**UNIVERSITY OF THE WITWATERSRAND**

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**SCHOOL OF ECONOMIC AND BUSINESS SCIENCES**

# A MACRO-LEVEL ANALYSIS OF THE ROLE OF DEVELOPMENT FINANCIAL INSTITUTIONS IN PERIODS OF GLOBAL FINANCIAL AND ECONOMIC CRISIS: THE CASE OF BNDES IN BRAZIL

BY

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## Declaration

I, Maria Nkhonjera, declare that this research report is my own, unaided work. It is submitted in partial fulfilment of the requirements for the degree, Master of Commerce (Development Theory and Policy) at the University of the Witwatersrand, Johannesburg. It has not, either in whole or in part, been submitted before for any degree or examination in this, or any other University.

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……………………………. ………………………

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**Signature**

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## Dedication

This thesis is dedicated to my dearest father, Peter Nkhonjera and loving mother, Elizabeth Nkhonjera. You have been instrumental in helping me achieve this milestone. To my siblings - Augustine, Emily and Jacqueline, I thank you all for being my pillar of strength throughout this process.

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## List of Acronyms and Abbreviations

| | |
|---|---|
| ADFIAP | Association of Development Financing Institutions |
| BCB | Brazilian Central Bank |
| BB | Bank of Brazil |
| BNDES | National Bank for Economic and Social Development |
| BRICS | Brazil, Russia, India China and South Africa |
| CEF | *Caixa Economica Federal* (Public Bank) |
| DFI | Development Financial Institution |
| ECLAC | Economic Commision for Latin America and the Caribbean |
| EDFI | European Development Finance Institutions |
| EME | Emerging Market Economies |
| FAT | Workers' Assistance Fund |
| FDI | Foreign Direct Investment |
| FGTS | Guarantee Fund for Length of Service |
| GDP | Gross Domestic Product |
| GFCF | Gross Fixed Capital Formation |
| HICs | High Income Countries |
| IDC | Industrial Development Corporation |
| ILO | International Labour Organisation |
| IMF | International Monetary Fund |
| IFS | International Financial Statistics |
| IPEA | Institute for Applied Economic Research |
| IOF | *Imposto Sobre Operacoes Financeiras* (tax on capital flows) |
| LICs | Low Income Countries |
| MSME | Micro Small and Medium Sized Enterprises |
| NICs | Newly Industrialised Countries |
| ODI | Overseas Development Institute |
| OECD | Organisation for Economic Co-operation and Development |
| PAG | Accelerated Growth Program |
| PPP | Public-Private Partnership |
| PSI | Sustainable Investment Program |
| R$ | Brazilian Real (Currency) |
| RBS | Royal Bank of Scotland |
| SARB | South African Reserve Bank |
| SAPs | Structural Adjustment Programmes |
| SMEs | Small and Medium Sized Enterprises |
| SOEs | State Owned Enterprises |
| TJLP | Long Term Interest Rate |
| UNCTAD | United Nations Conference on Trade and Development |
| UNDP | United Nations Development Programme |
| US$ | United States Dollar (Currency) |
| WTO | World Trade Organisation |
| WWII | World War II |
| ZAR | South African Rand (Currency) |

## Abstract

Following the Great Recession of 2007/08, development economists began to place emphasis on the role of development banks as vital public financial institutions. With a principal focus on the National Bank of Economic and Social Development in Brazil (BNDES), this research study analyses its role as a counter-cyclical lender within a context of global banking credit crunch. By using South Africa as a counterfactual scenario, the study finds that the responses of the BNDES were key in mitigating the effects of the financial turmoil. Whilst highlighting the relevance and essential function of a credit system that supports the productive realm of the economy, the conclusions of this study provide a valuable lesson to South Africa and other emerging market economies (EMEs) – channelled credit growth can be instrumental in addressing cyclical gaps in capital.

**KEYWORDS:** development banks, the BNDES, global financial crisis, counter-cyclical policy, public credit,

*Once a financial crisis hits, it is too late for governments to create institutional capacity … to provide fall-back credit support. The institutions must already exist, with a clear operating mandate … and the financial capacity to respond to the financial needs and ramp up their operations when the private market fails" [Conference Board of Canada 2010]*

# CHAPTER ONE

# INTRODUCTION

## 1.1 Background and Context

Following the 1997 East Asian financial crisis, the search was on for an appropriate architecture for the global financial system, and the establishment of development financial institutions [1](DFIs) emerged as an alternative and important source of funding for industry (Datar 1999). Similarly, the recent global financial crisis of 2007/08 that led to one of the most significant contractions in output growth further ignited several reassessments of global development (Naude 2011). Market economies are characterised by expansion, contraction and crisis (Deos, Ruocco and Rosa 2013) and recurring financial crises have proved to be damaging to the social and economic fabric of any country. DFIs are a form of government intervention in the financial system with the aim of addressing capital market constraints in the provision of finance (Thorne 2001). More recently DFIs have begun to fill "long-term structural and short-term cyclical gaps in an open market driven economy" (Gutierrez, Rudolph; Enrique and Beneit 2001:3). Public development finance for the private sector has grown substantially over the years. [2]European Development Finance Institutions (EDFIs) for example, increased global investments to £26 billion (4,705 projects) from £23.6 billion in 2011 (an increase of 2.4 billion and 284 projects) (EDFI 2012). Massa and Te Velde (2011) argue that DFIs play an important role in tackling global challenges, emphasising that their counter-cyclical lending during periods of crises has positive effects on economic growth and stability. In view of that, an important mechanism to address the effects of global financial crises is to include such public institutions in the policy and institutional tool-kit of developing countries (Culpeper 2012; Massa and Te Velde 2011). This was recognised by [3]Keynes

[1] Specialised financial institutions owned by the public sector (Griffith and Evans 2012).

[2] Member countries of the EDFI include Spain, Belgium, United Kingdom, Germany, Finland, Netherlands, Denmark, Norway, Austria, France, Switzerland, Italy, Portugal and Sweden.

[3] Keynes (1936) and Minsky (1986) (Dullien et al. 2010).

and Minsky who stated that overcoming economic recessions would require policy makers to provide liquidity in order to revive credit channels and stimulate growth (Dullien, Kotte, Marquez and Priewe 2010). The Great Recession of 2007/08 has certainly challenged conventional wisdom for more unconventional and 'unorthodox" remedies such as Keynesian like tools, liquidity provisions and capital controls have come to dominate policy discussions in the ensuing period (Klein 2010).

The consensus now seems to be that an active state role in financial markets is essential. Culpeper (2012) maintains that even industrial countries find public institutions such as state banks crucial to support their macro-economic and social policy objectives. One developing country which has relied heavily on development banks from as far back as the 1950s is Brazil (Chanderaskhar 2011), which uses its National Bank for Economic and Social Development (BNDES) to finance the state's direct participation in Brazil's economy (Baer and Villela 1980). The BNDES now complements and works with commercial banks and private financial institutions, all of which maintain a continuing presence in Brazils' financial market (Culpeper 2012).

Studies suggest that during a crisis both output and credit for investment decline together (Klein 2010). Brazil's financial system was affected by the crisis through a reduction in the domestic supply of credit (Busch 2010 cited in Hoffmann 2011) necessary for productive investment and growth. The interruptions in credit supply generated from the financial crisis required the adoption of counter-cyclical strategies. The BNDES extended liquidity during the financial downturn, which proved to be crucial to sustaining economic activity in Brazil (Arnold 2011). According to Colby (2012:6), "the growing relevance of the BNDES inside and outside of Brazil has prompted greater interest in the organisation."

Given the strong linkages between South Africa and the rest of the world, like Brazil, the South African economy was severely affected by the crisis through financial and trade channels. Following the crisis, a National Treasury Policy Document raised concerns about South Africa's financial sector, suggesting that it needs to do more to support its real economy (National Treasury 2011). South Africa's key industrial financing institution – the Industrial Development Corporation (IDC) is financially independent and so does not rely on government transfers for its operation (Torp and Padayachee 2000). Thus, a fundamental difference between South Africa's key financier of industrial development – the IDC and Brazil's BNDES is that South Africa largely relies on private financial markets to fund DFI investments (Friedrich Ebert Stiftung 2011). With a lack of liquidity during financial and economic crises, addressing capital constraints would be challenging. Several reports point out that South African DFIs have no prominent role and have yet to realise their full development potential, including their ability to act as counter-cyclical lenders during recessions (Gumede, Govender and Motshidi 2011). Gumede et al. (2011) have therefore argued that South Africa needs to scale up its counter-cyclical operations. Against this background, this research study analyses the role the BNDES' played during the Great Recession, using South Africa as a counterfactual study.

## 1.2 Problem Statement

Access to credit can be severely affected during global financial and economic crises. Biggs, Mayer and Pick (2010) (cited in World Bank 2013a) emphasise that failure to recover credit flows in an economy can slow the recovery of real economic activity. The lack of private capital during the Global Recession of 2007/08 did not affect the Brazilian economy as much as it did in other emerging market economies (EMEs) (Gumede, et al. 2011). Following years of unpopularity, DFIs have risen to prominence and their responses to financial crises have become crucial to national economies. In Brazil, access to finance for capital investments was particularly crucial in mitigating the effects of the crisis. Recent debates have thus been focused on how DFIs can support investment during crises through their counter-cyclical actions (Te Velde 2011). Te Velde (2011) suggests that the relationship between DFIs and how developing countries can respond to crises is a relevant area to study. Brazil's national development bank is amongst the world's largest development banks (Torres-Filho 2009 cited in Lazzarini, Musacchio, Bandeira-de-Mello and Marcon 2011) and perhaps the most successful in the world and is therefore useful in assessing its role as a DFI during the crisis. From a BNDES perspective, this study could thus provide valuable lessons of how countries can effectively respond to adverse exogenous shocks and further improve measures to mitigate the effects of future crises.

**1.3 Research Aims and Objectives**

This research analyses the effects of the BNDES' operations during the Great Recession of 2007/08, with the aim of drawing from the BNDES' experience, any implications/lessons that may be useful to other emerging market economies in mitigating crises. The analysis uses South Africa to construct a counterfactual study. This research paper has three specific objectives:

(i) The first objective of this paper is to identify the BNDES' response to the crisis.

(ii) The second objective of this paper seeks to determine why the BNDES took the actions it did.

(iii) The third objective examines how the BNDES responded to the crisis.

**1.4 Research Methodology**

This study analyses the BNDES' operations during the Great Recession of 2007/08, whilst using South Africa as a counterfactual scenario against which to compare the effects of its actions. This comparison appears valuable given that South Africa and Brazil have similar social and economic characteristics and also face similar challenges (Maia, Mondi and Roberts 2005). A counterfactual approach is thus useful in determining what would happen in the absence of a fully operational DFI during global recessions.

This study is largely quantitative as it uses South African and Brazilian macro-economic data on gross fixed capital formation (GFCF), exports, economic growth and employment. A quantitative analysis allows for data summaries in numerical terms and is a particularly useful approach when assessing differences (Abeyasekera 2001). With

Brazil as a case study, this paper uses descriptive statistics and a narrative to provide perspective on the impact of the BNDES' operations during the Great Recession.

This analysis will entail secondary desk research which involves a review of existing and published literature. Macro-economic statistics from the BNDES, International Monetary Fund (IMF), World Bank, Central Bank of Brazil (BCB), Organisation for Economic Co-operation and Development (OECD) and the Economic Commission for Latin America and the Caribbean (ECLAC) serve as the main sources of data.

**1.5 Limitations of the Study**

The nature of this research presents itself with potential limitations that may affect the overall quality of the study. There may be possible inaccuracies in the data used for the study. Additionally, given the scope of the study, it focuses on one DFI and may therefore not be an adequate representation of the ability of all development banks to perform counter-cyclical strategies during financial crises. Furthermore, because the impact of BNDES' counter-cyclical operation cannot be measured or quantified, the study is not empirical so conclusions are not based on new evidence.

# CHAPTER TWO

# LITERATURE REVIEW AND THEORETICAL FRAMEWORK

## 2.1 Theoretical Perspectives: The State in Financial Markets

The role of development banks in the financial system is often associated and discussed with the role of the state in financial markets (Hermann 2010). Several development economists such as Arthur Lewis, Alexander Gerschenkron and Gunnar Myrdal writing in the 1950s and 1960s were of the opinion that the state has a key role to play in the financial sector (Levy-Yeyati, Micco and Panizza 2004). According to Stiglitz (1994:19) "the role of the government in financial markets is a long standing debate that has engaged economists around the world." From a theoretical perspective, market-oriented economies frequently see periods of growth, interrupted by periods of recession – cycles which have triggered the development of policies that sought to reduce the effect of downturns on income and expenditure (Loser 2004). Government intervention in capital markets has been pervasive (Stiglitz 1994) and more evident following the 2007/08 Global Recession, current policy debates have thus sparked further interest in direct state intervention in the financial sector (Duprey 2013).

Countries globally began to nationalise their financial institutions, increase the scale of regulation and direct credit – interventions that have brought public banking institutions to prominence. The passing of the [4]*Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010,* in the USA, has been seen as a significant response to financial regulation and supervision following the crisis (Naude 2011). The fragility of market forces also led the British government to nationalise one of its largest mortgage lenders – Northern Rock Bank, while the state further holds 82% equity in the Royal Bank of Scotland (RBS) – ensuring Britain's banks and financial system are in 'safe' hands (Robinson 2012). In Eastern Europe, direct lending of credit by government has become an important policy tool to prevent underinvestment and stimulate growth. By the end of

[4] Legislation that aims to promote financial stability in the US economy (Naude 2011).

2009, for example, almost 50% of outstanding loans in the Belarusian economy were [5]directed ones (Haiduk and Kruk 2013). This is all evidence of the states' significant presence in financial markets over recent years.

An empirical study by La Porta, Lopez-De-Silanes and Shleifer (2002) hypothesised that public ownership of banks had been a neglected aspect of financial systems globally as evidence showed that government ownership remained large and pervasive. Despite the privatisation wave in the 1980s and 1990s, public presence in the financial sector remained significant (Levy-Yeyati et al. 2004)[6]. In 1995, for example, 41.6% of the banking industry worldwide was owned by the state (Micco and Panizza 2005). La Porta et al. (2002) further note that such ownership has significant consequences for economic growth and development.

The expansion of industrial development was strongly advocated by Lewis in the 1950s. Lewis also raised questions about how the growth of the industrial sector was to be financed (Downes 2004). According to the Association of Development Financing Institutions (ADFIAP 2009) [7]Development banking as an instrument of development policy began during the industrial revolution of the 18th and 19th century. This period was characterised by a growth in manufacturing and infrastructural developments that required long-term capital. Roberts (1969) explains that development banking had been a critical source of finance for underdeveloped countries, providing long-term financing for industrialisation purposes. He outlined that "underdeveloped economies desire to accelerate their rate of economic development, and in the process they must also accelerate the rate and formation of institutions which are required to support this economic development" (Roberts 1969:10). Consequently, the [8]Post WWII period spanning from 1946-1970 saw many developing country governments grope towards a new control mechanism (Amsden 2001) that replaced the invisible hand famously

[5] Direct lending is a policy instrument used by governments to disburse loans to a selection of strategic industries (Haiduk and Kruk 2013).

[6] As a result of the IMF and World Banks SAPs that dismantled state-mediated mechanisms of capital growth as a means to redress poor economic growth and development (Akyuz and Gore 2001).

[7] A form of financial intermediation that provides financing for high priority investment projects, for the development of industries, in a developing country (ADFIAP 2009).

[8] Commonly known as the Golden age.

acclaimed by [9] Adam Smith. The institution of the state-owned development bank transformed the financial arrangements of the pre-war industrial development period, as it became the states agent for long-term finance for the building of local industry (Amsden 2001). A national development bank not only provides a long-term supply of capital that would essentially be under provisioned or not provided for at all by private markets but also implements "a rapid counter-cyclical macro-economic policy response to a global financial crisis" (Armijo 2013:21). As Stiglitz (1994:50) concurs, financial crises and economic recessions necessitate a role for the state in finance "in ways that enhance the stability of the economy and the solvency of … financial institutions [in order to] enhance growth prospects."

