The analysis considered the 3 subindexes and the 12 pillars of the GCI. Brazil ranks 81 over 138 countries evaluated. It is possible to identify that the index reflects the perception of the economy conditions, and has a pro-cyclical behavior. Brazil had a position of 48 in 2012-2013. The fall reflects Brazil political instability and internal economic deterioration. Analyzing all WEF index if beyond the scope of this work, only the three subindexes and the pillars related to credit will be analyzed.

On Basic Requirements Brazil ranks position 103 with an index of 4.0 (on a 7 points scale) considering 138 countries 2016-2017 GCI report (Schwab, Sala-i-Martin, 2017). Considering this result, Brazil has a huge shortcoming to overcome. For the first pillar,

Institutions, Brazil ranks position 120 (index of 3.2). The main issue with this pillar is that from its 21 indicators, only one - Strength of investor protection - is not obtained through the survey, and this item has the best result for Brazil (rank 29, index of 6.5). Data from other sources could be used, like Open Budget Index where Brazil scores 71 (in a scale of 100) and in Corruption Perception Index (2015), where Brazil ranks 76 of 168 countries. It raises concerns over this index. Comparing this index with other analytical frameworks, like Jeffrey Sachs Clinical Diagnosis or Fagerberg, Srholec and Knell, it sometimes seems that it lacks objective data. Considering the items identified in the theoretical framework as potentially linked to credit access, is possible to identify that on irregular payments and bribes, Brazil ranks 111, with and index of 3.1, on judicial independence ranks 79, with 3.8 points, on efficiency of the legal framework in settling disputes Brazil ranks 125 (index of 2.7), efficiency of legal framework in challenging regulations ranks 107 (index of 2.8), ethical behavior of firms ranks 131 (index of 2.8) and strength of auditing and report standards ranks 72 (index of 4.5).

Analyzing these items, we can see that any credit guarantee scheme in Brazil will have to invest in structural safeguards to minimize opportunistic behavior and adverse selection from the financial agents. The item with the best results strength of auditing and report standards applies mainly to medium and large enterprises, micro and small enterprises often do not have the legal obligation to comprises with all the regulation. The judiciary, even being perceived as independent is one of the most inefficient in the world to settle disputes.

The third pillar Macroeconomic environment even using economic information, evaluate the macroeconomic conditions on a given year. It could be improved if some qualitative data, especially evaluations of the fiscal and monetary policy were integrated into the index. Brazil ranks position 126 with an index of 3.5. For Health and primary education, Brazil ranks position 99 with an index of 5.3. This pillar shows a good balance between qualitative and quantitative data. Considering the items related to credit on Macroeconomic Environment, on government budget balance Brazil ranks 130 (-10.3 % GDP) and country credit rating ranks 59 (in an index that goes from 0-100). These items make very difficult to enterprises in Brazil to obtain external resources, even if we considered investments funds. The environment is too volatile and international investors usually invest on short term or in big projects (in this case considering long-term and the market size).

The second subindex Efficiency Enhancers, presents Brazil in position 61 with an index of 4.2 In Financial markets development Brazil ranks position 93 with an index of 3.6. Again quantitative data, like number of funds and enterprises listed in the market could

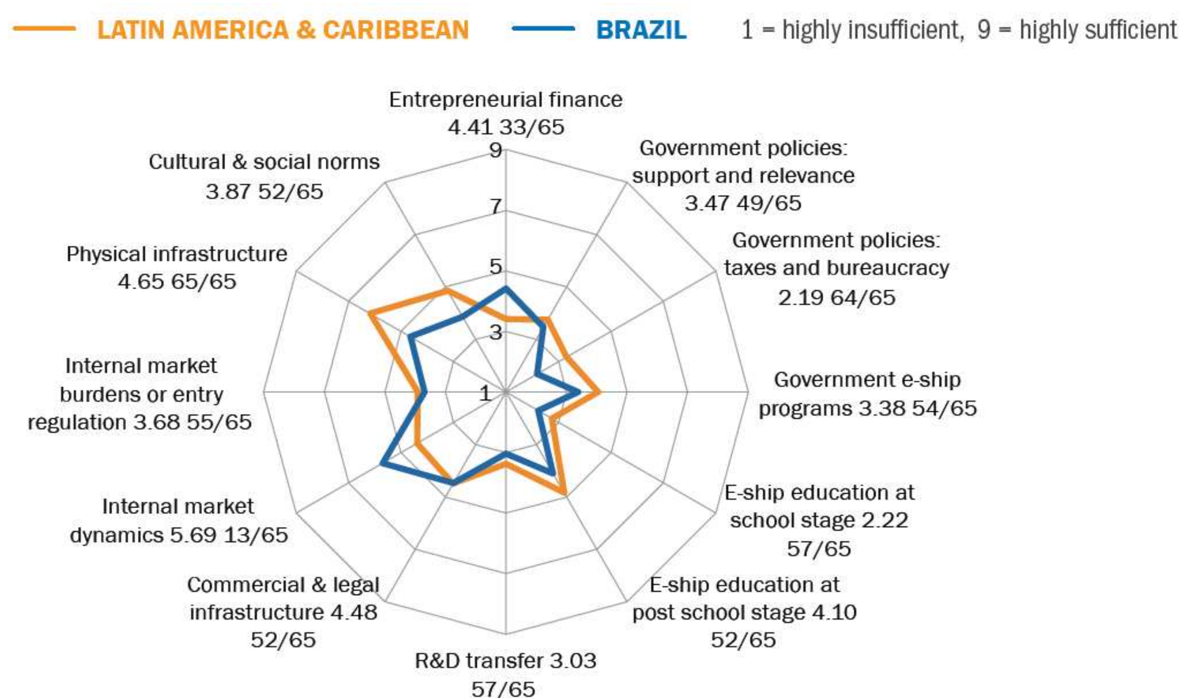
improve the index. Considering the items in this pillar, we can identify that Brazil ranks 83 with and index of 3.4 on financing through local equity market; on ease to access loans ranks 85 (index of 3.6), on venture capital availability ranks 95 (index of 2.5), on soundness of banks ranks 38 (index 5.6) and legal rights index it ranks 108 (index of 2 on a 10-point scale). In this case is clear that the banks have a solid position, so they can assume more risk and lend more, and credit guarantee schemes can help then to do that improving the results on “ease to access loans).

The third subindex evaluates innovation and sophistication factors Brazil ranks position 72 with an index of 3.6. On Business Sophistication, Brazil ranks position 63 with an index of 4.0. The qualitative approach used seems appropriate. For Innovation, Brazil ranks position 100 with an index of 3.1. Besides patents, already included in the index, scientific articles could be included in the items evaluated. These results reflect lack of innovation and one of the main causes are the difficulties that SME have to invest on new ideas and products due to lack of credit.

GEM classifications have two main components, the survey results and expert evaluation. Considering the scope of this thesis, only the expert evaluation will be analyzed, since it is more related to the institutional and economic environment, than the survey, more focus on gender equality, societal values, jobs, innovation and entrepreneurship.