Moreover, the extent to which the BNDES or any other existing public bank can guarantee a stabilisation process during an economic contraction is arguable. A study on the effects of the crisis on Brazil's credit supply found that during the Great Recession of 2007/08 the BNDES acted less pro-cyclical because they were requested to do so and were provided with additional government funding. This was possible because pre-crisis level growth was high and the Brazilian economy acquired a solid financial position that allowed for the capitalisation the BNDES received. With that said, the outcome would have otherwise been fairly different. (Pissetti 2012)

According to Chandrasekhar (2011) the relationship between financial structures, financial growth and economic development is a complex one. An extensive amount of literature has documented standard arguments for state intervention in the financial sector and according to Pissetti (2012) these arguments are centred on four approaches; the development view, social view, agency view and the political view. The first three approaches, as discussed further below, argue that state-owned banks or government intervention in financial markets attempts to maximise social welfare, whereas the political view maintains that state intervention solely aims to maximise private utility (Micco, Panizza and Yanez 2006; Pissetti 2012). The rationale for public ownership of

[9] $18^{th}$ century Philosopher and Economist.

banks and state-led development financing is therefore largely explained through these four approaches.

### 2.1.1 Development View

The development view, often identified with Gerscherkron (1962), focuses on the necessity of financial development for economic growth (La Porta et al. 2002). It theorises that although private commercial banks have been crucial in channelling savings to industry in many industrialising economies, other countries such as Russia's economic institutions were not sufficiently developed to attract funds to finance large-scale industrialisation. The inevitable consequence was a scarcity of capital coupled with a general distrust of the public in the banking system and fraudulent practices that acted as barriers to economic development (Levy-Yeyati et al. 2004). This "view was part of a broader sentiment in development economics which advocated government ownership of banks" and control over finance in the strategic economic sectors as explicitly advocated by Lewis in the 1950s (La Porta et al. 2002:266). Micco and Panizza (2005) further argue that private banks are more oriented towards the wealthier segment of the market, leaving much of the economy without access to financial services. The prevalence of weak economic and institutional capacity, as previously indicated, warrants state intervention to channel sufficient funds to socially desirable areas (Pissetti 2012).

These ideas framing the development view were adopted globally in the 1960s and 1970s when the economies of Africa, Asia and Latin America began to nationalise their commercial banks as well as create new publicly owned banks (La Porta et al. 2002). Pissetti (2012:12) believes that the BNDES is intrinsically related to the development view "either by the time frame of its establishment or the rationale that justified its creation." The BNDES was created with a mandate to allocate funds to long-term investment projects to support the economy's structural changes in the 1950s and accelerate the industrialisation process that could not be financed privately (Pissetti 2012). From this theoretical perspective, therefore, government ownership should typically encourage capital accumulation and productivity growth (La Porta et al. 2002).

### 2.1.2 Social View

Stiglitz (1994) observes that financial markets are particularly different from other markets because market failures are more pervasive in these markets. This is what motivates the role of the state in financial markets. Government intervention becomes necessary not only to correct market failures in financial markets but also improve the performance of the economy as a whole (Stiglitz 2009). Unregulated financial markets may consequently become inefficient for growth and development (Chandrasekhar 2011). The social view, as outlined by Atkinson and Stiglitz (1980) (Cited in Sapienza 2002:1), relies on the economic theory of institutions and the concept of market failure to "suggest that SOEs [State Owned Enterprises] are created to address market failures whenever the social benefits of SOEs exceed the costs." This view therefore rationalises that public financial institutions contribute to economic development and an improvement in social welfare by addressing the market failures that exist in credit markets. It follows that where social returns are higher than private returns, the private provision of credit would be substantially lower than that of state-owned banks (Micco and Panizza 2005; Sapienza 2002). Essentially, high risk or low profitability investments with high positive externalities are underfinanced by the private sector (Pissetti 2012).

In a similar vein, Pissetti (2012) states that although banks are crucial in their provision of liquidity for economic stability, they are fragile institutions that operate within a context of asymmetric information and externalities. What this means for banks relying on the market mechanism is that during periods of high uncertainty, such as crisis periods, banks would not maintain an adequate level of liquidity necessary for maintaining economic stability (Pissetti 2012). Economic and development literature frequently makes reference to the [10]Newly Industrialised Countries (NICs) of East Asia which used government intervention and regulation in their financial markets to fill the gaps in credit markets and direct credit to foster economic development (Stiglitz 1994). Under the social theory state intervention is justified on the grounds that state-owned banks channel resources to socially valuable but financially unprofitable investments

[10] NICs include Hong Kong, Singapore, South Korea and Taiwan.

(Levy-Yeyati et al. 2004; Sapienza 2002). Asymmetries of information together with the notion of market failure provide the rationale for the role of the state in the social view (Sindzingre 2003).

### 2.1.3 Agency View

This theoretical view highlights the ways in which SOEs may be less efficient than more indirect measures such as regulation of the banking sector (Pissetti 2012). The reason for this is that the efficiency of public banks depends upon the trade-off between allocative and internal efficiency (Tirole 1994 cited in Sapienza 2002). The agency view maintains the same sentiments as the social view - that public financial institutions are designed to cure market failures, while serving social objectives, but because SOEs aim to maximize multiple non-measurable objectives, public authorities may have low powered incentives to carry out their mandate (Banerjee 1997; Sapienza 2002). Public managers of state-owned banks for example, may direct resources for personal benefits, as predicted in the political view below (Sapienza 2002). This is more problematic in countries with low levels of development where corruption is rife and the misallocation of resources is typical (Banerjee 1997). So although useful in correcting market failures, state intervention may result in weak managerial incentives (Sapienza 2002) and the misallocation of financial resources (Levy-Yeyati et al. 2004). Pissetti (2012) however ascertains that the extent to which private banks are comparatively more efficient than public banks is not so apparent.

While the misallocation of resources may occur in both the agency and political hypotheses (as seen below), they happen for different reasons. The misallocation of resources under the agency view comes as a result of public managers shrinking or diverting resources for private use (Sapienza 2002). On the contrary, the misallocation of resources is a direct objective of politicians, according to the political view (Sapienza 2002). In this regard, the agency view concludes that the cost of state bureaucracies may outweigh the social gains of public participation in the banking sector even where market imperfections exist (Levy-Yeyati et al. 2004). Given the above, Levy-Yeyati et al. (2004)

identified that the agency hypothesis holds an intermediate position and lies in between the development and social view of state intervention and the more cynical political view.

### 2.1.4 Political View

The political view of SOEs suggests that market failures are better addressed through regulation and subsidies rather than direct state intervention (Levy-Yeyati et al. 2004). Like the development and social view, proponents of this theory believe that the state has the desire to control the investment activities of firms, however for political rather than social objectives (La Porta et al. 2002). This critical view of the role of the state argues that politics plays a substantial role in the lending activities of state owned banks. State-owned banks are therefore used as a political tool to redistribute resources to areas of political interest and appropriate rents derived from the control of the banking sector rather than to channel funds to socially desirable areas of the economy (Levy-Yeyati et al. 2004). Micco and Panizza (2005) similarly argue that recent theories on the political motives of government ownership postulate that state-owned banks are simply a mechanism for realising and maximising politicians' individual goals such as financing favoured enterprises and providing subsidies and employment opportunities to their supporters (La Porta et al. 2002).

Like the agency view, the political control of banks is most common in underdeveloped economies with poor financial systems (La Porta et al. 2002). This view coincides with advocates of privatisation that assert that government intervention in finance only reduces the efficiency of banking activities (Micco and Panizza 2005). Consistent with this view, La Porta et al. (2002) argue the government's control of finance politicises resource allocation and arguably slows down financial development and subsequent growth. Other perspectives of state banking, such as that of [11]Vladimir Lenin, claimed that banks are the state apparatus through which socialism would be achieved (Garvy 1977 cited in La Porta et al. 2012).

[11] Former Premier and revolutionary of the Soviet Union.

While acknowledging that there is a role for the state in financial markets, Stiglitz (1994) recognises that the allocation of capital by public banks may not, for political reasons, necessarily address market failures. The literature finds numerous instances where elections and politics in general have affected the lending activities of state-owned banks. A study carried out by Sapienza (2004) used bank-level-data in Italy to provide such evidence. This was also observable in Pakistan's state-owned banks (Micco et al. 2006). Germanys [12]Landesbanks provide another example of the political use of public banks. State authorities in Germany have used the banks to make politically beneficial guarantees and loans as well as engaged in risky investments tied to securities markets (Doring 2003; Ewing 2010). This placed a huge burden on state governments as Landesbanks made huge losses and were eventually forced to scale back on their operations (Ewing 2010). In Japan, the [13] Zaibatsu System was characterised by "excessive economic concentration of economic power" as the Zaibatsu's dominated capital investments. Although this system played a vital role in shaping Japans' economic arena, it lacked public interest and for this reason was broken down (Yasuoka 2002).

So whilst the political approach maintains that public ownership allows governments to finance inefficient but politically desirable projects, the development and social theory places emphasis on the funding of socially strategic, long-term projects on behalf of the government (La Porta et al. 2002). All three theories however fund projects that would otherwise not be financed by private banks. Although ownership in both the development and political views promote the government's objectives (La Porta et al. 2002), the political view inevitably raises questions regarding the desirability or even necessity of a public bank (Pissetti 2012).

## 2.2 Economic and Development Impact of DFIs

Originally created to stimulate aggregate investment in domestic financial systems, development banks fulfil multiple roles in the development process (Hermann 2010).

[12] Public sector banks.
[13] 18th and 19th century wealthy corporate groups that had significant influence over several industries and dominated economic activity (Yasuoka 2002).

According to Griffith and Evans (2012:1), “DFIs occupy the space between public aid and private investment” and aim to foster economic growth and particularly socio-economic development. A study conducted by the Overseas Development Institute (ODI) shows that DFI investments, particularly in infrastructure, agribusiness and industry, have a positive and significant impact on economic growth in both high income countries (HICs) and low income countries (LICs) (Massa and Te Velde 2011)[14]. They can be crucial in developing countries where access to capital funding is limited, more so in periods of global recession. Within a financial crisis context, essentially those countries with fully functioning development banks are in a better position to avoid massive and systematic disruptions in access to capital (Smallridge 2011). The instability of the financial system has been documented by Post-Keynesians who assert that governments must intervene to mitigate its inherent volatility (Minsky 1984 cited in Colby 2012). This has led to a focus on the specialised role of DFIs to counteract the volatility of financial crises. By securing sufficient investment in socially relevant areas when the private sector is contracting loans (UNCTAD 2012) studies strongly indicate that DFIs have a direct counter-cyclical and stabilising effect on their economies (EDFI 2009), assisting developing countries overcome adverse economic shocks (Perry 2009).

According to Adesoye and Atanda (2012) an efficient financial system acts as a powerful engine for economic growth and development. With that said, by making long-term capital available, DFIs play a critical role in mobilising resources that facilitate growth in the productive real sector of the economy (Adesoye and Atanda 2012). Long-term capital for entrepreneurial investments, strategic industries and export markets will have a positive impact on economic activity. DFIs can directly and indirectly support economic growth and stimulate employment and in this way alleviate poverty and promote broader social development. A study conducted by Massa (2011) (cited in Massa and Te-Velde 2011) indicates that investments by DFIs play a significant role in raising economic growth rates. This study finds that a 10% increase in DFI investment commitments has the potential to raise economic growth by 1,3% in developing countries, with investments directed towards infrastructure, industry and agri-business playing the biggest role in

[14] This study examined the relationship between DFI investments and economic growth on a selected sample of 101 countries, between 1986 and 2009. DFIs had a larger impact in LICs.

fostering growth in these countries (Massa and Te-Velde 2011). Furthermore, using Japanese firm-level data, Lin, Srinivasan and Yamanda (2012) find that firms that receive a rise in public bank loans increase employment growth and investment, although with minimal effects on economic growth.[15]

The economic and social importance of development banks has clearly been emphasised in the literature. However, several public banks in developing countries face major challenges that weaken their performance and the role envisioned for them. Ordinarily, public banks in developing countries have a less liquid portfolio, meaning that it is more difficult for them to extend new loans and foster a recovery (Dupery 2013). And even where public banks may be well funded, their discretionary power may lead to inefficient and politically connected lending (Onder and Ozyildirim 2012) as stipulated in the theoretical perspectives of this paper. Generally, DFIs in less developed economies face "poor corporate governance, low capitalisation … and poor business models" (Sanusi 2012). These impediments may have negative consequences on productivity, economic growth and the development of financial systems (La Porta 2002 cited in Onder and Ozyildirim 2012). DFIs operating in such environments are obstructed from utilising the development banking approach more strategically, and this has been a major source of concern in the literature. As Armijo (2013:6) states, "a public bank that cannot plausibly claim to be providing public goods in a competent fashion has no reason to exist." The following sections reveal that the BNDES' experience somewhat contradicts these criticisms.

## 2.3 The BNDES Experience

### 2.3.1 2007/08 Global Financial Crisis: An Overview

The banking crisis that emerged in 2007 and intensified and developed into a global recession in September 2008 emanated from the United States, with its effects spreading

[15] The study found that such firms have 0.2% higher employment growth and 0.029% higher investment to capital ratio, relative to other firms (Lin et al. 2012).

to developing nations (Bresser-Pereira 2010; Jones 2009). According to Bresser-Pereira 2010:1), it "was a consequence of the process of financialisation, or the creation of massive [16]fictitious financial wealth, which began in the 1980s" with the hegemony of the neoliberal ideology that was based on self-regulated and efficient markets. The causes of the crisis were however complex but were predominantly associated with excessive leverage, the availability of subprime mortgage loans (loose credit standards), low interest rates, sophisticated financial innovations, speculation and corporate governance failures in private commercial banks (Gutierrez, Rudolph, Homa and Beneit 2011; Payne 2012).

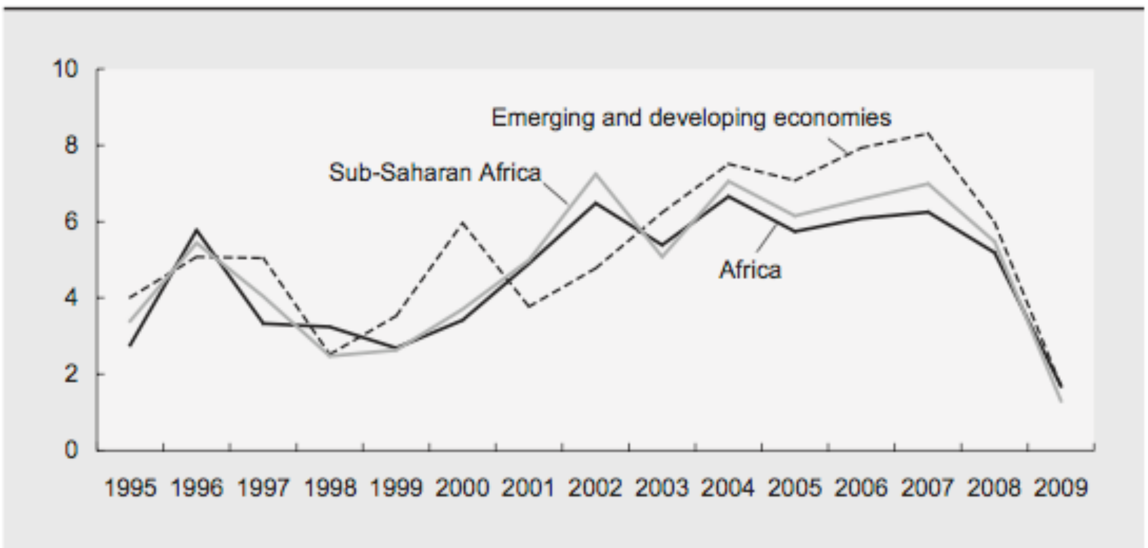
Not only was it a credit crisis, but also became a crisis that affected the social realm of the economy, as predicted by the International Labour Organisation (ILO) (Bresser-Pereira 2010). The recession resulted in more than US$4,1 trillion in financial losses but also exacerbated worldwide poverty levels (Payne 2012). As argued by Bresser-Pereira (2010), finance-led capitalism disconnects itself from the productive economy and is inherently unstable. On this basis, the crisis was seen as a development crisis with significant negative effects on the real sectors of LICs (D'Arista 2011). Whilst the EDFI (2011) argues that the initial shocks of the 2007/08 global financial crisis were not severely felt by developing countries, they were still affected by reduced levels of investment in the long-run, as the crisis continued to widen the [17]financing gap. Kyrili and Martin (2010) maintain that the freezing of global credit and trade was the most severe phase of the crisis. Although different countries were affected by different levels of severity, generally the collapse in global demand resulted in sharp declines in gross domestic product (GDP) growth rates of developing countries that came as a consequence of a slump in manufacturing and consumption levels, diminished trade and a reduction in foreign direct investment (FDI) flows.

Figure 1 illustrates how the crisis eroded real GDP growth rates in emerging and developing countries and the African region, which saw GDP decline by nearly 4,5%.

[16] The direction of credit towards asset buyers to finance speculative trading - disconnected from real wealth or the production of goods and services (Bresser-Pereira 2010).
[17] As global demand collapsed, financial flows (through trade channels and foreign direct investment) from rich to poor countries declined (Klein 2010).

Given that African nations for example, have high trade-GDP ratios, export oriented manufacturing slowed as import demand in key export markets declined. In Algeria commodity exports fell by 53% in 2009 compared to 2008. Nigeria, South Africa and Sierra Leone saw a more than 25% decline in their imports between 2008 and 2009. FDI to Africa declined by 36% in 2009 relative to 2008. Poverty levels further worsened in LICs due to a decline in government revenue from trade, which consequently affected the ability of national governments to finance education, health and infrastructure projects. (Dullien et al. 2010)

***Figure 1 Real GDP Growth Rates 1995-2009 (%)***




Source: IMF, World Economic Outlook Database (2009) (Cited in Dullien et al. 2010)

Literature gives reference to the sources of resilience shown by economies following the crisis. It appears that developing countries with the most globally integrated financial sectors experienced the shocks of the crisis first (Green, King and Miller-Dawkins 2010). This means that LICs who are less integrated into the global economy and less susceptible to contagion were more isolated from the shock and fared relatively well (Didier, Hevia and Schmukler 2011)[18]. Deos et al. (2013) further argue that countries

[18] Emerging economies such as Brazil and China for example, are more financially and trade. integrated (Didier, Hevia and Schmukler 2011). Oil-exporting and middle-income countries in Sub Saharan Africa were also less insulated from the global shock (Green et al. 2010).

with a greater government presence were able to leave room for intervention through anti-cyclical public policies and thus proved to have been less sensitive to the shock. The provision of liquidity together with policy and institutional developments seem critical in this regard. Following the crisis, many have recognised the need for banking as a public service that supports industry and the economy at large, arguing that banks should provide credit to finance investment and growth, in order to generate income and wealth across the economy (Roberts and Brooks 2013).

### 2.3.2 Brazil in the Crisis

Although the crisis hit the Brazilian economy with a slight delay, it was nevertheless affected (De Paula and Sobreira 2010). As the crisis deepened, the contamination of the financial system had profound economic and social impacts. The first signs of the crisis in Brazil expressed itself in June 2008 (Hoffman 2011) through the balance of payments and credit markets. Accordingly, the crisis hit Brazil through two main channels - capital flows and trade channels (De Paula and Sobreira 2010). As a commodity-led economy, Brazil's economy declined primarily through the trade channel. While trade in 2010 was stronger than the world average, Brazilian exports declined from 14% of GDP in 2008 to 11% of GDP in 2009 (World Bank 2013a).

The transmission through these channels affected the ability of the Brazilian banking system to meet the credit demands of industry, particularly affecting the export market that suffered from acute illiquidity (Williamson 2008). Industrial production was especially hit in October 2008, which temporarily increased unemployment levels from 6,8% percent in December 2008 to 9% in March of 2009 (Pochmann 2009 cited in Hoffman 2011). The deterioration of domestic credit conditions had major spillovers into the real economy that affected GDP growth in the country (De Paula and Sobreira 2010; Williamson 2008). Brazil recorded a negative 0.2% GDP growth rate following the crisis in 2009, from a growth rate of 5.2% in 2008 (Dullien et al. 2010).

As noted by Williamson (2008), countries like Brazil remain vulnerable to a sudden withdrawal of foreign credit. The initial diminution of foreign capital flows was one major channel that transmitted the crisis from its initiators to the markets of emerging countries like Brazil (Williamson 2008). Pissetti (2012) argues that Brazil experienced an abrupt shortage of external sources of finance as international capital flows declined sharply, shifting phenomenon towards domestic credit markets. FDI flows decreased substantially during the crisis. For example, between October 2008 and February 2009, FDI decreased by 62% (from the value of US$14,2 billion to US$5,4 billon) (Hoffman 2011).

As foreign investors withdrew their capital, the country further experienced the largest depreciation in its local currency (the Real) amongst emerging economies (Kaltenbrunner and Painceira 2009). The deprecation of the Real by more than 60% during the crisis (Kaltenbrunner and Painceira 2009) should have in theory made Brazilian exports more internationally competitive, but weaker foreign demand combined with falling commodity prices and generally less favourable terms of trade affected exports negatively (Canuto 2008). The inflationary effects of a devalued currency and high domestic commodity prices were also evident, but given a monetary policy framework centred on inflation targeting, the BCB was able to contain the level of inflation during this period (Kaltenbrunner and Painceira 2009). The shortage of foreign finance and the local currency devaluation nevertheless led to uncertainty in Brazil's financials system (Canuto 2008).

The literature suggests that Brazil's relatively positive performance during the crisis is attributed to the restructuring of its banking system in accordance to the [19]Real Plan, as well as the development of solid banking regulations and sound macroeconomic policies (De Paula and Sobreira 2010). Additionally, Williamson (2008) predicted that the strong financial position of Brazil's public sector should enable it to expand domestic credit mitigate the crisis effects. This was correctly anticipated, as credit growth rates grew substantially during the crisis. Annual disbursements between 2008 and 2010, for example, increased from US$49,8 billion $96,3 billion (BNDES 2013). Hoffman (2011:24) affirms "Brazil was one of the last big economies to get involved in the

[19] Focussed on controlling inflation, the Real Plan was implemented in 1994 as a stabilisation policy for the Brazilian economy (De Paula and Sobreira 2010)

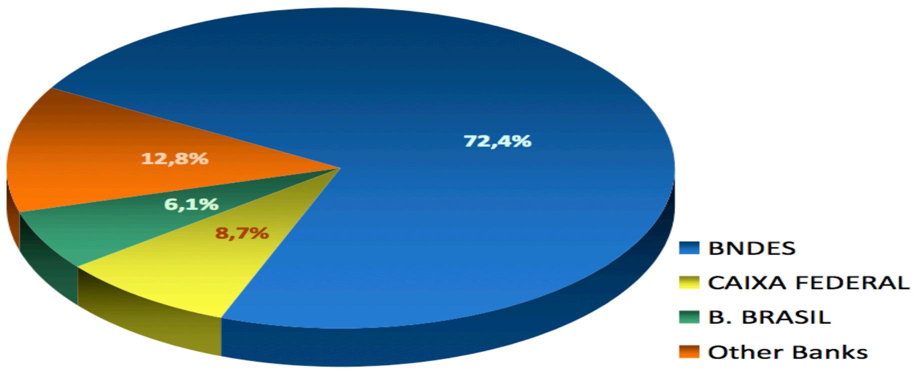
financial crisis and was also one of the first who could resolve it." But despite efforts to stimulate the Brazilian economy, the credit crunch could not be avoided completely (Serrano and Summa 2011 cited in Hoffman 2011).

## 2.4 Financing development: The role of the BNDES

The Brazilian financial system has for many years been recognised as the most sophisticated banking system in Latin America and even one of the most developed in the world (Ribeiro 2000). It consists of state owned banks, private domestic banks and foreign banks (Tabak, Laiz and Cajueiro 2010). The banking system in Brazil has traditionally been characterised by widespread presence of publicly owned banks with public sector ownership increasing well after the financial crisis left many private banks insolvent (Coelho, De Mello and Rezende 2011).

According to Arnold (2011), Brazil's credit markets have a dual system with short-term credit provided by the private sector at market interest rates, while the provision of long-term credit is the exclusive domain of state-owned banks, predominantly the BNDES (as shown in figure 2 below) at considerably lower borrowing rates. While one market has a strong presence of state banks, limited competition and a large role for directed credit, the other has a strong presence of private, foreign banks, is highly capitalised, with credit freely allocated. The state and its public credit system have been a vital component of the Brazilian financial system, particularly in financing long-term economic activity. This system operates in line with the objectives of economic and financial policies aimed at fostering the nation's industrial development and economic growth (Hermann 2002).

*Figure 2 BNDES' Share in Brazil's Long Term Financing*




Source: BNDES (2012a) - based on BCB data

The state has become a powerful economic agent and resource allocator in the Brazilian economy (Chandrasekhar 2011). The principal development bank (BNDES) established in 1952 was created to prevent infrastructural bottlenecks from slowing economic growth (Baer and Villela 1980). Since its inception, the BNDES has tailored its activities to suit the changing political, macro-economic and financial contexts of the Brazilian economy (Hermann 2010). From the 1960s to present, the BNDES has been fundamental in each phase of Brazil's economic development (Armijo 2013). The BNDES has traditionally had an important role in the Brazilian financial system and has been a major source of long-term financing for industrial and commercial firms across all sectors (Armijo 2013; Park 2012).

Since its establishment, the BNDES has helped the Brazilian economy cope with stagnation, foster credit access for firms, initiated programs for small businesses and further promoted the country's export industry and its subsequent insertion into the global economy (Armijo 2013). The BNDES also supports social projects that intensify social inclusion (Mohamed, Newman, Ashman, Baloyi, Tshuma, Mfongeh and Selemela n.d.). These include investments in education, health and basic sanitation. Colby (2012) summarises the role of the BNDES in table 1 below.

*Table 1 Role and Rationale of the BNDES*

| Role | Rationale |
|---|---|
| Make-up for undersupply of credit in economy | Market Failure |
| Restructure the economy, promote and create comparative advantages | Schumpeterian |
| Counter-cyclical Lender | Neo-Keynesian |

Source: Colby (2012)

According to Mohammed et al. (n.d.), through its initiatives, the BNDES strives to increase the economy's international competitiveness, avoid restrictions to economic growth and ultimately improve the living standards of its population. With that said, as the cheapest source for long-term financing, the BNDES has been primarily responsible for the expansion of Brazils' productive capacities through its larger industrial policy. Colby (2012) argues that aside from being an institutional solution to the under supply of credit and promoting economic upgrading through directing its activities to productive capacity, the BNDES is a counter-cyclical lender that is able to channel credit to the business sector during economic crises. It has consequently been recognised that development finance, as supported by the operations of the BNDES, "is a central way the state can influence the developmental path of society." (Mohamed et al. n.d.: 44)

## 2.5 Chapter Summary

The chapter is based on the theoretical premise that the role of the state in financial markets is explained by four approaches (development, social, agency and political views). Whilst recognising the socio-economic significance of DFIs, their additional importance during financial and economic crises was emphasised. Through this discussion, Brazil was used to explicate the development financing strategy through its key national bank. The next chapter builds on this aspect by analysing the BNDES' operations during the Great Recession of 2007/08. Using South Africa as a counterfactual study, a comparative analysis follows.

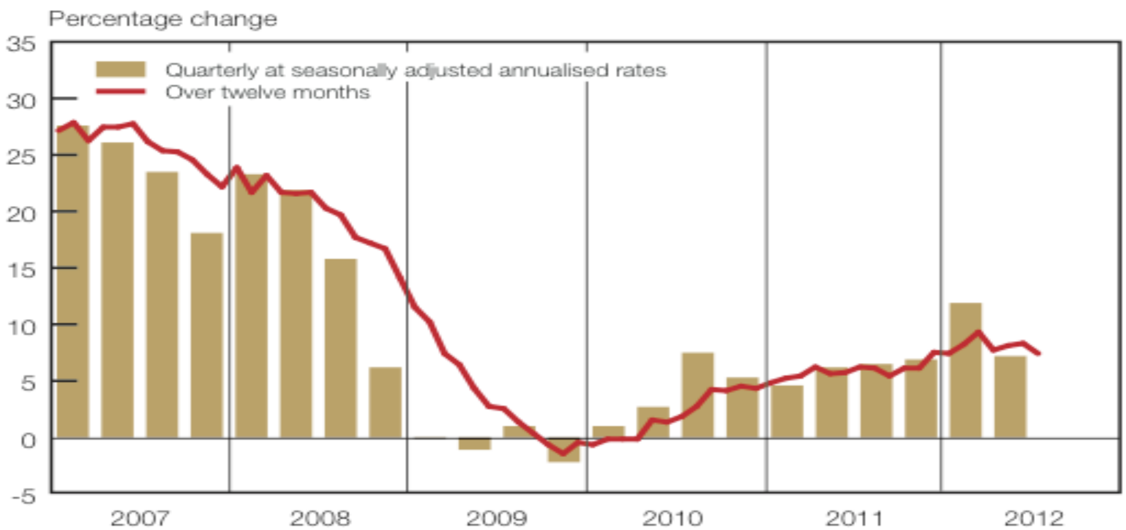
# CHAPTER THREE
# A COMPARATIVE ANALYSIS

## 3.1 South Africa in the Crisis: Overview and Responses

Given South Africa's reliance on financial services and export of manufactured and primary commodities (Steytler and Powell 2010), the Global Recession hit its key drivers of growth (Assubuji, Luckscheiter and Ben-Zeev 2009). South Africa's investment, growth and exports in manufacturing and mining sectors were severely affected by the crisis. The Global Recession also exacerbated structural problems in South Africa's economy, particularly through higher levels of unemployment and increasing inequality (Steytler and Powell 2010). Another inevitable impact of the crisis, as previously emphasised, is its effect on credit growth. According to Padayachee (2012) growth in credit extension to the private sector fell to 2,3% in September 2009 - the weakest growth in 43 years. This confirms the theoretical phenomenon emphasising the lack of private capital in times of uncertainty (see figure 3 below). The crisis further had a direct impact on South Africa's public budget, which ended up being financed through borrowing (Steytler and Powell 2010).

According to the IDC (2010), its mandate as a DFI was put to the test following the crisis. The corporation allocated ZAR6,1 billion between 2010 and 2011 to distressed businesses in response to the crisis, with the intention of creating and saving 25, 300 jobs (IDC 2011). This amount was substantially funded from borrowings - other DFIs and banks forming the main sources. However, as a result of an illiquid financial market during the crisis, sourcing funds proved difficult for the IDC. The impact of these challenges is seen on South Africa's macro-economic aggregates.

*Figure 3 South Africa Total Loans and Advances to the Private Sector (% change)*




SARB Quarterly Economic Review (2012)

Additionally, in 2009, the public sector allocated ZAR846 billion for investments in infrastructure to stimulate growth and employment, but according to Steytler and Powell (2010:13) "this was not a crisis-driven stimulus so much as a planned investment to improve the productive and employment capacity of the economy that fortuitously coincided with the downturn." Essentially South Africa's expansionary fiscal stance during the crisis expanded its deficit spending and borrowing (Steytler and Powell 2010).