Analyzing the GEM data form 2016-2016, Brazil performance in the expert rating of the Entrepreneurship Eco-system is similar to the evaluation of WEF GCI. On entrepreneurial finance Brazil ranks 33 between 65 countries, with an index of 4.41; on governmental policies: support and relevance Brazil ranks 49, with a an index of 3.47; on governmental policies: taxes and bureaucracy Brazil ranks 64, with an index of 2.19 (the worst index result in the dimensions evaluated); Government e-ship programs Brazil ranks 54, with an index of 3.38; E-ship education at school stage Brazil ranks 57, with an index of 2.22; E-ship education at post school stage Brazil ranks 52, with an index of 4.10; R&D transfer Brazil ranks 57, with an index of 3.03; commercial & legal infrastructure Brazil ranks 52, with an index of 4.48; internal market dynamics Brazil ranks 13, with an index of 5.69; internal market burdens or entry regulation Brazil ranks 55, with an index of 3.68; physical infrastructure Brazil ranks 65, with an index of 4.65 (the worst ranking result in the dimensions evaluated); and cultural and social norms Brazil ranks 52, with an index of 3.87. As WEF GCI, for GEM many indicators, especially in the expert rating can be related, affect or be affected by credit access. Figure 2 shows the Brazil position in comparison with Latin America and Caribbean countries.

Figure 2 – GEM - Brazil Expert Ratings of the Entrepreneurial Eco-system



Source: Global Entrepreneurship Monitor – Global Report 2016-2017 - (ranked out of 65).

4.1.1
Inequality measurement

Ortiz et al. (2011) analyzed the distribution information across country income groups, as showed in Table 6. It's possible to identify the extremely high level of inequality that characterizes middle-income countries and the relative loss of income—or absence of change—of the middle and lower classes in favor of the wealthier, upper-income groups in both low- and high-income countries over time.

Table 6 - Income Distribution by Income Levels, 1990-2007 (or latest available) in PPP constant 2005 international dollars

	Low-income			Middle-income			High-income		
	1990	2000	2007	1990	2000	2007	1990	2000	2007
Q5	47.1	46.5	48.1	64.9	58.0	55.2	44.2	45.4	44.4
Q4	21.3	21.9	22.4	16.4	19.9	20.6	23.5	23.0	22.9
Q3	14.7	14.8	14.1	9.4	11.2	12.2	16.0	15.7	16.0
Q2	10.5	10.4	10.5	5.9	7.0	7.4	10.8	10.5	11.2
Q1	6.3	6.4	4.9	3.4	4.0	4.7	5.5	5.3	5.4
# of observations	31	26	17	49	70	74	33	31	31
% of global population	4.8	7.9	9.9	66.1	69.3	69.0	15.2	14.0	13.5
% of global GDP	0.6	0.8	1.0	29.7	32.0	38.5	55.0	54.5	49.1
% of sample population	5.6	8.6	10.7	76.8	76.0	74.7	17.7	15.4	14.6
% of sample GDP	0.7	1.0	1.2	34.8	36.7	43.4	64.5	62.4	55.4

Source: Ortiz et al. (2011).

According to Ortiz et al. (2011), Gini index estimates based on Solt (2009) shows that Latin America and the Caribbean is the region with the highest levels of income inequality, and Sub-Saharan Africa is not far behind. On the other side of the spectrum, high-income countries emerge as the most equal group of countries—by a wide margin—with Eastern Europe and Central Asia ranking as the second most equal region as demonstrated in Table 7.

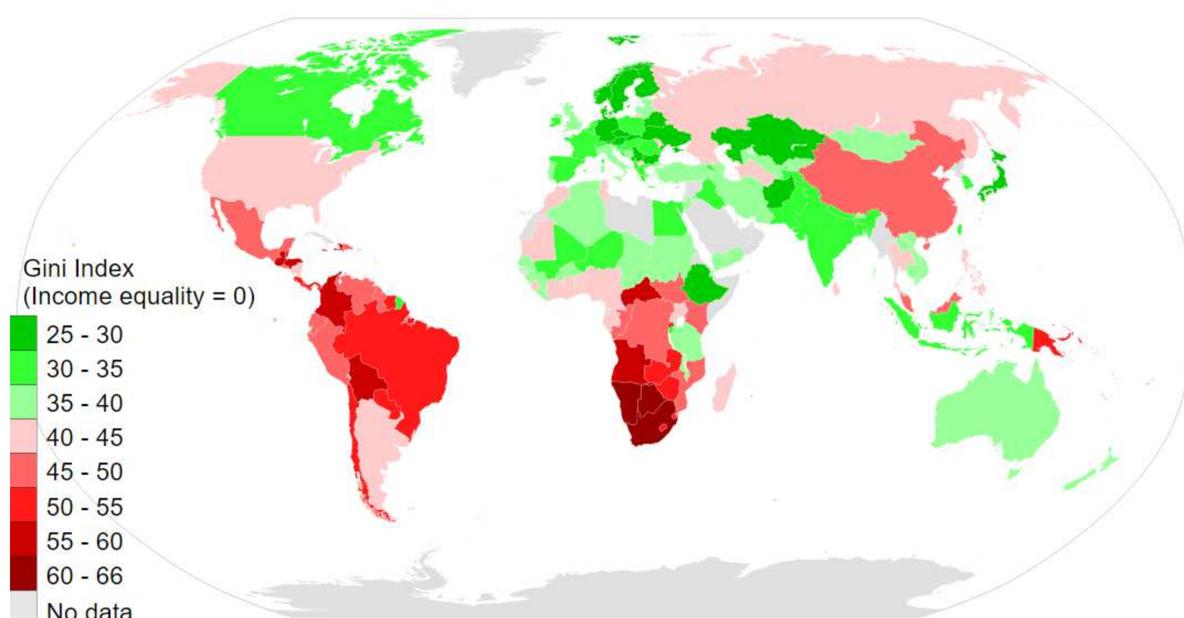
Table 7 - Gini Index Values by Region

Region	1990	2000	2008	2008-1990 Change	2008-2000 Change
Asia	36.4	40.0	40.4	4.0	0.6
Eastern Europe and Central Asia	26.7	33.2	35.4	8.7	2.2
Latin America and the Caribbean	46.9	49.2	48.3	1.5	-1.3
Middle East and North Africa	39.2	39.2	39.2	0.0	0.0
Sub-Saharan Africa	49.1	46.1	44.2	-4.8	-1.8
High-income Countries	27.4	30.8	30.9	3.5	0.0
Number of Observations	137	140	141	132	132

Source: Ortiz et al. (2011).

According to the World Bank (2017), Brazil has a Gini Index of 51.48 in 2014. This is still a very high inequality, and still higher than Latin America Average. Figure 3 compares the Brazil situation with the rest of the world.