The OECD (2013:2) states:

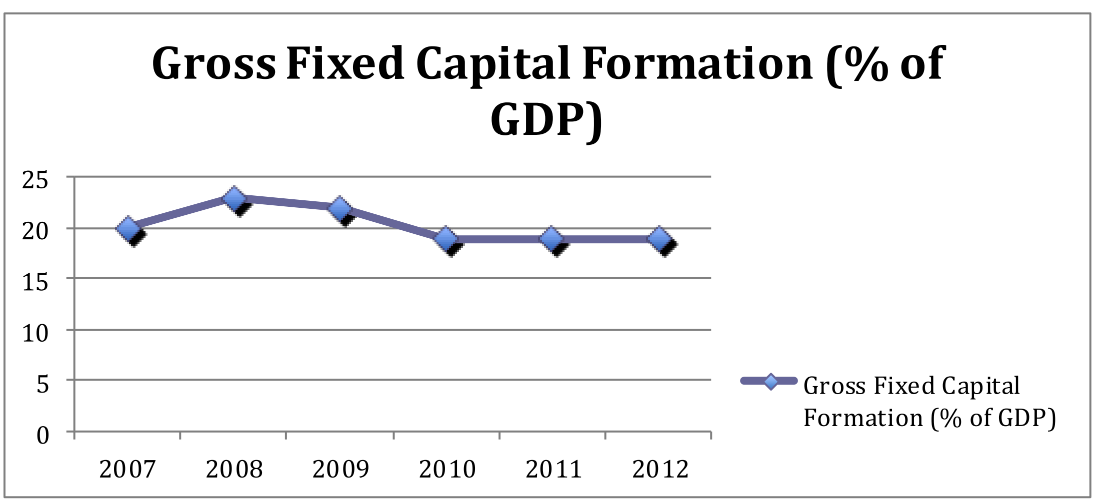
> *The macroeconomic policy mix has been insufficiently supportive of growth while allowing large budget deficits to persist. The deficit expanded rapidly in cyclically adjusted terms during the crisis and has been brought down only gradually since. Much of the increase in spending came through large increases in the public sector wage bill, while public investment has fallen as a share of total expenditure"*

In an attempt to stimulate economic and employment growth, South Africa principally used the national governments budget. There was therefore no sizable operational response from the IDC, yet the heavy job losses, stunted economic growth and lower liquidity required effective counter-cyclical policies to mitigate the effects of the crisis (Ruch 2013). The impact of the crisis on South Africa's GFCF, exports, growth and employment are examined below.

### 3.1.1 Gross Fixed Capital Formation

The impact of the crisis, in South Africa, can be seen on gross fixed investment levels (Chitiga, Mabugu and Maisonnave 2010). A United Nations Development Programme Report (UNDP) country report states that South Africa's investment levels are generally lower than the high performing emerging countries of China and India but trend close to that of Brazil (UNDP 2010). According to the World Bank (2011), investment lagged the recovery in total output. As a result of the crisis, GFCF in South Africa declined to 19,3% of GDP in 2010, from 22% in 2009 and further declined to 19% in 2011 (see figure 4). It is worth noting however, that South Africa's investment levels during the 2007-2010 period is a partial reflection of the large infrastructural investments and commitments the South African government had to make in preparation for hosting the 2010 FIFA World Cup (Padayachee 2012). Of the ZAR846 billion fiscal stimuli allocated to investments in infrastructure in 2009, ZAR33 billion went towards infrastructural investments for the 2010 FIFA World Cup (Steytler and Powell 2010).

***Figure 4 South Africa GFCF (% of GDP)***

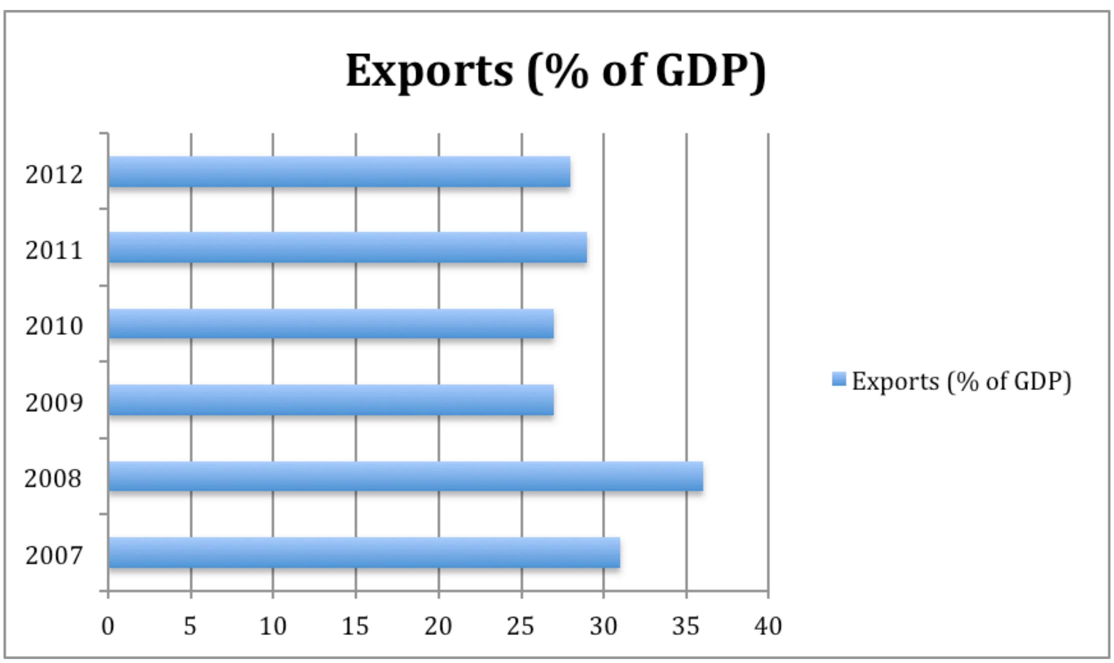



Source: Own tabulation based on World Bank (2013b) Data

### 3.1.2 Exports

Like many emerging economies, South Africa suffered from a severe trade shock. The restrictions in global credit together with a collapse in global demand and trade decreased the real value of South Africa's exports, which fell by 19,5% in 2009 (Kganyago 2012). The decrease in exports between 2008 and 2010 is evident in figure 5 below. Kganyago (2012) asserts that the decline in trade is what triggered the economic recession in South Africa, which then led to major job losses and output contractions. Jansen and Von Uexkull (2010) argue that even though exports in some sectors actually increased, the same sectors were strongly affected by significant job losses as explained further in the following section. They go on to state that policy measures needed to take into account the indirect income effects of those active in exporting sectors as well as companies supplying those sectors.

***Figure 5 South Africa Exports of Goods and Services (% of GDP)***




Source: Own tabulation based on World Bank (2013b) Data

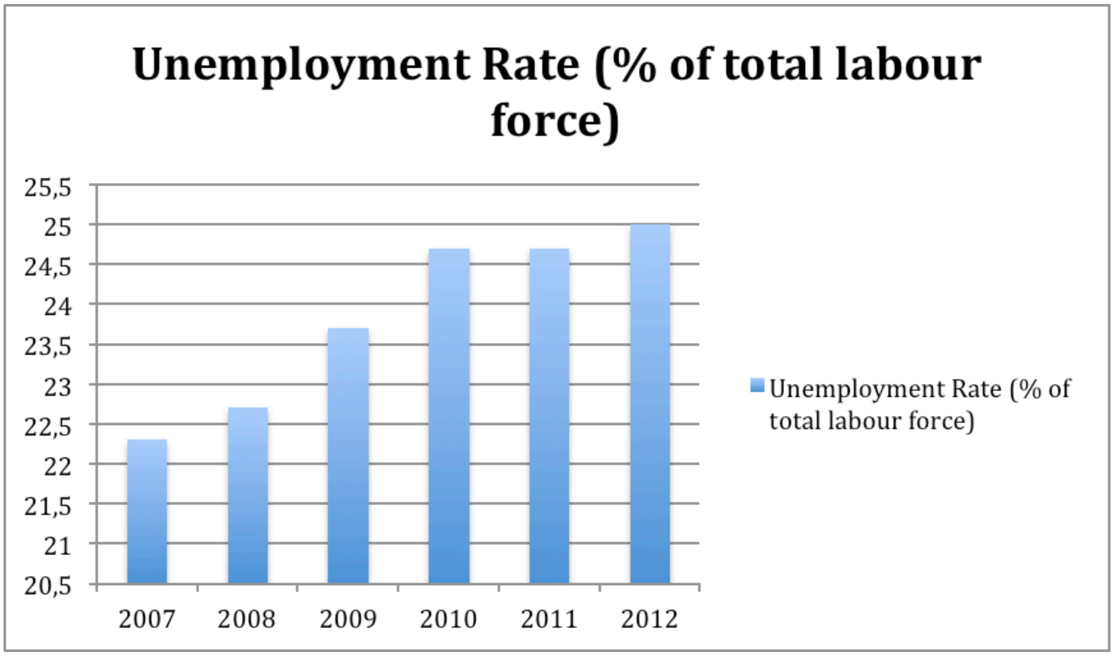
### 3.1.3 Growth and Employment

Unemployment is one of South Africa's biggest social challenges and the unemployment rate was aggravated during the crisis (UNDP 2010). According to the World Bank (2011) the magnitude of unemployment levels were significantly higher in South Africa, compared to BRICS[20] countries and the rest of the world. New job creation was also severely affected as a result of contractions in output and investment in the country (Steytler and Powell 2010). Data reveals that although 1,9 million jobs were created between 2004 and 2008 the global economic crisis put an end to this trend. Between the third quarter of 2008 and third quarter of 2009, 770,000 jobs were lost (Steytler and Powell 2010). Trade (-324, 000 jobs) and manufacturing (-194,000) sectors carried the biggest burden in job losses, while reports show that the financial sector actually gained employment (+50,000) (Jansen and Von Uexkull 2010). The highest employment losses were therefore largely felt in labour intensive sectors (Steytler and Powell 2010).

These substantial job losses raised the official unemployment rate to 23,7% in 2009 from 22,7% in 2008, before increasing further to 24,7% in 2010 (Padayachee 2012). This upward trend in the unemployment rate from 2008 is demonstrated in figure 6. Padayachee (2012) points out that these figures illustrate that the employment losses, as a consequence of income losses in trade-related sectors represented half of total employment losses during the crisis. The recession further affected small and medium enterprises' (SMEs) access to finance, and given the significant contributions (estimated at 6 million in South Africa) SMEs could make to employment and growth, this was of particular concern (World Bank 2011).

[20] Brazil, Russia, India, China, South Africa.

***Figure 6 South Africa Unemployment (% of total labour force)***




Source: Own tabulation based on World Bank (2013b) Data

South Africa's growth experience during the crisis has been described as modest when compared to BRICS countries (UNDP 2010). As the crisis hit, South Africa's GDP dropped to 1,8% in the last quarter of 2008 and then to -6,4% in the first quarter of 2009 (Padayachee 2012), putting the country into a recession for the first time in 17 years (Steytler and Powell 2010). Declines in manufacturing output (-6,8%) and mining production (-12,8%) over this period contributed significantly to this contraction in economic growth (Padayachee 2012). South Africa's annual GDP growth contracted to 3,6% in 2008 (from 5,5% in 2007), falling further in 2009 (Kganyago 2012). GDP growth rate in 2009 was -1,5% and increased to 3,1% in 2010. This trend can be observed in figure 7. According to an OECD survey (Cited in Steytler and Powell 2010:4), "the change in the growth rate of real GDP between 2008 and 2009 represented the largest single-year slowdown on record for South Africa, and was larger than in most advanced and emerging economies."

*Figure 7 South Africa Real GDP (% change)*


Source: SARB Quarterly Economic Review (2012)

**3.2 Crisis and BNDES' Counter-cyclical Operations**

**3.2.1 Counter-cyclical lending**

Public banks are less pro-cyclical, a-cyclical or even countercyclical (relative to private banks), so their use as vehicles for policies during crises is critical (Pissetti 2012; Schclarek and Brei 2013). Studies show that public banks are less risk averse and play an essential credit-smoothing role (Micco and Panizza 2004). Public banks can thus be used for financial stability because they are able to keep their lending levels constant or significantly higher during crises. This is fundamentally different from private banks that preserve liquidity and defer loans during economic recessions (Pissetti 2012). Prior to the crisis, between 2003 and 2008, private credit institutions were responsible for 66% of credit growth (Deos et al. 2013). During the crisis, however, the [21]public financial sector sustained credit levels (see Figure 4). According to Sanusi (2012:7):

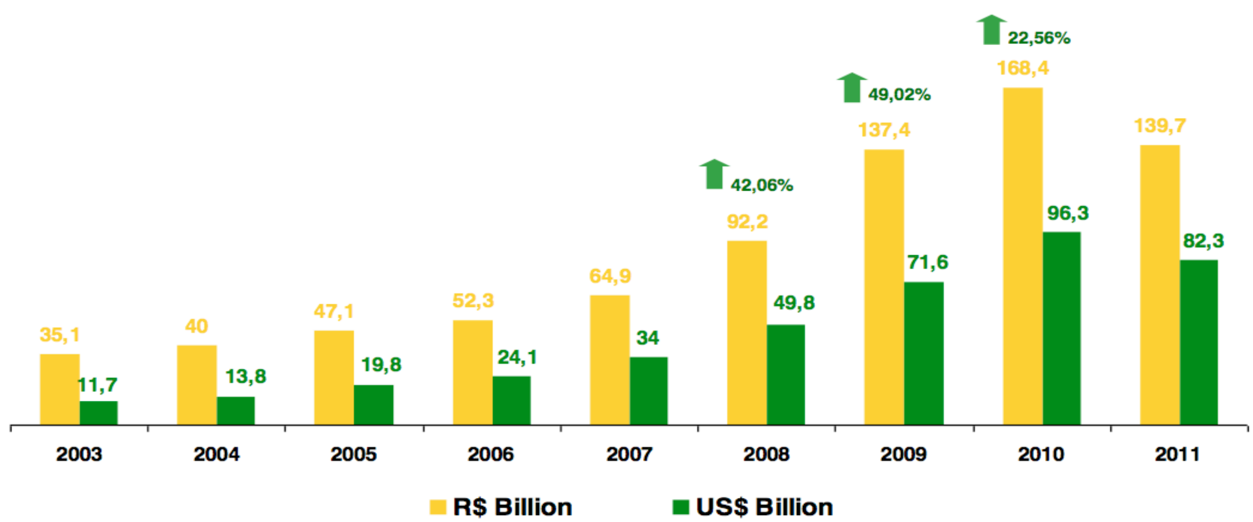
> *"The Brazilian development bank ... provides an example of how a DFI could play a vital catalyst role by its use of the tool of counter-cyclical lending not only to overcome the global financial*

[21] Includes the Bank of Brazil (BB) and Caixa Economica Federal (CEF)

*crisis … but also using the response to the crisis to turn around the country's economy."*

Counter-cyclical lending[22] was a key BNDES response to the crisis. As the leading financier of the country's economic development process (Hermann 2010) one observes a more prominent role for the BNDES after 2008. The fiscal stimuli i.e. the extension of credit provided by Brazil's national bank smoothed out the lending cycle (Duprey 2013), helped prevent financial contagion and thus softened the impact of the crisis (Mantega 2009). Since the crisis, the volume of BNDES disbursements accelerated, with annual figures averaging 2,2% of GDP between 2000 and 2007 to 4,0% of GDP between 2008 and 2010 as a result of the global financial crisis (De Araujo 2013; Ferraz 2012a)[23]. At the start of the global recession, the Brazilian government, through the BNDES, injected more money into the economy through the expansion of export finance and increasing credit facilities to agribusiness and industry for long-term investment projects, but also helped MSMEs meet their circulating capital needs (Gumede et al. 2011). Figure 8 illustrates a 37% average annual increase in BNDES disbursements (BNDES 2012b)

***Figure 8 BNDES Annual Disbursements***



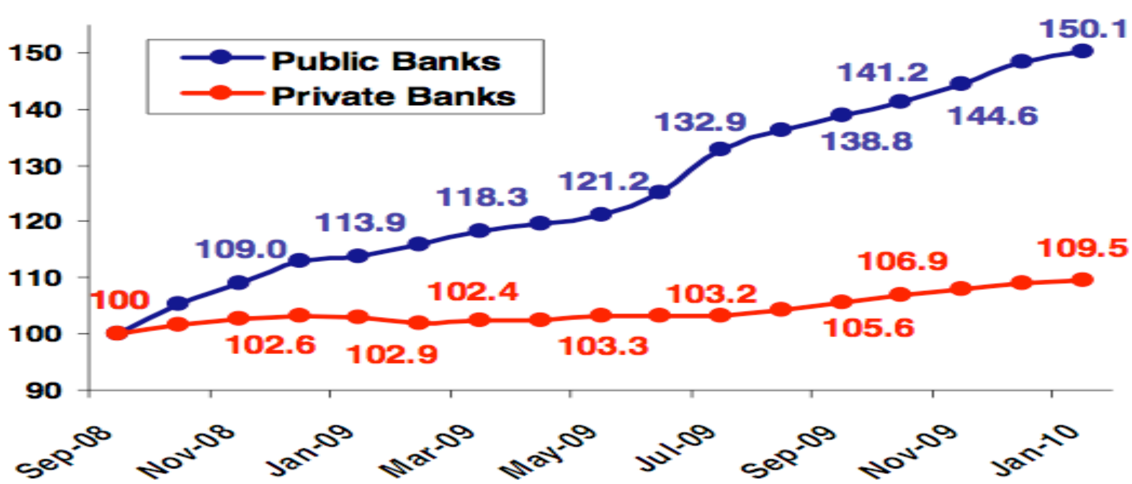

[22] Channelling credit during economic contractions (Colby 2012).

[23] Total BNDES credit growth during the global financial crisis: 2009 (15.2%), 2010 (20.6%), 2011(19%), 2012 (16.4%) (Does et al. 2013).

Source BNDES (2012b)

BNDES disbursements take into account the [24] positive externalities derived from investment projects (Arnold 2011). The BNDES' role in helping the real sector recover from the crisis is evident though its allocation of funds. According to Arnold (2011) almost half of BNDES funds went to industry (47% in 2010) followed by infrastructure (31%) and trade and services (16%). The objective was to increase the economy's export base and restore the country's positive growth trajectory (New America foundation 2013). Gumede et al. (2011:8) expand on this by arguing that the "banks counter-cyclical lending was aimed at creating new jobs, protecting existing jobs, expanding infrastructure … and building new industries." As a consequence of this dramatic extension of liquidity "total credit remained on a fairly smooth upward path despite the financial crisis" (Arnold 2011:20). Figure 9 shows how public banks extended credit, in comparison to private banks, using September 2008 as the base year (BNDES 2010).

***Figure 9 Brazil Credit Growth by Public and Private Banks***



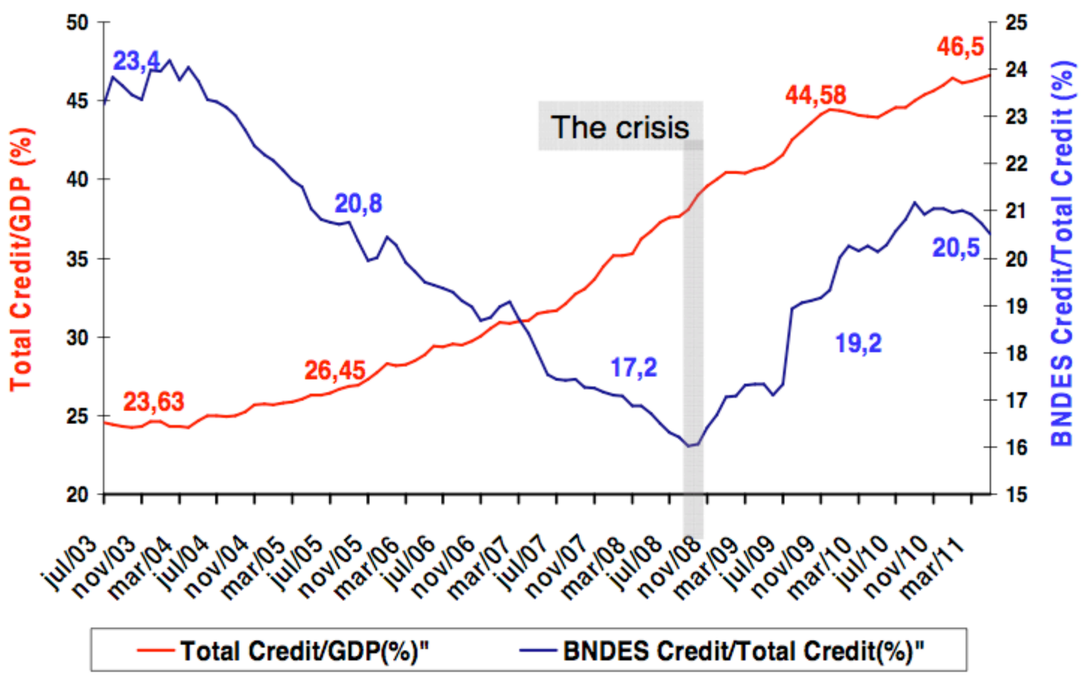

Source: Ferraz 2011 – based on BCB data

The banks loans grew steadily over the crisis period, with disbursements reaching the

[24] Investment in certain sectors such as infrastructure have economy wide externalities that may facilitate growth in other sectors (Chandrasekhar 2011).

value of R$ 168.4 billion in 2010 from R$ 90.8 billion in 2008 (New America Foundation 2013). Between September 2008 and January 2010 public credit, predominantly by the BNDES, grew on average, at 50.1% per annum while private credit grew at 9.5% per annum. Prior to the crisis, disbursements between 2005 and 2007 averaged 17.6% per annum, while the average growth of disbursements during the peak of the crisis period (2008-2010) was 38% (as figure 9 illustrates) (Ferraz 2010). Figure 10 below shows Brazils' credit to GDP and BNDES' share on total credit. It is also an indication of how the banks' lending varies during crisis and non-crisis periods. Between 2008 and 2010, BNDES' share on total credit increased steadily.

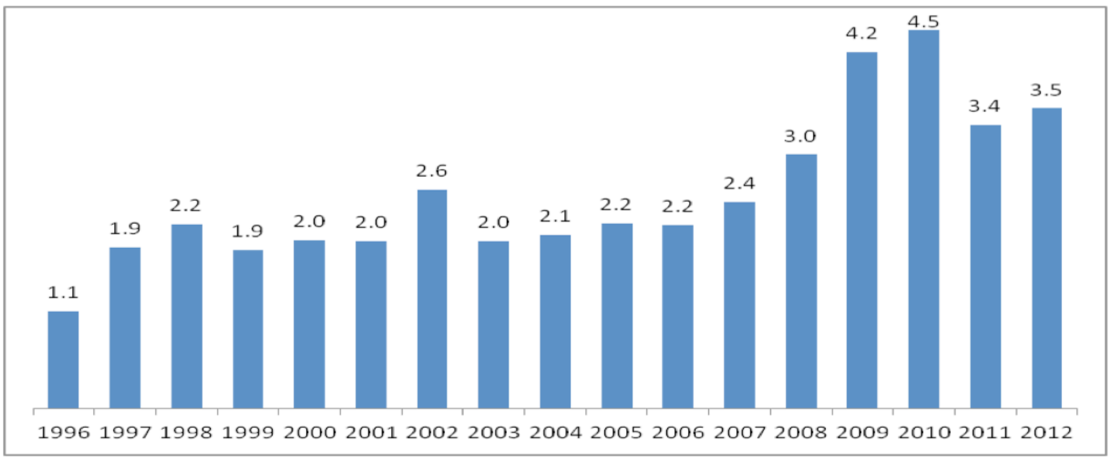
***Figure 10 Credit to GDP and BNDES' Share on Total Credit***




Source BCB (Cited in Ferraz 2011)

Figure 11 shows the BNDES' disbursements (% of GDP) between 1996 and 2012. Credit extension as a ratio of GDP between 2008 and 2011 grew by 8.5% with 6,7% attributed to public banks, with the BNDES solely responsible for 3,2% of this public bank credit growth (Pissetti 2012). This massive expansion of credit is an indication of the BNDES' ability to intervene and preserve liquidity in Brazils' national financial system during the Great Recession (Pissetti 2012; BNDES 2012b). It is thus clear that in this period of uncertainty and risk aversion, the BNDES acted in opposition to the market trend and compensated for the contraction in private bank credit, enabling its counter-cyclical operation (Deos et al. 2013).

***Figure 11 BNDES Disbursements 1996-2012 (% of GDP)***




Source: BNDES and [25]Ipea data (Cited in Tavares de Araujo 2013).

According to Deos et al. (2013) the high demand for credit during the crisis can be understood in terms of the cost of borrowing. The allocation mechanism for BNDES financing, which does not follow market principles, allows the majority of its loans to be extended at below market rates and in accordance with industrial policy guidelines (Arnold 2011). Public institutions offered a low cost incentive, as part of its counter-cyclical strategy, which created an environment conducive for investment. The reduction in [26]spreads was most notable between 2009 and 2010 where the average interest rates charged by public banking institutions decreased from 44,11% to 34,12%. During the

[25] Institute of Applied Economic Research
[26] The difference between the loan rate and the rate that the bank pays for deposits (Deos et al. 2013)

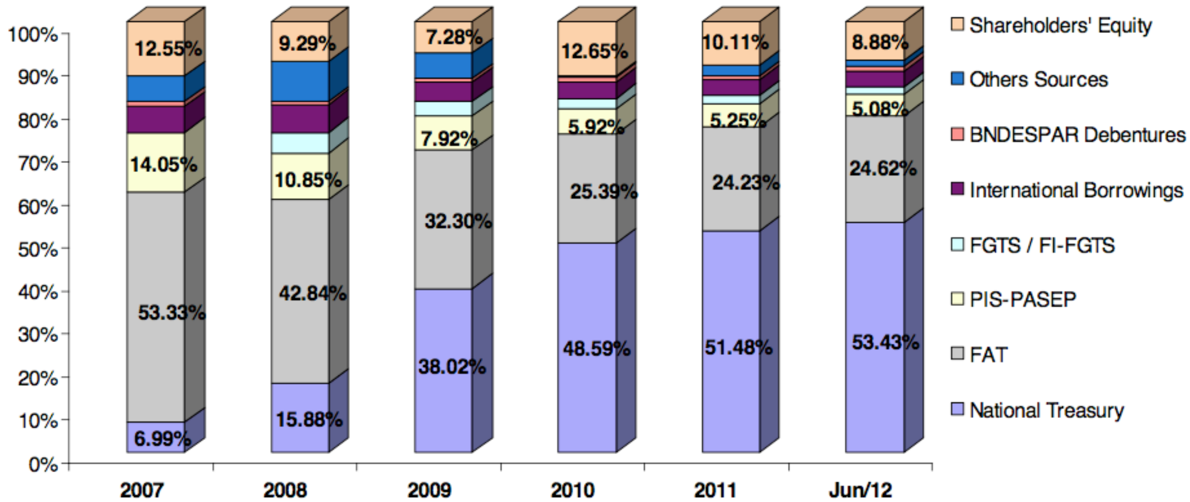
crisis, the BNDES cut the long-term interest rate (TJLP) to its lowest level in history (a decrease from 6,25% to 6%) (Cunha, Ferrari-Filho and Prates 2011).

### 3.2.2 Sources of Funding

Sources of funding for development banks can be derived from foreign borrowings, public sources, and even pension funds, Amsden (2001), but the government is often the largest source of funds for most public banks (Roberts 1969). The funding stability of the BNDES, which has access to a large and growing pool of resources, was key in allowing its counter-cyclical operations to counter the effects of the crisis. Capitalisation from savings and constitutional funds were critical in this regard (Lazzarini, Musacchio, Bandeira-de-Mello and Marcon 2011). In 2009, for example, nearly 40% percent of the BNDES' funds were sourced from constitutional funds while 32% of transfers came from mandatory "investments" by the FAT (Fundo de Amparo ao Trabalhador, or Workers Assistance Fund) acquired from compulsory savings (BNDES 2012c). This statutory obligation is justified on the basis that FAT transfers fund projects that increase Brazilian employment and production (BNDES 2012d).

As shown in figure 12, BNDES disbursements are also largely funded by direct government transfers from the National Treasury through special programs like the PAG (Accelerated Growth Program), and PSI (Sustainable Investment Program). These programs made up half of the BNDES' funding in 2011 (Armijo 2013), and were therefore another important source of loans after the 2007/08 crisis. According to Gumede et al. (2011), indirect taxes on goods and services also form a useful part of BNDES funding. These unique sources of funding allowed the BNDES to maintain faster expansion of its credit supply and act as stabilisers of credit during and post crisis periods (Pissetti 2012).

***Figure 12 BNDES Capital Structure***




Source: BNDES (2010)

### 3.2.3 Macroeconomic Impact

The counter-cyclical operations adopted by the BNDES during the crisis were instrumental in sustaining key productive activities in Brazil's economy. The impact of these strategies on gross capital formation, exports, economic growth and employment will be looked at individually in this section.

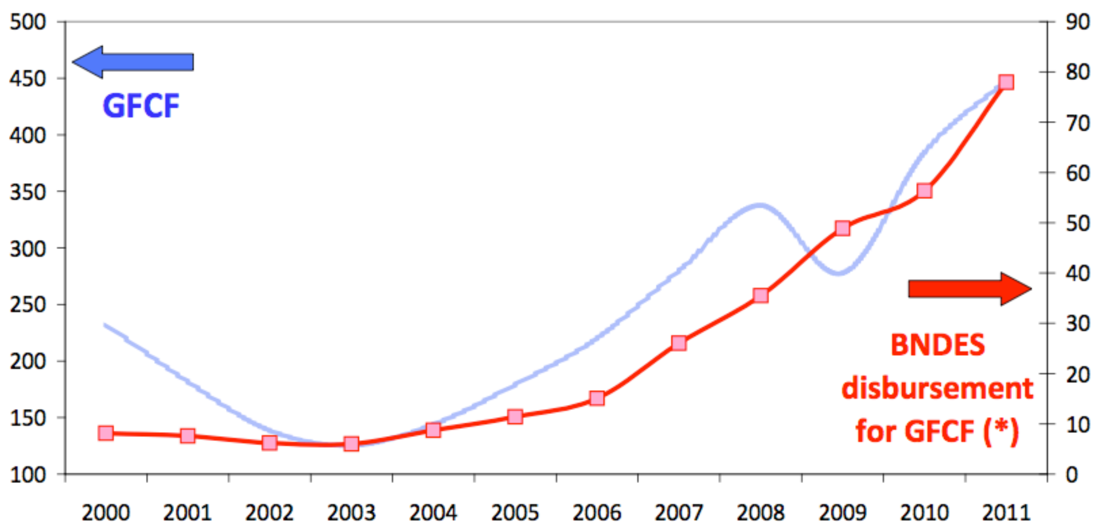
#### 3.2.3.1 Gross Fixed Capital Formation

The fundamental role of capital formation as a requisite for economic growth has been widely recognised in the literature. Tadeu and Silva (2013) state:

> *"Investment in fixed capital can be considered a major component to determine the national product, the employment and income in a country's economy, since it promotes the production activity's increase and expands the economic activity's level"*

According to Ferraz (2010) 80% of BNDES resources are assigned to key manufacturing industries and infrastructure investments - financing long-term projects for the creation of new plants and equipment, the expansion of existing capacity, the restructuring and modernisation of production lines, innovation and technological development and export promotion (Ottaviano and De Sousa 2011; De Araujo 2013). This is an important element of Brazil's industrial strategy (WTO 2013). Statistics indicate that total disbursements for GFCF have been increasing since 2008, as a reflection of the BNDES' counter-cyclical strategy to encourage long-term investment projects during the financial crisis (WTO 2013). Figure 13 provides the value of BNDES disbursements for capital expenditures and indicates that BNDES disbursements are generally consistent with Brazils overall investment cycle (BNDES 2011). Annual disbursements in 2009, for example, reached US$ 78 billion and represented 13,3% of the aggregate investment (Ottaviano and De Sousa 2011).