Figure 3 – Gini Index - World

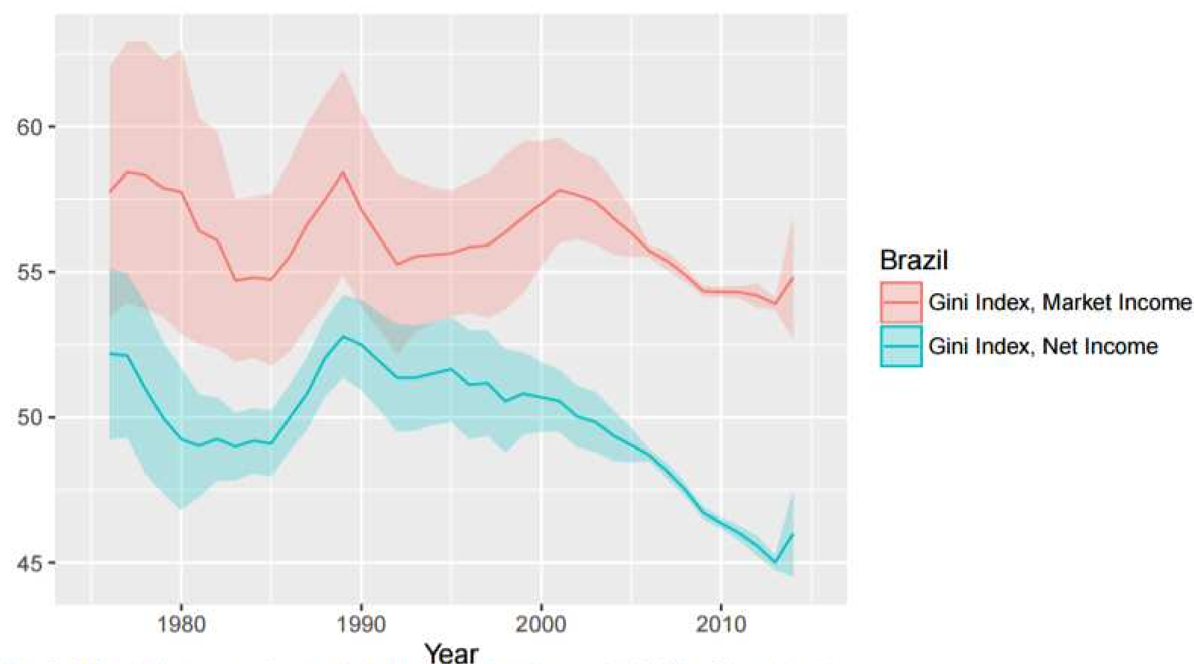


Source: World Bank, (2017)[1].

[1] Map by By M Tracy Hunter - Own work, CC BY-SA 3.0, https://commons.wikimedia.org/w/index.php?curid=33962866

Figure 4 shows Gini Index evolution for Brazil over the last 40 years. We can identify a more significant drop in inequality since the beginning of 2000's, coinciding with the intensification of conditional cash transfer programs (*Bolsa Família*) and improved social security in Brazil [*Benefício de Prestação Continuada*] (Neri, Vaz, Souza; 2013).

Figure 4 - Brazil Inequality – Gini Index



Source: Solt, 2016.

4.2
National Development Banks and Guarantees

The way a NDB provides support to long-term investment depends of each bank life-cycle stage, financial and equity markets development of the specific country. Either way, the goal of the NDB should be leveraging private financing; the aim should be crowding in private capital and use indirect origination, especially through guarantee schemes and provision of long-term funds. Following this, NDBs managed guarantee schemes in many countries.

Guarantee schemes supported by NDBs have coverages up to 80% of the value of the credit. The actual coverage can vary according to the type of loan (working capital, investment or innovation. Table 8 shows some NDBs support to SMEs in selected countries. Usually, NDBs support SMEs using diverse instruments, besides guarantees, like technical

support, loans, equity and new innovative ways, like revolving credit, crowdfunding platforms, rankings and monitoring, between other initiatives.

Table 8 – NDBs support to SMEs

Item	KFW	ICO/ENISA/CERSA	BNDES	BPI France
Country	**Germany**	**Spain**	**Brazil**	**France**
Technical support	Entrepreneurship education	Training, Guarantee Associations	Training, support to Agents	Advisory (CMS)
Loans	Working capital, investments, innovation	Working capital, investment, innovation	Working capital, investments innovation	Working capital, investments innovation
Guarantees	-	Up to 80%	FGI – up to 80%	Up to 80% Quasi-capital
Equity	Venture capital, seed funds, indirect capital	Direct and indirect equity	Start-up funds, venture capital	Start-ups, venture capital
Other	Start-up monitor	Securitization	Revolving Credit	Crowdfunding platforms

Source: Prepared by the author.

In the case of Brazil, when the new guarantee funds were created in the late 2000's, the law specified that only public financial institutions could be appointed as administrators. NDBs can provide guarantees for funds in either category: direct and indirect. In the case of FGI, initially the Fund operated only with indirect operations using resources from BNDES that were lended through financial agents to the MSMEs beneficiaries. Since, 2015, it starts the provision of guarantee to operations using resources from the financial agents or other sources, like FINEP.

FGI guarantee support is consistent with Studart and Gallagher, view of NDBs support to sustainable projects, especially for leveraging finance, reduce the cost of capital to the borrower, crowding-in private capital, and improving governance and inclusiveness.

4.3 Guarantee schemes around the world

Table 9 shows credit guarantee schemes performance considering Income Group and Region as analyzed by the World Bank Survey (Calice, 2016). We can identify the measures proposed by Jonsson (2009). The percentage of financing in the country for SMEs with guarantees as an indicator of the global impact of the system shows that the Western Hemisphere has the best performance with 3.4% and Europe has the worst performance. The degree of leverage, considered an indicator of the successful exploitation of the stabilizing

resources of guarantees again shows the Western Hemisphere with the best result. Analyzing the default rate Asia has the best results and Africa the worst.

Table 9 - Credit Guarantee Schemes Performance – median values - 2014

	SMEs served	Outreach (%)*	Productivity**	Leverage (X)***	Default rate (%)****
All CGSs	1,383	1.6	29	3.3	2.5
Income group					
High Income	6,507	2.0	30	4.1	2.9
Upper Middle Income	1,139	0.9	29	2.9	3.0
Lower Middle Income and Low Income	887	1.6	21	1.0	1.0
Region					
Africa	77	0.3	8	1.7	17.1
Asia	17,293	2.7	33	3.2	1.2
Europe	1,139	0.9	17	3.8	2.9
MENA	829	2.2	22	4.4	3.8
Western Hemisphere	6,531	3.4	164	3.0	2.0

* Number of SMEs served divided by total SMEs in the country.
** Number of guarantees issued divided by number of employees.
*** Outstanding guarantees divided by total capital.
**** Nonperforming guarantees divided by outstanding guarantees.

Source: Calice (2016)

AECM that congregates guarantee schemes in Europe and Rede Garantias, that organizes the Iberoamerican Forum of Guarantees, congregates guarantee schemes in Latin America tried to consolidate data over their activities. However, much focus is given to structure, contract, claim and credit recovery processes (AECM, 2016; Foro Iberoamericano de Sistemas de Garantia, 2016). Additionality measurements are still incipient and there is a lack of standards over the adequate indicators to be used and the best methodology to evaluate guarantee schemes effectiveness, which is compatible with Saadani et al. (2011) expectations.

4.4
FGI – Case study

This section presents the case study. To analyze the case is important to understand that FGI is part of a public policy that reestablished guarantee funds in Brazil, starting in 2004, after the failure of the public guarantee funds created in the 1990’s. Table 10 presents the nine guarantee funds that were authorized to be created by six federal laws. Some of these initiatives failed and other were not established yet.