***Figure 13 Gross Fixed Capital Formation and BNDES Disbursements (US$ Billion)***




Source: Ferraz (2012b) based on BNDES data * Disbursements only for capital expenditures

Total disbursements in 2012 reached the value of US$ 75 billion, an increase of 12% from 2011 (BNDES 2013; Ottaviano and De Sousa 2011)[27]. Filho, Puga, Borça Junior and Nascimento (2009) argue that much of Brazils growth is 2008 was a result of the expansion in GFCF. In addition, at the start of 2009, Brazil was ranked second place (behind China), from fourth place in the ranking of investment activities in the last 12 months (Mantega 2009). The contribution of the BNDES to the Brazilian economy and

[27] Not shown in Figure 3.3

its investment drive is therefore quite significant (Ottaviano and De Sousa 2011).

Brazil created the necessary conditions to overcome the crisis by creating an internal market that stimulates investment and makes long-term investments viable to businesses and less dependent on the turbulences of the international market (Mantega 2009). This confirms the theoretical stance that argues that public banks are necessary for economic stability and the permanent availability of investment financing (BNDES 2011). Colby (2012) however found that although the banks disbursements doubled between 2007 and 2012, Brazils aggregate investment rate only increased by 2% of GDP. He then argues that the BNDES plays a vital role in supporting the country's investment levels, but with limited effects on total growth. On that note, Alston, Mueller, Melo and Pereira (2010) state that although BNDES disbursements are small compared to the size of the Brazilian economy, it made significant contributions to its aggregate investment levels.

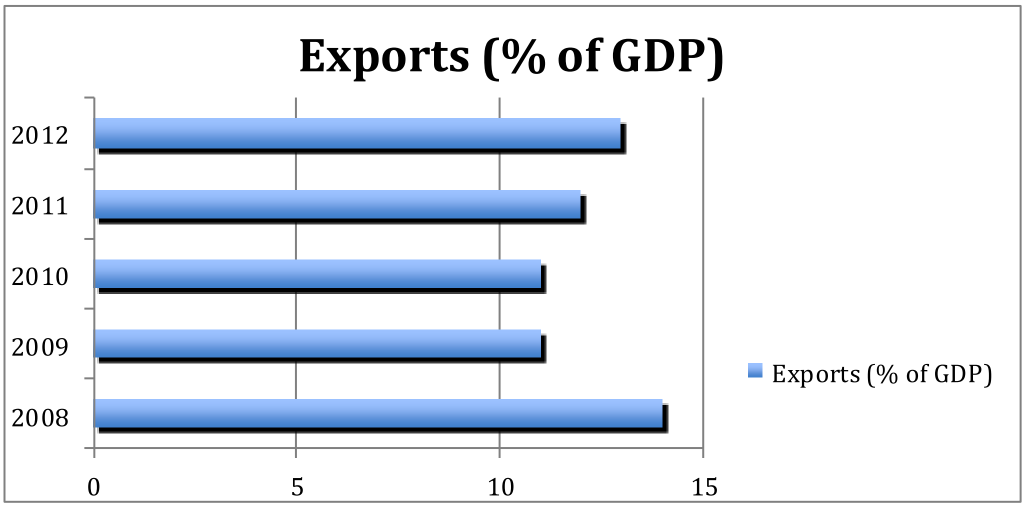
**3.2.3.2 Exports**

As a reaction to the Global Recession, weaker foreign demand for exports and the scarcity of trade finance (WTO 2013), Brazilian exports declined in volume in 2008 (by 17%), but in line with the fall in world exports, which fell by 18% (De Araujo 2013). Brazil was still however, amongst the countries that expanded its exports more, when the crisis broke out in 2008 (Mantega 2009). Figure 14 illustrates Brazils' fall in exports as a percentage of GDP between 2009 and 2010, which then increases between 2011 and 2012. Fostering production marked for exports is important for generating jobs and mitigating the restrictions that balance of payments may have on Brazil's economic growth (BNDES 2012d). The BNDES' 2012 annual report provides perspective on how the bank takes on an anti-cyclical role during crises but complements the market during normal times (BNDES 2012d). Brazil uses the BNDES as an instrument of foreign economic policy (i.e. promoting the internationalisation of Brazilian firms and supporting their outward investments) and as a public credit agent by supporting export financing through two export credit lines (De Araujo 2013):

(i) Pre-shipment credit - supplying working capital for Brazilian exporters.

(ii) Post-shipment credit - which targets the commercialisation of exported goods and services through buyer's or supplier's credit, in accordance with international standards (WTO 2013:77).

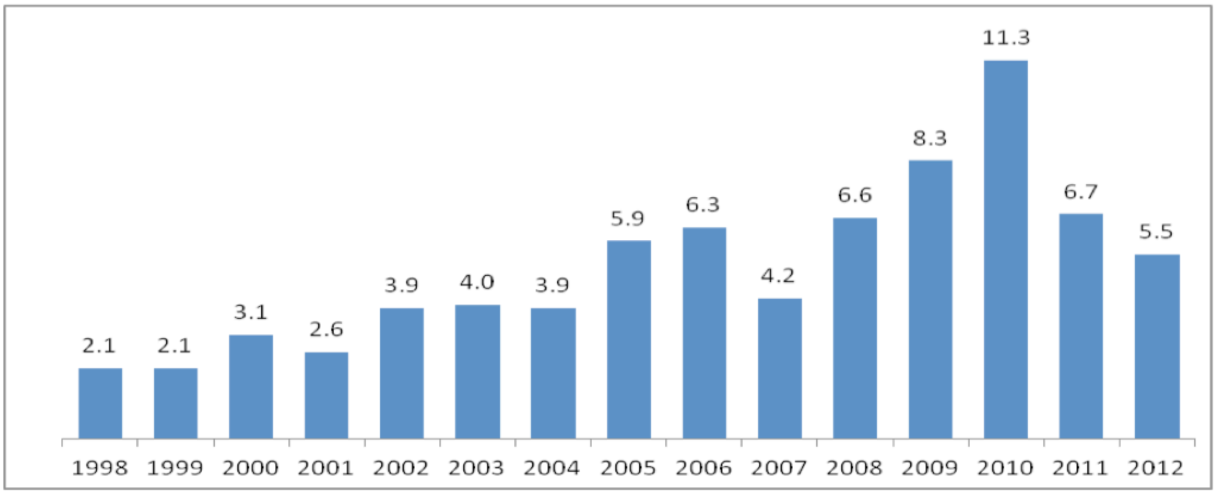
***Figure 14 Brazil: Exports of Goods and Services (% of GDP)***




Source: Own calculations based on World Bank (2013b) time series data

BNDES disbursements to support the Brazilian export sector has increased steadily over the years and between 2008 and 2010 part of the credit extended was to specifically fill gaps in the market and counteract the negative effects of the economic crisis on certain industries (BNDES 2012a). Between 2005 and 2009 export financing operations by the BNDES increased from US$5.9 billion to US$8.3 billion as seen in figure 15 (Ferraz 2010). This remarkable growth in financing however only represents a small fraction of Brazilian total exports, which reached the value of US$202 billion in 2010, for example. This is due to the BNDES' focusing its credit lines on industrial goods - high technology goods, engineering services in infrastructure projects and software products (Catermol 2010, cited in De Araujo 2013) – which ultimately represent a small share of Brazilian exports. The BNDES' export credit disbursements decreased substantially by the end of 2012, compared to 2010 (a decrease from US$11.5 billion to US$5.5 billion) (WTO 2013). This is an indication of the additional role the bank played in export financing during the crisis. It is also important to note that Brazilian exports only represent 13% of GDP compared to larger exporting countries where exports represent between 40 and 60 percent of their GDP rates (Mantega 2009).

***Figure 15 BNDES Export Finance (US$ Billion)***



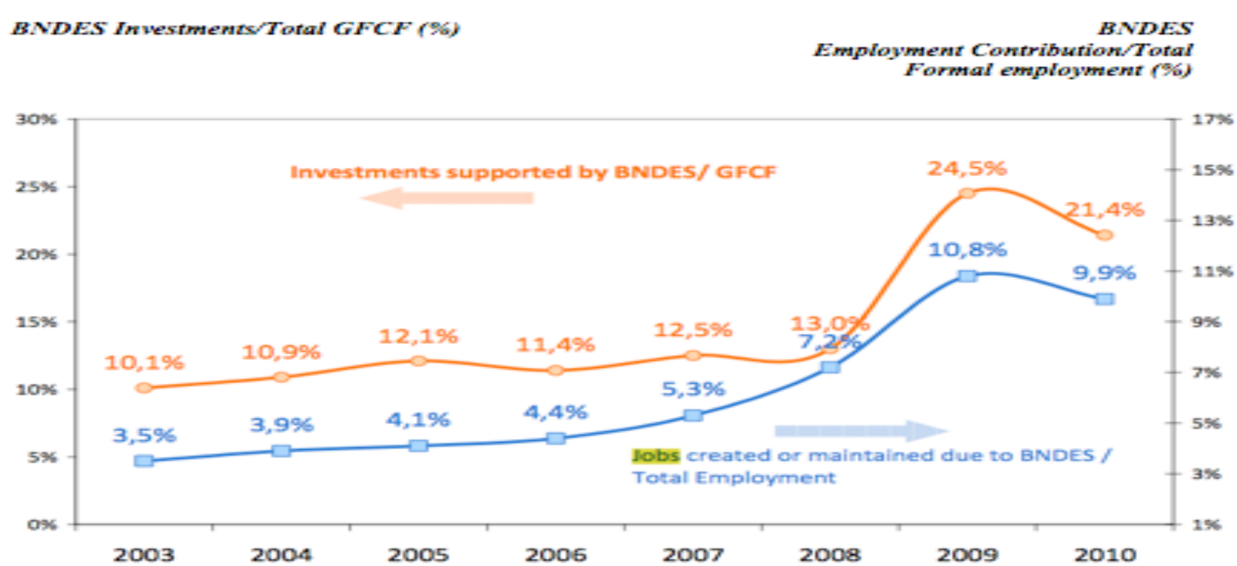

Source: BNDES 2013

### 3.2.3.3 Growth and Employment

According to Mantega (2009), long-term financing by the BNDES serves multiple purposes and is very much relevant to employment growth. This is supported by Torres, Filho and Puga (2006) (Cited in Colby 2012) who argue that from a macro-economic perspective, BNDES lending has an effect on growth and employment because borrowing firms may generate more and better paying jobs. Using BNDES data, Ottaviano and De Sousa (2011) found that firms that received credit from the BNDES increased employee growth by 8,8% over a period of one year, compared to 1,8% employment growth of those firms that were not financed. A similar outcome is found by Machado and Pereira (n.d.) who compared the employment performance of companies supported by the BNDES to those that had not received credit. Their analysis revealed that companies supported by the BNDES in 2008 increased registered employment by approximately 10% more (in 2009) than they would if they had not received funding. He concluded that beneficiaries of BNDES loans generated more growth in employment relative to those not supported. The capacity for these firms to increase jobs is a direct result of their expansion in production as a result of BNDES credit disbursements.

Despite 0.2% negative growth in 2009, nearly 1 million jobs were created in Brazil (BNDES 2010). During this year the BNDES financed US$ 46,8 billion of total fixed investments valued at US$ 93 billion. The value of these fixed investments generated or maintained 4,5 million jobs, according to a BNDES (2010) study. Machado and Pereira (n.d.) claim that the role of public banks is then justified within this context. Figure 16 shows the BNDES' contribution to Brazils' employment. In 2008 for example, jobs created or maintained by the BNDES as a percentage of total formal employment at the end of 2008 was 5,3%. This number increased to 10,8% in 2009 and decreased slightly to 9,9% in 2010.

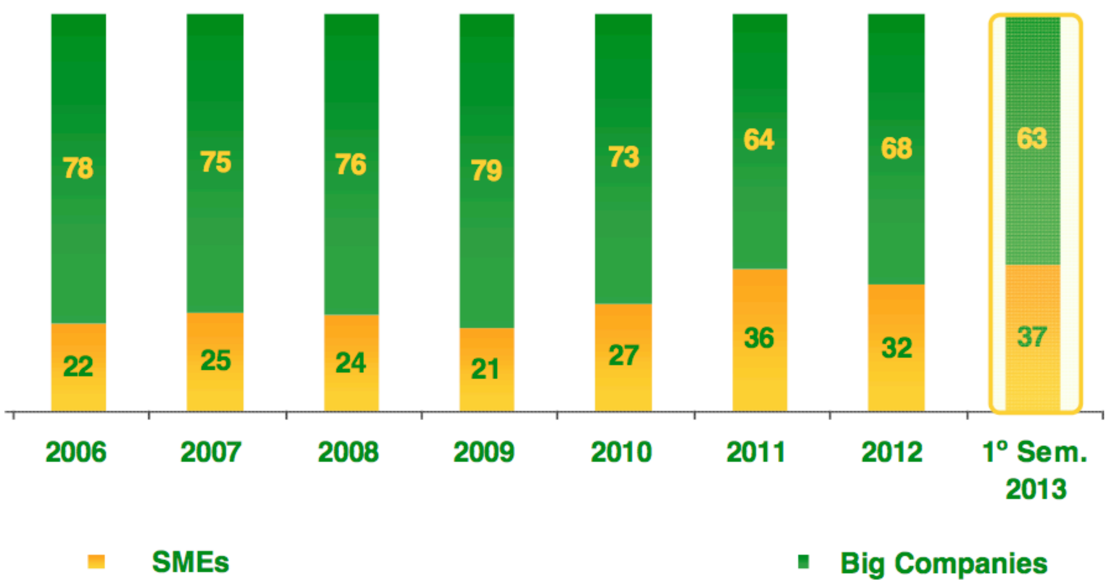
***Figure 16 BNDES' Contribution to Employment***




Source: Ferraz (2011)

Machado and Pereira (n.d.) argue that credit for Brazilian firms is important in generating income and creating jobs on the one hand, and also providing firms with accessible financing during a credit crunch when the cost of financing is much higher. The social and economic development contribution of public credit remains evident. According to the Brazilian Ministry of Labour and Employment, micro small and medium sized enterprises (MSMEs) (which represent 99% of registered companies) are largely responsible for creating newly registered jobs in the economy and have also found an important role during the crisis (Machado and Pereira n.d.). Micro companies managed to maintain a growing trend of registered employment even during the global financial crisis. On the contrary, medium sized and large companies produced a negative result in terms of registered employment (Machado and Pereira n.d.). MSMEs promote the country's growth and subsequent job creation but still face major constraints in terms of their access to finance. Although the number of MSMEs supported by the BNDES increased steadily between 2007 and 2010 (BNDES 2012b), still a substantial portion of its disbursements is allocated to big companies, as figure 17 illustrates.

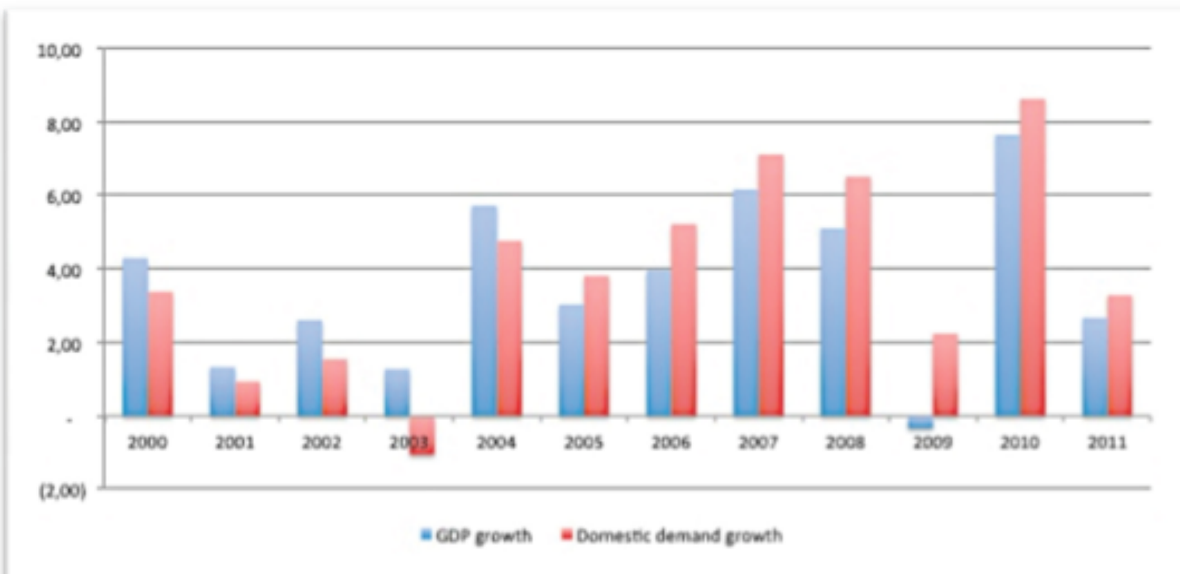
***Figure 17 BNDES Disbursements to MSMEs and Big Companies (%)***




Source: BNDES (2013)

Between 2004 and 2010, the Brazilian economy grew at an average rate of 4,4% per annum, despite the crisis of 2008 (New America Foundation 2013). Although the country produced growth rates higher than its international counterparts, this trajectory of high growth was affected in the aftermath of the crisis. This tendency can be observed in figure 18. Growth in 2010 peaked at 7,5% and it has been documented that this record high growth is a characteristic of the "steady return of the role of the state in the design and implementation of longer-term measures to support economic development" (New America Foundation 2013). This growth was therefore driven by developments in Brazil's domestic markets which increased aggregate demand (Ter-Minassian 2011). Thereafter growth slowed largely due to the deepening of the financial crisis in the Eurozone. So despite the BNDES and the public banking sector at large performing a counter-cyclical role in preventing a deeper crisis internally as well as providing conditions for production and employment, it was not sufficient to help resume economic growth (Deos et al. 2013).

***Figure 18 Brazil: GDP Growth and Domestic Demand Growth (% change)***




Source: Ipea data (Cited in Pissetti 2012)

### 3.3 Lessons and Implications

From the above analysis, one can isolate some general lessons/implications:

(i) GFCF (as a % of GDP) was higher in South Africa over the 2007-2010 period, in line with World Bank (2013b) data. High investment levels in South Africa were largely linked to an expansion of public work investment programs necessary for the 2010 FIFA

World Cup. Financing fixed investment is an essential component of BNDES disbursements. Brazil's investment levels reflected the BNDES' credit extension that supported industries and allowed firms to invest and expand production.

(ii) Exports in both countries were affected by a contraction in global trade. However, through the BNDES' export finance disbursements, export industries were supported directly and were able to expand exports. South Africa's export sector sustained job losses, as a result of income declines in trade-related sectors.

(iii) While Brazil created and maintained nearly 1 million jobs, massive job losses in South Africa's key sectors exacerbated its long-standing high unemployment rate.

(iv) South Africa's response to the crisis resulted in a public budget deficit that strained national funds. Brazil used BNDES' capitalisation to preserve liquidity. It is also essential to note that the various sources of funding available to the BNDES, as part of the Brazilian governments broader industrial policy objectives, allowed the BNDES to engage in counter-cyclical lending to respond to the crisis. Sources of funding are a major constraint in the South African case.

(v) If you consider figure 19 below, the performance of Brazil's economy between 2007 and 2010 was relatively better than that of South Africa.

(viii) The market share of DFIs in Brazil's financial sector is quite large (39%). Through its credit expansion, The BNDES is able to specifically address the needs of the real economy. In addition, the BNDES has access to funds at a lower long-term interest rate (based on the TJLP). On the contrary, South Africa's commercial banks dominate the banking industry with DFIs representing only 4% of the total market share. Commercial banks are also able to borrow at lower rates than DFIs. Inevitably the incentive to finance fixed investments on the part of South African commercial banks is reduced (Maia et al. 2005; Mqoqi 2014),

(vii) The BNDES evidently plays a greater role in its economy. South Africa has an existing DFI, which shows great signs of potential as a development financier. South Africa could use its IDC to create an opportunity for crisis response, which could further ignite an upward trend in growth and unemployment. However, this would entail a considerable increase in the scope and scale of the IDC's counter-cyclical funding.

***Figure 19 South Africa and Brazil Annual GDP Growth (%)***


Source: Based on World Bank (2013) time series Data

### 3.4 Chapter Summary

This chapter determined the role played by BNDES' channelled credit during the crisis by analysing its effects on some of the determinants of demand. Although the national government rolled out a large stimulus package in response to the crisis, South Africa did not effusively make use of its IDC to specifically stimulate GFCF, expand exports and prevent drastic job losses in its most strategic sectors. The approach taken by the BNDES helped unleash the required finance to encourage investment, exports and maintain and create jobs. Despite the fact that economic growth was not being fully restored through its counter-cyclical strategy, Brazil prevented a deeper crisis, which could have decelerated its economy further. The Brazilian case therefore presents itself with useful lessons. The final chapter presents a summary and conclusion and addresses some of the broad challenges the BNDES faces with its development financing strategy.

# CHAPTER FOUR
# CHALLENGES, SUMMARY AND CONCLUSION

## 4.1 Challenges

Some of the challenges the BNDES faces in terms of development financing are outlined below. Firstly, despite its unique sources of funding, domestic savings in Brazil lags behind investment (BNDES 2012a), so the BNDES identifies the need to create incentives to increase the rate of domestic savings in order to support and foster a long-term financing strategy. Secondly, BNDES disbursements have traditionally been targeted towards large strategic companies, which apparently have alternative sources of financing (Park 2012). Park (2012) suggests that lending should be more targeted towards areas where market failures or significant externalities exist. Thus, given the positive economic impact of MSMEs coupled with the capital constraints they face, this could be a fundamental sector on which to focus BNDES disbursements. In light of this view, the impact on employment and growth may potentially be greater.

As indicated, the BNDES has concentrated on strategic sectors, channelling credit to petroleum, infrastructure and mining (for example), essentially to promote its model of social and economic growth and development, but studies suggest that the development banking strategy, with the BNDES as a platform, is being challenged – forcing a debate on the social and economic costs of this approach to development. The incentive structure that governs the BNDES is complex (Colby 2012), as it is publicly owned, yet has the legal status of a private company or commercial bank. It has further been observed that through its history, the BNDES has acted with little or no supervision and public accountability. This has allegedly resulted in large political, economic, business, financial, technical and academic groups and stakeholders thriving on its activities and existence. In line with the political view of SOEs, the influence of multiple economic interests may result in the wasteful allocation of the banks resources. (Spink 2013)

In order for a development bank to have a productive impact, it must have the necessary means and capacity to carry out its functions. The BNDES' strategic role in financing the Brazilian economy is evident. Arnold (2011:23) however substantiates why BNDES' lending may not be sustainable in the long run. He states:

> *"Brazil's future investment needs cannot be financed by a continuous expansion of BNDES' balance sheet. As the country develops, it will be necessary to increasingly involve the private sector in the provision of long-term finance beyond acting merely as distributors of smaller BNDES loans, with a view towards replacing most of BNDES lending in the longer run*."

Regardless of this validity, Arnold recognises the challenges of this occurring without decreasing credit flows to industry. While the BNDES has unique sources of available funding, private credit institutions face obstacles in obtaining long-term credit themselves. This makes the BNDES a dominant player in the long-term credit market, creating an uneven playing field (Arnold 2011). This means that long-term financing in Brazil has become the exclusive domain of its national development bank without sufficient private entry into the segment which is required to meet future investment needs (Arnold 2011). Park (2012) also identifies the need to stimulate long-term finance in the private sector.

From this perspective, Wehinger (2011) and Klinz (2013) suggest that the formation of public-private partnerships (PPPs) offers an effective and cost-efficient alternative of mobilising resources for long-term investments. With an effective policy framework, the private sector can make significant capital contributions to long-term investments. The European Commission (2009:2) suggests that PPPs not only relieve pressure on public finances but also offer a useful safeguard for private institutions by providing "stability of long term cash-flows from public finances, [while incorporating] important social…benefits into a project." Although a financial crisis makes these conditions more difficult, the combination of public and private resources and capacities could help raise and allocate finances to foster a recovery (European Commission 2009).

### 4.2 Summary

The primary purpose of this paper was to analyse the role played by the BNDES during the Global Recession of 2007/08, in order to draw lessons applicable to South Africa and other EMEs to counteract adverse real and financial shocks. Literature provided insights into the various theoretical perspectives that validate a role for the state in financial markets. This represented the platform through which the role of the BNDES in credit markets was analysed.

The first objective of this paper was to identify what the BNDES did to respond to the crisis. This study found that the BNDES made use of counter-cyclical operations to sustain economic activity during the crisis.

The second objective was to determine why counter-cyclical operations were used as a key response. Counter-cyclical lending was the principal strategy used by the BNDES, with the intention of making credit available, expanding Brazils export base, creating and protecting jobs, expanding infrastructure, building new industry and restoring growth (Gumede et al. 2011; New America Foundation 2013; Coutinho 2011), all within a context of global financial and economic contraction.

The third objective of this study was to examine how the BNDES responded to the crisis. The BNDES provided substantial liquidity and directed credit to Brazilian firms and export industries between 2008 and 2010. The existence of a strong state bank, the expansion of credit and the availability of cheap credit were key operational instruments in this regard.

The effects of these actions were discussed in relation to Brazils' GFCF, exports, employment and economic growth. BNDES credit disbursements made positive and significant contributions to the country's investment levels, played an additional role in export industries when global trade weakened and further contributed to maintaining and generating employment during the crisis.

It seems clear that the BNDES' counter-cyclical operations provided conditions that were necessary to sustain key economic activities during the crisis, although its overall impact on economic growth was modest.

### 4.3 Conclusion

It is evident, through this research, that development banks have a relevant and instrumental public role. This study particularly exhibited the importance of a public credit system that promotes productive investments that not only have a positive long-run economic impact, but also strategically addresses cyclical gaps in capital. The prominent role of the BNDES in Brazil provides a useful framework for a development banking strategy that allows for greater resistance to global economic contractions. DFIs in EMEs must thus re-evaluate their role in financing development, in light of short-term capital constraints.

## REFERENCES


Abeyasekara, S. 2001. *Quantitative Analysis Approaches to Qualitative Data: Why, When and How.* Statistical Services Centre, University of Reading,

Adesoye, A.B. & Atanda, A.A. 2012. *Development Finance Institutions in Nigeria: Structure, Roles and Assessment*. Munich Personal RePEc Archive Paper No. 35839.

ADFIAP, 2009. *Primer on Development Banking.* Available at; http://www.adfiap.org/wp-content/uploads/2009/10/Development-Banking-Primer.pdf [August 2013].

Akyuz, Y. & Gore, C. 2001. African Economic Development in a Comparative Perspective. *Cambridge Journal of Economics.* (25): 265-288.

Alston, L.J., Mueller, B., Melo, M.A. & Pereira, C. 2010. *The Political Economy of Productivity in Brazil*. Inter-American Development Bank Working Paper Series No. 104.

Amsden, A.H. 2001 *The Rise of "The Rest": Challenges to the West from Late Industrializing Economies.* Oxford: Oxford University Press.

Armijo, L. 2013. *The Public Bank Trilemma: Brazil's New Developmentalism and the BNDES.* In Peter Kingstone and Timothy Power, eds. *Democratic Brazil Ascendant.* Pittsburgh: University of Pittsburgh Press, forthcoming 2014.

Arnold, J. 2011. *Raising Investment in Brazil*. OECD Economics Department Working Papers, No. 900, OECD Publishing, Paris.

Assubuji, A., Luckscheiter , J. & Ben-Zeev, K. 2009. *The Global Economic Crisis and South Africa.* Perspectives, No. 3.09, Cape Town.

Baer, W. & Villela, A.V. 1980. The Changing Nature of Development Banking in Brazil. *Journal of Inter-American Studies and World Affairs.* 22(4): 423-440.

Banerjee, A. 1997. *A Theory of Misgovernance.* Department of Economics Working Paper No 97-4, Cambridge; Massachusetts, BNDES, 2010. *Brazilian Development Prospects.* Available at http://bndes.gov.br [March 2013].

BNDES. 2011a. *Financial Support for Offshore Projects in Brazil: Current Status and Future Plans.* Marine Money Conference, BNDES, Rio de Janeiro.

BNDES. 2012a. *The Prospects for the Brazilian Economy, Development Policies, Long-Term Financing and the Role of the BNDES*. The Brazilian Development Bank, Rio De Janerio.

BNDES, 2012b. *The BNDES Financing Program to the Oil and Gas Supply Chain. Available at* http://bndes.gov.br/apoio/bndes_pg.html [March 2013].

BNDES. 2012c. *Corporate Presentation, Financial Area.* BNDES Accounting Department. Rio de Janeiro, Brazil.

BNDES. 2012d. *BNDES Annual Report.* Available at http://bndes.gov.br [August 2013]

BNDES. 2013. *The Brazilian Development Bank.* Available at: http://www.bndes.gov.br/SiteBNDES/bndes/bndes_en/Institucional/The_BNDES_in_Numbers/ [September 2013].

Bresser-Pereira, L.C. 2010. The Global Financial Crisis and After: A New Capitalism? *Journal of Post Keynesian Economics.* 34(4): 499-534.

Canuto, O. 2008. *The Impact of the Global Financial Crisis on Developing Countries.* Institute of Development Studies, Sussex.

Chandrasekhar, C.P. 2011. *Development Banks: Their Role and Importance for Development.* Available at http://www.ideaswebsite.org/articles.php?aid=471 [March 20 2013].

Chitiga, M., Mabugu, R. & Maisonnave, H. 2010. *The Impact of the Economic Crisis in South Africa: A Computable General Equilibrium Model.* Poverty and Economic Policy Research Network, 8th PEP General Meeting, Dakar.

Coelho, C.A., De Mello, J.M.P. & Rezende, L.B. 2011. *Do Public Banks Compete With Private Banks? Evidence From Concentrated Local Markets in Brazil.* Rede de Economia Aplicada (REAP) Working Paper 002.

Colby, S. 2012. *Explaining the BNDES: What it is, What it does and How it Works.* CEBRI Vol 3, No. 7, Rio de Janeiro.

Conference Board of Canada. 2010. *Lessons from the Recession and Financial Crisis. Lesson 2: Public Sector Financial Institutions Prove their Worth.* Bank of Canada Legislative Review.

Coutinho, L. 2011. *Financing Infrastructure in Brazil: Prospects and Challenges.* BNDES, Rio de Janeiro.

Culpeper, R. 2012. *Financial Sector Policy and Development in the Wake of the Great Financial Crisis.* University of Ottawa, Ottawa.

Cunha, A.M., Prates, D.M. & Ferraro-Filho, F. 2011. *Brazil Responses to the International Financial Crisis: A Successful Example of Keynesian Policies.* Panoeconomicus Special Issue No. 5: 693-714.

D'Arista, J. 2011. *Reregulating and Restructuring the Financial System: Some Critical Provisions of the Dodd-Frank Act*. Political Economy Research Institute, University of Massachusetts Amherst.

Datar, M.K. 1999. DFIs in an Era of Developing Capital Markets. *Economic and Political Weekly.* 34(25) :1640-1649.

De Araujo, J.T. 2013. *The BNDES as an Instrument of Long-Run Economic Policy in Brazi*l. Centro de Estudos de Integracao e Desenvolvimento (CINDES), Rio de Janeiro.

De Paula, L.F. & Sobreira, R. 2010. *The 2008 Financial Crisis and Banking Regulation in Brazil.* UFRGS, Artigo Aceito para Apresentação no III Encontro da Associação Keynesiana Brasileira

Deos, S. Ruocco, C. & Rosa, E. 2013. *Federal Public Banks in Brazil: Historical Overview and Role in the Recent Crisis.* Available at: http://www.boeckler.de/pdf/v_2013_10_24_deos_ruocco_rosa.pdf [January 2014].