Table 10 - Credit Guarantee Funds Legislation in Brazil

Law	Fund	Goverment maximum participation	Management	Fiscalization
11.079/2004	Fundo Garantidor de Parcerias Público- Privadas (FGP)	R$ 6 bilhões	Federal public bank	
11.786/2008	Fundo de Garantia para Construção Naval (FGCN)	R$ 5 billion	Federal public bank (CEF)	Comitê de Participação no Fundo de Garantia para a Construção Naval – CPFGCN
11.943.2009	Fundo de Garantia a Empreendimentos de Energia Elétrica - FGEE	Not defined	Federal public bank (Banco do Brasil)	Conselho Diretor do Fundo de Garantia a Empreendimentos de Energia Elétrica – CDFGEE
11.977/2009	Fundo Garantidor da Habitação Popular (FGHab)	R$ 2 billion	Federal public bank (CEF)	Comitê de Participação no Fundo Garantidor da Habitação Popular (FGHab)
12.087/2009	Fundo de Garantia de Operações (FGO)	R$ 4 billion	Federal public bank (Banco do Brasil)	Conselho de Participação em fundos garantidores de risco de crédito para micro, pequenas e médias empresas e em operações de crédito educativo
	Fundo Garantido para Investimentos (FGI)		Federal public bank (BNDES)	
	Fundo Garantidor de Crédito Educativo		Federal public bank (Banco do Brasil)	
12.712/2012	Fundo Garantidor de Comércio Exterior	R$ 14 billion	Agência Brasileira Gestora de Fundos Garantidores e Garantias S.A. (ABGF)	
	Fundo Garantidor de Infraestrutura (FGIE)	R$ 11 billion		

Source: Prepared by the author.

To analyze FGI case in this context is important to follow some steps. First, there is a profile of the financial agents that is important to understand the environment of the inter-organizational trust. The section also presents the governance analysis based on documents and comparison with the FGPC and the international benchmark. The interviews present FGI management team view over the governance, the relationship with the agents and the fund performance. Finally, the section presents the operational data compared with theoretical framework and guarantee schemes benchmark.

4.4.1 Financial Agents Profile

We can identify 3 different profiles of financial agents operating with FGI: commercial banks, development banks/agencies and truck manufacturers' banks. Commercial banks, also referred as multiple banks, in Brazil can be public, private or mixed economy

> Multiple banks are private or public financial institutions that carry out the active, passive and ancillary operations of the various financial institutions, through the following portfolios: commercial, investment and / or development, real estate credit, leasing and credit, Financing and investment. These transactions are subject to the same legal and regulatory rules applicable to the singular institutions corresponding to their portfolios. The development portfolio can only be operated by a public bank. The multiple bank must consist of at least two portfolios, one of which must necessarily be commercial or investment, and be organized in the form of a joint-stock company. Institutions with a trading portfolio may receive demand deposits. The company name should include the expression "Bank" (Resolution CMN 2.099, 1994).

Regional development banks and agencies - defined according to Resolution CMN 2,828/2001 as:

> The purpose of the development agencies is to provide financing for fixed and working capital associated with projects in the Federation Unit where they have their headquarters. They must be constituted as a private corporation and be under the control of the Federation Unit, and each Unit may only constitute an agency. Such entities have financial institution status, but cannot raise funds from the public, use rediscount, hold a reserve account with the Central Bank, interbank deposits as depositor or depository and have no equity interest in other financial institutions. Its corporate name must include the expression "Development Agency" plus the indication of the Unit of the Parent Federation. It is forbidden to transform it into any other type of institution that is part of the National Financial System. Development agencies must establish and maintain, at all times, a liquidity fund equivalent to at least 10% of the value of their obligations, to be fully applied in federal public securities.

Truck manufacturers' Banks - constituted as commercial bank or multiple bank.

> Commercial banks are private or public financial institutions whose main objective is to provide the necessary resources to finance, in the short and medium term, trade, industry, service providers, individuals and third parties in general. The acquisition of demand deposits, freely movable, is typical activity of the commercial bank, which can also capture time deposits. It must be incorporated as a corporation and its corporate name must include the expression "Bank" (Resolution CMN 2,099, of 1994).

This profile is important to understand the institutional environment of the FGI case. Commercial/multiple banks have a greater participation on the Brazilian market share; have

many agencies spread to the country. Development agencies usually are restricted to a specific state or region of the country and sometimes do not provide loans using their own resources, but from other sources like BNDES, FINEP or constitutional funds. The number of operations associated with these agencies is significantly lower than commercial/multiple banks. However there are important to provide long-term funding, support investments and innovation. Finally, truck manufacturers' banks support trucks and equipment's commercialization, usually are associated with a main trucker manufacturer (like Mercedes-Benz, Volkswagen/MAN, Fiat, etc.). They have a number of operations usually higher than development agencies and lower than commercial/multiple banks. They usually use guarantee schemes as a way to access more risky customers and get liquidity, since they execute the trucks in case of default.

4.4.2 Governance Analysis

The FGI sought to correct the deficiencies of the FGPC, which it replaced, having been established with a private nature, aimed at MSMEs and individuals (individual micro entrepreneurs and freight carriers), not subject to budgetary constraints and more flexible rules, Processes that are more agile and appropriate to the dynamics of its segment.

BNDES acting as manager of FGI is consistent with its role as national development bank (NDB), helping to expand credit access with better conditions, considering both indirect operations (with BNDES resources) operated by the banks as financial agents and providing guarantee to financial agents own funded operation for investments, innovation and working capital. It fosters project development and scaling up, leveraging finance, reduces the cost of capital to the borrower, crowding-in private capital, and improving governance and inclusiveness. FGI setting tries to compensate for credit market failures, helping to improve Brazil competitiveness. Table 11 presents the comparison between the structure of the two funds, considering the characteristics identified in other funds in the world and relating then with the items of Global competitiveness index when applicable. The table is based on the analysis of the fund's by-laws, regulations and manuals.

Table 11 – Characteristics of FGI – Fundo Garantidor para Investimentos versus FGPC - Fundo Garantidor para Promoção da Competitividade

Scope	FGPC	FGI	**Mechanism of trust building (Theoretical reference)**
Type of entity	Public	Private	The FGI is a joint venture with