Didier, T., Hevia, C. & Schmukler S.L. 2011. *How Resilient Were Emerging Market Economies to the Global Crisis?* World Bank Policy Research Working Paper 5637, Washington D.C.

Doring, T. 2003. *German Public Banks Under the Pressure of the EU Subsidy Proceedings. Competition Policy,* Interceonomics.

Downes, A.S. 2004. *Arthur Lewis and Industrial Development in the Caribbean: An Assessment*. Presented at a Conference on "The Lewis Model after 50 Years: Assessing Sir Arthur Lewis' Contribution to Development Economics and Policy, University of Manchester.

Dullien, S., Kotte, D.J., Marquex, A. & Priewe, J. 2010. *The Financial and Economic Crisis of 2008-2009 and Developing Countries*. United Nations Conference on Trade and Development, New York; Geneva.

Duprey, T. 2013. *Bank Ownership and Credit Cycle: the Lower the Sensitivity of Public Bank Lending to the Business Cycle.* Paris School of Economics, Working Paper No. 2013-5.

EDFI. 2009. *The Growing Role of the Development Finance Institutions in International Development Policy*. Dallberg Global Development Advisors, Copenhagen.

EDFI. 2012. *Annual Report*. Available at: http://www.edfi.be/news/all.html [January 2013].

European Commission. 2009. *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions -Mobilising Private and Public Investment for Recovery and Long-Term Structural Change: Developing Public Private Partnership.* Commission of the European Communities, Brussels.

Ewing, J. 2010. *Landesbank Losses May Bring Change to German Banking.* Available at: http://www.nytimes.com/2010/01/12/business/global/12landesbank.html?_r=0 [February 2014].

Ferraz, J.C. 2010. *The role of BNDES in Brazilian Development and Support for Japanese Initiatives*. BNDES Seminar, Tokyo.

Ferraz, J.C. 2011. *Financing Development in an Uncertain World: Evidence, Beliefs and Statements Based on BNDES Experience.* BNDES International Seminar, Santiago; Chile.

Ferraz, J.C. 2012a. *Financing Development in an Uncertain World: BNDES Experience*. Development Banks As Agents For Change Seminar, BNDES, Doha.

Ferraz, J.C. 2012b. *Central Banks, Financial Systems and Economic Development: The Experience of Development Banks.* BNDES Money and Banking Conference Buenos Aires.

Filho, E.T., Puga, F.P., Borca Junior, G.R. and Nascimento, M.M. 2009. *The Global Financial Crisis and the Investment Outlook in Brazil for 2009-2012.* Brazilian Economic Insights, No. 60, BNDES, Rio de Janeiro.

Friedrich Ebert Stiftung**.** 2011. *Transformation of State Seminar V: Sourcing Finance for Development.* Available at*:* http://www.fes-southafrica.org/pages/posts/transformation-of-state-seminar-v-sourcing-finance-for-development-4.php [October 2013].

Green, D., King, R. & Miller-Dawkins, A. 2010. *The Global Economic Crisis and Developing Countries: Impact and Response.* Oxfam International Research Report.

Griffith, R. & Evans, M. 2012. *Development Finance Institutions*. Advocates for International Development, Reed Smith LLP.

Gumede, W., Govender, M. & Motshidi, K. 2011. *The Role of South Africa's State Owned Development Finance Institutions in Building a Democratic Developmental State.* Development Bank of Southern Africa, Development Planning Division, Working Paper Series No. 29, Midrand.

Gutierrez, E., Rudolph, H.P., Homa, H & Beneit, E.B. 2011. *Development Banks Role and Mechanisms to Increase their Efficiency. World* Bank Policy Research Working Paper 5729.

Haiduk, K. & Kruk, D. 2013. *Direct Lending: Is it an Efficient Tool to Modernise the Economy?* Forum for Research on Eastern Europe and Emerging Economies (FREE) Policy Brief Series, Belarus.

Hermann, J. 2002. Financial Structure and Financing Models: The Brazilian Experience over the 1964 -1997 Period*. Journal of Latin American Studies*. 34(1): 71-114.

Hermann, J. 2010. *Development Banks in the Financial-Liberalization Era: The case of BNDES in Brazil.* Cepal Review 100: 189-203.

Hoffmann, D. 2011. *The Impact of the Financial Crisis in Brazil and Germany: A Comparative Analysis of Distinct Developments*, Federal University of Rio de Janeiro.

IDC. 2010. Industrial Development Corporation Annual Report. Available at: http://www.idc.co.za/images/publications/idc_annual_report_2010.pdf [February 2014].

IDC. 2011. Industrial Development Corporation Annual Report. Available at: http://www.idc.co.za/images/publications/4154%20IDC%20Ar%20complete_LR.pdf [February 2014].

Jansen, M. & Von Uexkull, E. 2010. *Trade and Employment in the Global Crisis*. International Labour Office, Switzerland.

Jones, C.I. 2009. *The Global Financial Crisis of 2007-20??* A Supplement to Macroeconomics (W.W Norton), Stanford University.

Kaltenbrunner, A. & Painceira, J.B. 2009. *New Forms of External Vulnerability: Brazil in the Global Financial Crisis.* London, School of Oriental and African Studies (SOAS).

Kganyago, L. 2012. *The Impact of the Eurozone and Global Financial Crisis on South Africa.* Speech Delivered at the Lereko Metier Capital Growth Fund Investor Conference, Magaliesburg

Klein, M. 2010. *The Global Financial Crisis: Strategic Implications for Development Finance Institutions.* Prepared for the KfW Financial Sector Symposium, Berlin.

Klinz, W. 2013. *Draft Report on Long-Term Financing of the European Economy.* Committee on Economic and Monetary Affairs, European Parliament.

Kyrili, K. & Martin, M. 2010. *The Impact of the Global Economic Crisis on the Budgets of Low-Income Countries*. Development Finance International, A Research Report for Oxfam GB.

La Porta, R., Lopez-De-Silanes, F. & Shleifier, A. 2002. Government Ownership of Banks*. The Journal of Finance.* 57(1): 265-301.

Lazzarini, S.G., Musacchio, A., Bandeira-de-Mello, R. & Marcon, R. 2011. *What do Development Banks Do? Evidence From Brazil 2002-2009*. Working Paper 12-047, Harvard Business School.

Levy-Yeyati, E., Micco, A. & Panizza, U. 2004. *Should the Government be in the Banking Business? The Role of State-Owned and Development Banks.* Inter-American Development Bank Research Department Working Paper 517. Washington, DC.

Lin, Y., Srinivasan, A. & Yamanda, T. 2012. *The Bright Side of Lending by Government Owned Banks: Evidence from Japanese Financial Crisis.* Available at: http://abfer.org/docs/track1/track1-the-bright-side-of-lending-by-government-owned-banks-evidence-from-the-financial-crisis-in-japan.pdf [August 2013].

Loser, C.M. 2004. *G-24 Research Program - A Counter-Cyclical Financing Mechanism for Developing Countries: Wishful Thinking or Policy Requirement?* The Inter-American Dialogue, Washington D.C,

Machado, L. & Parreiras, A. (n.d.). Public Credit for Brazilian Micro and Small Companies: The Impact of the BNDES Card. Available at: http://www.bndes.gov.br/SiteBNDES/export/sites/default/bndes_pt/Galerias/Arquivos/conhecimento/revista/Rev3613.pdf [January 2014].

Maia, J., Mondi, L. & Roberts, S. 2005. *Industrial Development and Industrial finance in Brazil and South Africa: A Comparative Assessment.* Industrial Development Corporation and the University of the Witwatersrand, Johannesburg.

Mantega, G. 2009. *Overcoming The Crisis*. Brazil Sustainable Economy, a Publication of the Ministry of Finance, Number 4.

Massa, I. & Te Velde, D.W. 2011. *The Role of Development Finance Institutions in Tackling Global Challenges.* Overseas Developmemt Institute. Project Briefing No.65., London.

Micco, A & Panizza, U. 2005. *Public Banks in Latin America*. Background Paper Prepared for the Conference on Public Banks in Latin America: Myth and Reality, Inter-American Development Bank, Washington D.C.

Micco, A., Panizza, U. & Yanez, M. 2006. *Bank Ownership and Performance: Does Politics Matter?* Amadeo Avogadro University of the Eastern Piedmont, Department of Public Policy and Public Choice, Working Paper No. 68.

Mohamed, S., Newman, S., Ashman, S., Baloyi, B., Tshuma, M., Mfongeh, G. & Selemela, S. (n.d.). *Development Finance Institutions: Allocating Capital for Industrial Development.* Corporate Strategy and Industrial Development (CSID) Paper 3, Johannesburg.

Mqoqi, N. 2014. *Can the Industrial Development Corporation (IDC) of South Africa Emulate the Success of the Brazilian Economic And Social Development Bank (BNDES) in Financing Enterprises and Boosting Manufacturing?* Thesis Submitted at the University of Witwatersrand, Wits Business School, Johannesburg.

National Treasury. 2011. *A Safer Financial Sector to Serve South Africa Better*. National Treasury Policy Document, Pretoria.

Naude, W. 2011. Global Finance after the Crisis: Reform Imperatives and Vested Interests. *Global Economy Journal.* Voll 11. Iss 2. Art 6.

New America Foundation. 2013. *Brazil's Alternative to Austerity: Increased Employment and Reduced Inequality.* Economic Growth Program and World Economic Roundtable, Multidisciplinary Institute for Development and Strategies (MINDS), Washington D.C.

OECD. 2013. *OECD Economic Surveys South Africa*. OECD Publishing. Available at: http://dx.doi.org/10.1787/eco_surveys-zaf-2013-en [March 2014].

Onder, Z. & Ozyildirim. 2012. *Role of Bank Credits on Local Growth: Do Politics and Crisis Matter?* 30th SUERF Colloquium, States, Banks and the Financing of the Economy, Zurich, Switzerland.

Ottaviano, G., & De Sousa, F.L. 2011. *Relaxing Credit Constraints in Emerging Economies: The Impact of Public Loans on the Performance of Brazilian Firms*. Bocconi University, Universidade Federal Fluminense and Brazilian Development Bank.

Padayachee, V. 2012. *Global Economic Recession: Effects and Implications for South Africa at a Time of Political Challenges*. Available at: http://www.lse.ac.uk/internationalDevelopment/20thAnniversaryConference/ImpactoftheGlobalFC.pdf [February 2014].

Park, J. 2012. *Brazil's Capital Market: Current Status and Issues for Further Development.* IMF Working Paper 12/224.

Payne, R. 2012. *Global Issues*. New Jersey, Pearson.

Perry, G. 2009. *Beyond Lending: How Multilateral Banks Can Help Developing Countries Manage Volatility*. Center for Global Development, Washington D.C.

Pissetti, J.A.W. 2012. *The 2008 Financial Crisis and its effects on credit supply in the Brazilian banking system: The Stabilizing Role of Public Banks.* Money, Finance, Trade and Development, Berlin Working Paper 09/2012.

Ribeiro, F. 2000. *The Brazilian Financial System: A World in Transition.* The George Washington University, Institute of Brazilian Issues, Minerva Program.

Roberts, M. & Brooks, M. 2013. *It's Time to Take Over the Banks: A Contribution to the Debate from the Fire Brigades Union.* London, Fire Brigades Union.

Roberts, P. 1969. *Development Banking: The Issue of Public and Private Development Banking*. Working Paper Alfred P. Sloan School of Management, Cambridge, Massachusetts.

Robinson, L. 2012. *Is Nationalization of Banks Ever Justified*? Norwich Economic Papers, Volume 5.

Ruch, F. 2013.The *Impact of International Spillovers on the South African Economy.* South African Reserve Bank Working Paper WP/12/02.

Sanusi, S.L. 2012. *The Role of Development Finance Institutions in Infrastructure Development: What Nigeria Can Learn From BNDES and the Indian Infrastructure Finance Company*, 3rd ICRC PPP Stakeholders Forum, Nigeria.

Sapienza, P. 2002. *The Effects of Government Ownership on Bank Lending.* Forthcoming Journal of Financial Economics 2003, Northwestern University and CEPR

SARB. 2012. *Quarterly Bulletin*. South African Reserve Bank, Pretoria.

Schclarek, A. & Brei, M. 2013. *A Theoretical Model of Bank Lending: Does Ownership Matter in Times of Crises?* National University of Co´rdoba, Argentina and University Paris, Ouest.

Sindzingre, A. 2003. *Institutions and Development: Some Theoretical Elements.* Paris, Centre National de la Recheerche Scientifique.

Smallridge, D. 2011. *The Renaissance of Development Banks.* International Financial Consulting. Public Banking Conference, Warsaw.

Spink, P. 2013. *The Art of Getting in the way: Five Years of the BNDES Platform.* International Budget Partnership (IBP), Partnership Initiative Case Study Series, Study No. 13.

Steytler, N. & Powell, D. 2010. *The Impact of the Global Financial Crisis on Decentralized Government in South Africa.* Local Government Working Paper Series No. 1. Presented at the Annual Conference of the International Association of Centres for Federal Studies, Philadelphia.

Stiglitz, J.E. 1994. *The Role of the State in Financial Markets.* Washington D.C: World Bank Annual Conference on Development Economics.

Tabak, B.M., Laiz, M.T. & Cajueiro, D.O. 2010. *Financial Stability and Monetary Policy: The Case of Brazil*, Brazil Central Bank Working Paper Series 217.

Tadeu, H. & Silva, J. 2013. The Determinants of the Long Term Private Investment in Brazil: An Empirical Analysis Using Cross-section and a Monte Carlo Simulation. *Journal of Economics, Finance and Administrative Science.* Special Issue 18: 11-17.

Te Velde, D. 2011. *The Role of Development Finance Institutions in Tackling Global Challenges.* Overseas Development Institute (ODI), London.

Ter-Minassian, T. 2011. *Main Challenges for Brazil's Public Finances. CESifo Forum*, No. 1/2011, CESifo, Munich.

Thorne, J. 2011. *A framework for successful development banks*. Development Bank of Southern Africa. Development Planning Division. Working Paper Series No. 25. Available at: http://www.dbsa.org/Research/DPD%20Working%20papers%20documents/DPD%20No25.pdf [March 2013].

Torp, J. and Padayachee, V. 2000. *Financing Regional Development: The Role of South African Financial Institutions.* Available at:

http://www.transformation.ukzn.ac.za/index.php/transformation/article/view/788/604 [January 2014].

UNCTAD. 2012. *Development Banks.* United Nations Conference on Trade and Development, TD/490, Doha.

UNDP. 2010. *Millennium Development Goals Country Report*. Available at: http://www.statssa.gov.za/nss/Goal_Reports/GOAL%208-DEVELOP%20A%20GLOBAL%20PARTNERSHIP%20FOR%20DEVELOPMENT1.pdf [March 2013].

Wehinger, G. 2011. *Fostering Long-Term Investment and Economic Growth: Summary of a High-Level OECD Financial Roundtable*. OECD Journal: Financial Market Trends, Vol. 2011, Issue 1.

Williamson, J. 2008. *The Impact of the Global Financial Crisis on Brazil*. Speech Delivered at the Brazilian–American Chamber of Commerce, Washington, DC.

World Bank. 2011. *South Africa Economic Update: Focus on Savings, Investment and Inclusive Growth.* The World Bank Group, Africa Region Poverty Reduction and Economic Management, Issue 1.

World Bank. 2013a. *Rethinking the Role of the State in Finance*. Global Financial Development Report, World Bank, Washington D.C.

World Bank. 2013b. *World Bank Data.* Available at http://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?page=1 [October 2013].

WTO. 2013. *Trade Policy Review Report by Brazil.* World Trade Organisation WT/TPR/G/283.

Yasuoka, S. 2002. *Japanese Zaibatsu*. Available at: http://www.campdenfb.com/article/japanese-zaibatsu [February 2014].