Resources	Public budget. Subject to budget constraints.	ABGF, BNDES, financial agents. Segregated in fund.	interdependence between the parties (Gulati and Sytch, 2007) which promotes the alignment of participants' interests. This institutional setting mitigates opportunistic behavior and favors dispute settling. (Handley and Benton, 2013)
Equity Structure	Federal Government as *shareholder*	Public (ABGF and BNDES) and private shareholders (banks)	
Management fee (BNDES)	N/A	0.15% p.y. on managed funds + 1% p.y. On the total assets (contracting services directly paid by the IGF)	Clear limitation of costs, consistent with the structural perspective of alliances and the theory of transaction costs (Faems et al., 2008).
Governance Structure	Administrator and Audits	Shareholders' Assembly, Federal participation Council, Administrator e Audit, actuarial Consulting.	The FGI has an institutional structure with greater possibility of monitoring. Ease of understanding the administration of resources and evolution of results. It strength the auditing and report processes. (Das and Teng, 2001)
Resource Management / application	Annual Federal budget	Active with fixed and variable income, having as benchmark IRF-M and Ibovespa	
Scope of coverage	Operations with BNDES resources	Operations with BNDES resources and credit from financial institutions themselves	Possibility of securing credit from the institutions themselves, with a long-term perspective and an expectation of expanding the relationship. (Lewicki and Bunker, 1995; Faems et al, 2008)
Purpose of guarantee operations	Investment, working capital e exports	Investment, innovation and working capital	
Beneficiaries	Micro and Small Enterprises, besides the Medium Exporting Companies or the Export Chain	Micro, Small and Medium Enterprises; Self-employed Freight Carrier; Individual Microentrepreneur	
Type of guarantee	By operation/loan	Per transaction (linked to the stop loss rule in the Agent's portfolio); By portfolio; Indirect guarantee as a second floor to Credit Guarantee Companies and FIDCs.	FGI has greater safeguards and limiters. The form of guarantee, limits and stop loss have the effect of generating greater confidence in limiting losses and concern with opportunism providing structural security (Gulati and Sytch, 2007; Das and Teng, 2001). Theory of transaction costs. (Faems et al, 2008)
Guarantee Coverage / Limits by Beneficiary	Up to 80%	From 20% to 80% of the loan. Guarantee limited to R$ 10 million	
S*top loss mechanism*	N/A	7% each 5 years' period	
Leverage limit	8 times the capital	12 times the capital	
Claims payment	Subject to Government budget fiscal constraints. Default rate methodology based on debit balance	*On first demand.* Default rate methodology based on the net loss of the portfolio ((Honored - Recovered Value) / Guaranteed)	Payment on first demand mitigates the inefficiency of Brazil legal system (Schwab and Sala-i-Martin, 2017).
Credit recovery responsible	Restriction restricted to rules or approval by the Board in each agreement.	Pre-approved policy with recovery delegated to the Agent and subject to audit.	Behavioral control (Boehs and Segatto-Mendes, 2007).
Financial agents'	Qualification linked only to the possibility	Contract with FGI subject to quota contributions and	Input control, from a structural perspective (Boehs and Segatto-

habilitation / qualification	of operating with BNDES.	approval of the Credit Recovery Policy.	Mendes, 2007). Better information exchange (Gulati and Sytch, 2007), higher frequency of communication (Becerra e Gupta, 2003).

Source: Prepared by the author based on BNDES information.

The table analysis demonstrate that FGI being a joint venture with interdependence (Gulati, Stych, 2007) foster interest alignment between the parties, limiting opportunistic behavior (Handley, Benton, 2013). Since the fund is private, is clear that the management cost is covered by the funds revenues and own resources and the fund has a better structure (Faems et al, 2008). The governance structure is more participative, with better auditing and monitoring (Das, Teng, 2001). There is a long term perspective and credit for the financial agents can be guaranteed (Lewicki, Bunker, 1995; Faems et al, 2008). The fund has more institutional safeguards. The inefficiency of the Brazilian legal system is mitigated by the payment mechanism adopted (Schwab, Sala-i-Martin, 2017). There are more structural controls in place (Boehs, Segatto-Mendes, 2007), better communication mechanisms (Gulati, Sytch, 2007) and higher communication frequency (Becerra, Gupta, 2003).

4.4.3 Interviews

The interviews analysis indicated that the FGI's governance structure considered that international and national benchmark for guarantee schemes.

> BNDES has participated for several years in SME guarantees' international forums, such as the Ibero-American Forum of Guarantees. In addition, in the fund restructuring process, international experience was analyzed, with visits to OSEO (now BPI) in France, FNG in Colombia and Nafinsa in Mexico.
>
> We held a discussion group with Banco do Brasil, manager of FGO, and Sebrae, manager of Fampe, to discuss the evolution of guarantee funds for MSMEs in Brazil. The exchange of experiences on accounting provision, credit recovery and regulatory affairs has been very rich.
>
> ... One of the discussions subjects with Banco do Brasil and Sebrae is the operation of the FGI as a second floor fund to work together with mutual guarantee associations, whose creation has been stimulated by Sebrae, based on the Italian experience.

The interviews analysis indicated that the FGI's governance structure sought to correct the flaws identified in the FGPC, such as its public nature, which led to budget constraints and delays in payments and its rigid credit recovery rules. In order to repair banks' trust in

the guarantee, the Fund initially emphasized the structural perspective, reinforcing trustworthy behavior in line with Gillespie and Dietz's (2009) proposal, given that, despite its private legal nature, most of the fund's assets were composed of public resources. Efforts were also made to divulge information about the fund and build a relationship with partner banks, in a perspective that was consistent Faems et al.'s (2008) relational perspective:

> The FGI's governance structure sought to correct the deficiencies identified in BNDES's previous experience with guarantee funds. The FGI was structured as a private entity and is therefore not subject to budgetary postponements.
>
> Trust in the FGI has improved, especially because at the beginning the FGI was seen as potentially a new FGPC... But the FGI gradually began to gain credibility and its operation was quite different from the FGPC's. Guarantee claims are always paid promptly…..the banks' requests for changes are being complied with more frequently ...because, as it is a private fund, the FGI's rules can be altered more easily than if it were a public fund based on government budget allotments, like the FGPC, which is subject to much greater constraints.

The interviewees show that FGI strives to behave consistently and predictably, broadening its relationships as proposed by Lewicki and Bunker (1995):

> ...seek to meet the deadlines informed to the banks...
>
> ...the direction of changes is clear for the banks.....
>
> I believe that they see us as being committed interlocutors but I also think that they realize that we won't be able to do everything and I think we usually emphasize this point during our visits to banks.

The FGI tried to distinguish itself from the FGPC by building a reputation for credibility to repair trust. Decisions are justified and partners are told when they depend on external agents, in accordance with Tomlinson and Mayer's (2009) proposals.

> Banks' demands are assessed and prioritized. When these demands are made by more than one bank, they tend to be implemented. In some cases, they require approval by the general meeting of fund investors which congregates all the banks who participate in the FGI.
>
> In various cases it is not possible to comply with banks' requests due to legal restrictions or because they conflict with the guidelines adopted by the government which is the fund's biggest investor. In these cases the reasons for the decision are communicated to the requesting party.

Managers explicitly recognize the role of the frequency of communication, as proposed by Becerra and Gupta (2003). Information sharing is used to create trust, with prior discussions of proposals for changes to rules. In keeping with Gulati and Sytch (2007, there

is a concern to keep channels of communication that provide accurate, complete and timely information open.

> A team makes regular visits to banks for meetings, training sessions and discussions; there is a monthly schedule of visits...
> The banks receive information regarding the value and performance of their shares in the fund on a monthly basis.
> Changes are discussed and banks are informed about them in advance.
> Since its inception the fund has always listened to the banks. The fund set up a relationship department. Banks are informed in advance about changes to rules, systems and processes to enable them to adapt their internal systems, given that the FGI's processes, especially after guarantee hiring, are IT intensive.

A change was also identified in the nature of the rules governing contracts with banks, seeking to make them less binding and based more on cooperation between parties, in line with the approach proposed by Zaheer et al. (1998) and Malhotra and Murnighan (2002):

> I think that the fund's contracts and rules used to have a negative effect on agents' perceptions, but this has changed, because every time we change the statute and rules we try to simplify processes in order to align them with agents' usual practices. I believe that agents' trust in FGI is increasing day by day.
> During the course of the operation the penalties laid down in the rules were attenuated and an adjustment of conduct provision was created to deal with cases where a financial agent has behaved in a way that is inappropriate or even contrary to some rule of the fund, but acted in good faith. These provisions stipulate that the agent must adjust his operation and may provide for some penalty, but this penalty is negotiated and is usually more lenient than the one foreseen by the general rule.
> I think that the application of rules used to be more rigid but has become more flexible...

We can identify the use of some mechanisms described by Boehs and Segatto-Mendes (2007) such as standardization of operations with rules and procedures similar to those adopted by banks; socialization of values, through training programs and seminars; and personal involvement and a specific hierarchical structure, with the creation of an Institutional Relationship Department responsible for contacts and assessment of banks' procedures:

> We have a department which deals exclusively with the fund's relationship with banks. It is responsible for capturing new banks, organizing training programs and publicizing the fund.
> ...The BNDES has sought to simplify processes in order to make them more compatible with banks' business routines.

> ... Procedures were examined together with the banks in order to identify any doubts they might have regarding the fund guarantee application process. Various doubts were indeed identified, thus leading to improvements in rules and enabling banks to fix problems before requesting guarantee claim from the fund.

As regards conflict, the interviews identified a low level of conflict and disputes between parties. Conflicts are mostly functional (Mesquita, 2007) and their solution can lead to improvements in performance, with collaboration prevailing over control and thus breaking the negative cycle identified by Sundarämurthy and Lewis (2003).

> We have practically no conflicts with banks ...the treatment of cases outside the parameters or in which interpretations diverge have improved. The BNDES has made a greater effort to meet banks' requests.
>
> ... The level of conflict is low and.... when conflicts arise it is because a bank has not complied with a certain point of the rules and then a negotiation process begins…
>
> In general that have been very few conflicts and when they occur they are resolved in a friendly fashion.

The main benefits from the fund mentioned by the management team confirm the guarantee schemes literature (Lanz, Tomei, 2014; Jonsson, 2009; Green, 2003).

> The financial agent earns liquidity in the guarantee, which allows him to accept good transactions that he would not normally contract due to insufficient collateral.
>
> [...] The financial agent has the benefit of less need for capital allocation when using a guarantee fund. The effect is the same as a mortgage, but the execution of the guarantee is much faster.
>
> [...] Qualified agents can offer financing to more customers, increase credit limits and can gain market share with the fund's guarantee.
>
> The clients of the fund are the financial agents, they have to "buy the idea" of the fund and see value in the guarantee offered.
>
> The benefit to MSME is access to credit. […] the share of firms and individuals who had never had access to the BNDES's credit lines is over 50% of total beneficiaries, which shows that the fund is achieving its aim of increasing credit access.

The managers provided some examples of the effects of the governance structure on FGI's performance, highlighting qualitative aspects, which can be linked to trust building and long-term relationship perspective (Faems et al, 2008):

> The fund's performance has improved significantly in qualitative terms… [...] in regional terms, the North and Northeast regions' share in the fund's operations is higher than the BNDES's overall average, showing that the fund is helping to de-concentrate operations to Brazil's less developed regions.

> [...] The fund [...] has been successful in convincing a great number of banks to become shareholders. FGI is the guarantee fund with the greatest number of financial agents in Brazil. [...] FGI currently have 26 financial agents as shareholders [...]
> The Fund's market share in eligible operations for the fund's guarantee passed the international benchmark of 10% for this type of instrument.

In general, one can verify that the changes in the FGI's governance structure in relation to the one adopted by the FGPC and others which have been implemented in the course of its relationship with the banks, have supported the trust repair process and improved the alliance's performance.

4.4.4 Additionality

The aim of this subsection is to present the operational data of the FGI, compare them with similar operations or the international benchmark when applicable and try to relate the measurements with inequality and competitiveness.

Table 12 shows that the finance gap in Brazil comparing the situation with Latin America and the rest of developing countries. The data indicate that lack to access to finance is a greater barrier in Brazil than in in similar countries, which corroborates the importance of guarantee schemes as a tool to reduce this difference. This can be understood as seeking equality of opportunities, trying to level the field for firms with less initial capital for investments, in a concept similar to Atkinson (2015) proposal. These results are also compatible with GCI and GEM results, which show that Brazil has several problems in its institutional framework and financial market efficiency.

Table 12 - Finance Gap - Brazil x Latin America x Developing Countries

Item	Brazil	Latin America	Developing countries
# of Enterprises	16,030,344	52,477,854	399,735,661
Total credit gap, US$, millions	237,429	619,833	2,382,041
Total deposit gap, US$, millions	66,857	151,317	3,579,642
Access to finance as major/severe barrier	42%	35%	25%

Source: SME Finance Forum - IFC Enterprise Finance Gap, 2016.

The percentage of financing with FGI guarantees in relation to the total number of eligible operations up to December of 2016 is 5.5%. Despite this, it passes the 10% mark in seven banks and 50% of the operations in another two. The default rate is 3.10% (December

2016), which is lower than the default rate of the financial system, which was 5.7% for the same period (BCB, 2017).

Table 13 shows the new borrowers. The results indicate wider access to credit for operations with FGI guarantee. Almost 50% of the borrowers had never had access to BNDES credit, more than double the average operations without guarantee during the same period, which is demonstrative of its financial additionality, in accordance with Jonsson (2009). However, this same table demonstrates that the fund has a high potential to growth, if the Fund aggregate new financial agents and especially if the current financial agents expand the fund guarantee to other operations.

Table 13 - Financial Additionality – New borrowers

	Without Guarantee				With Guarantee			
New borrower	**Value R$ Millions**	**Value (%)**	**Nº OPE (#)**	**Nº OPE (%)**	**Value R$ Millions**	**Value (%)**	**Nº OPE (#)**	**Nº OPE (%)**
No	96.782	83,1%	442.968	79,4%	3.205	55,8%	15.667	50,1%
Yes	19.745	16,9%	115.171	20,6%	2.543	44,2%	15.589	49,9%
Total	**116.527**	**100,0%**	**558.139**	**100,0%**	**5.748**	**100,0%**	**31.256**	**100,0%**

Source: BNDES. Operations up to 31/12/2016.

Table 14 compares the risk of operations and shows that the fund enables SMEs with greater risk to enjoy access to credit from the BNDES. This credit has the lowest rates on the market for this segment. Risk C represents 39.6% of FGI operations, which is almost double the operations without guarantee, in which only 21.4% are risk level C or lower. The indicator shows that companies enjoy better conditions in terms of cost and term, in accordance with the expectations of Jonsson (2009).

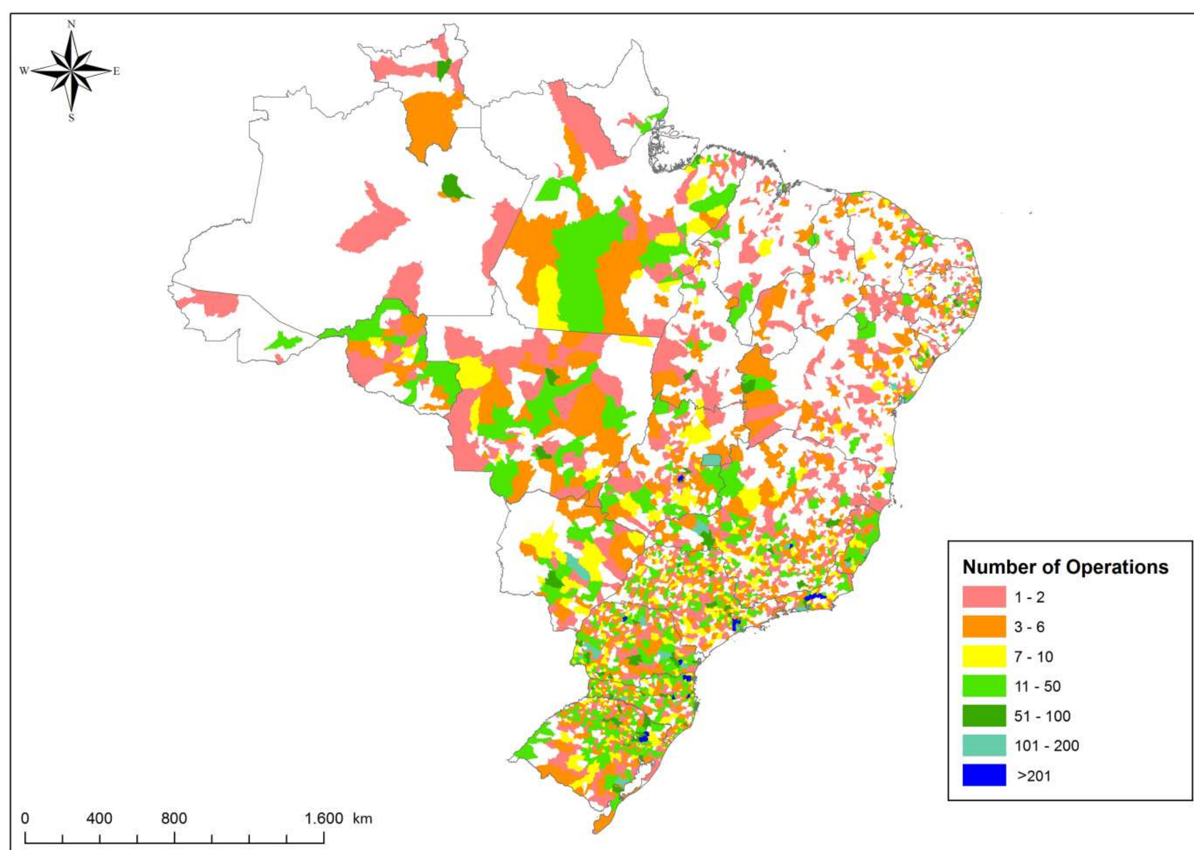
Table 14 - Risk attributed by the financial agent

	Without Guarantee		With Guarantee			
Risk[1]	**Value (%)**	**Nº OPE (%)**	**Value R$ Millions**	**Value (%)**	**Nº OPE (#)**	**Nº OPE (%)**
AA	47,3%	28,4%	1.062	18,5%	5.375	17,2%
A	20,9%	20,8%	1.296	22,6%	7.095	22,7%
B	22,2%	29,4%	1.341	23,3%	6.408	20,5%
C	4,0%	12,7%	2.048	35,6%	12.378	39,6%
D-H	5,6%	8,7%				
Total	**100,0%**	**100,0%**	**5.748**	**100,0%**	**31.256**	**100,0%**

Source: BNDES – Operations up to 31/12/2016. Resolution 2682/99 (BCB)

Figure 5 shows the distribution of operations by municipality. The FGI guarantees operations in all Brazilian states. The fund has a larger share in the North and Northeast than the other operations of the BNDES. This demonstrates the economic and social additionality of the FGI, as these are the least developed states in Brazil. This demonstrates the potential of this type of instrument to have countrywide impact, which is an important feature to future correlations with inequality.

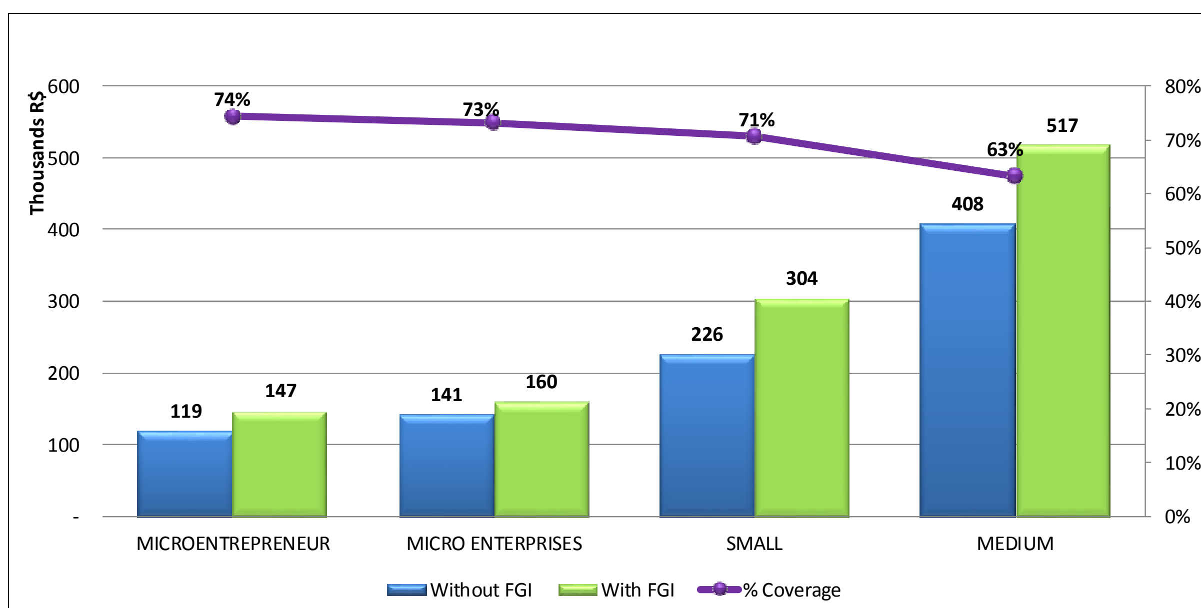
Figure 5 - Distribution of Operations by Municipality



Source: BNDES. Operations engaged up to 31/12/2016.

Figure 6 shows that operations with FGI have higher values, with is consistent with financial additionality effect as expected by Green (2003). It occurs for all firms' sizes. Therefore, is clear that the guarantee provides better conditions to access credit to these firms, resulting in more resources available for investment and growth. The same graphic shows that larger firms required less guarantee coverage to access credit, microentrepreneurs has an average coverage of 74% and medium-sized enterprises has an average coverage of 63%.

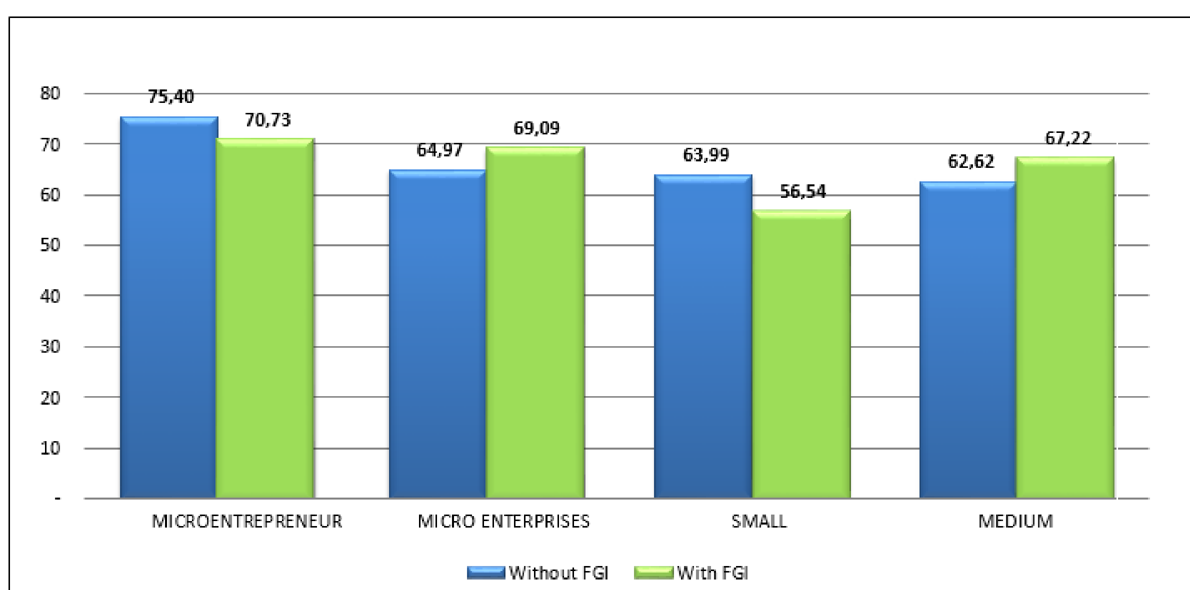
Figure 6 - Average Financed Value by firm Size With and Without FGI coverage



Source: BNDES. Operations engaged up to 31/12/2016.

Figure 7 shows that operations with FGI have higher term for two firm sizes, micro and medium, showing a mixed result. Further analysis of the data is needed to understand why the term for other sizes do not increase as expected. Other effects like risk composition, different credit lines participations (working capital and innovation have a high participation in FGI operations than the average) and regions of the country may explain this result that seems inconsistent with the theoretical framework.

Figure 7 - Average Term (in months) by firm Size With and Without FGI coverage



Source: BNDES. Operations engaged up to 31/12/2016.

The results indicated that the FGI is fulfilling its mission to provide credit access to MSMEs. However, further analysis is needed to isolate other possible effects and assure that the results are statically consistent. Other techniques besides descriptive statistics should be employed, like Propensity score matching, Regression discontinuity, Natural and quasi-natural experiment or Randomized experiment, as proposed by Saadani et al. (2011). The use of employment data and revenue variation over the years could be used to measure economic and social additionality, which would facilitate correlations with income growth and inequality reduction.

5
Conclusions and Recommendations for Further Research

This thesis analyzed the potential role of credit guarantee schemes to promote financial inclusion in Brazil, using the case study methodology. To promote financial inclusion through credit access, FGI had to build trust the financial agents that use its guarantee. Lack of credit access can be related to at least three pillars of the Global Competitiveness Index were Brazil does not perform well: Institutions, Macroeconomic Environment and Financial market development. The same occurs with Global Entrepreneurship Monitor, Brazil, according to the experts has a low performance in items related to Government support and institutional settings. Brazil also performs badly on inequality compared to other Latin American and Caribbean Countries, with results worse than some less developed African countries.

Therefore, the process had to take this institutional environment into account and involved repairing trust in its relationship with banks, which had been shaken by the failure of a previous initiative involving the FGPC. The analysis focused on comparing FGI with credit guarantee schemes for microentrepreneurs and SMEs around the world and tried to identify best practices, suitable governance structures and evaluate its effects on credit access and financial, economic and social additionality. The analysis of the interviews revealed that managers were committed to building a relationship of trust with the banks, with the BNDES's previous experience providing some interesting elements to help avoid repeating mistakes.

The use of BNDES, a National Development Bank to manage the guarantee fund is also consistent with international practices and its role in developing financial markets and promoting long-term investment.

The results showed that to build and repair trust and obtain a better performance it is necessary to find a balance between structural safety mechanisms that limit untrustworthy behavior, as analyzed by Gillespie and Dietz (2009) and Faems et al. (2008), using the mechanisms suggested by Boehs and Segatto-Mendes (2007), and a relational approach which reinforces trustworthy and predictable behavior (Lewicki, Bunker 1995). The latter uses non-binding contracts, as proposed by Malhotra and Murnighan (2002) and establishes

information communication and exchange mechanisms (Gulati, Sytch 2007; Becerra, Gupta 2003) and joint work on tasks, while restricting conflicts to business-related issues (Mesquita, 2007; Tomlinson, Mayer, 2009), in a long-term perspective with common objectives that reinforce inter-organizational trust. These perspectives are complementary and can contribute to the success of inter-organizational alliances, in which collaboration - as put forward by Sundarämurthy and Lewis (2003) - prevails.

There is evidence of additionality in guarantee schemes, as can be seen by World Bank survey (Calice, 2016) and the analysis of FGI case in Brazil. However, the relatively low penetration of these schemes in the total target population of MSMEs (3.4% is the best result in the Western Hemisphere), lack of consistency over the data and methodologies used to evaluate additionality by country (and even by type of guarantee schemes within a country) prevent a better assessment of their effects over inequality. Even with these limitations, guarantee schemes seems to have additionality effects and so they help MSMEs to growth, fostering economic growth and contributing to inequality reduction.

The operational results analysis showed that FGI promote credit access (almost 50% of the beneficiaries were new borrowers), regional deconcentration (North and Northeast have a greater share compared to loans without guarantee), accept more risky takers, have financial additionality (higher values and more term to pay) and significant participation in eligible operations.

Furthermore, the fund monitored and identified the main benefits for the parties involved, including the guarantor, the banks and the beneficiaries, using these in their communications to make its use more widespread.

5.1 Opportunities for further research

Some recommendations for future studies include extending the study to include other guarantee mechanisms, such as mutual credit guarantee associations and guarantee funds for other risks, in addition to credit risks, such as performance, engineering and failure to comply with contractual obligations.

To better evaluate additionality the first steps seems to be initiatives like the World Bank Survey, AECM and Rede Garantias diffusion of best practices converging to a dataset similar to Solt’s SWIID about inequality. Another possible way to do that are case studies, with a quantitative approach to evaluate financial, economic and social additionality,

including jobs, revenue generation and income effects trying to correlate then with income variations in selected regions. Future quantitative studies could try to correlate inequality, using Solt (2016) Database with additionality information from guarantee schemes from World Bank Survey, AECM and Rede Garantias.

The trust building and repair process can be applied to other types of inter-organizational relationships, such as those between suppliers and buyers, joint ventures and capital and contractual alliances, seeking to use an appropriate mix of structural and relational governance mechanisms.

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7
Appendices

7.1
Documents Analyzed

This appendix contains the documents analyzed.