National systems of development financial institutions: comparative experiences*

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Abstract

This article presents the national systems of development financial institutions (NSDFI) from ten countries (China, Germany, Brazil, Japan, Italy, France, Mexico, India, Spain and South Korea), comparing them and demonstrating their importance to development. A historical analysis of the national systems of development financial institutions from South Korea and France has been conducted, which have been functional over time, adapting themselves to the new challenges of development. Composed mostly of public development financial institutions (DFI), the national systems of development financial institutions are dynamic to cope with the new development strategies, explore new segments and develop new financial instruments. It is noteworthy that countries seek to have a complete NSDFI, acting in segments traditionally in need of long-term financing and other appropriate financial instruments, including agriculture, infrastructure, exports, MSMEs, green economy, innovation, and housing.

Keywords: Financing; Development; Infrastructure; Innovation; Development systems; Post-Keynesians.

Acronyms list

Brazil	
ABDE	Associação Brasileira de Instituições Financeiras de Desenvolvimento
Bancoob	Banco Cooperativo do Brasil
BNDES	Banco Nacional de Desenvolvimento Econômico e Social (Brazilian Development Bank)
Finep	Financiadora de Estudos e Projetos
Sebrae	Serviço Brasileiro de Apoio às Micro e Pequenas Empresas
China	
ADBC	Agricultural Development Bank of China
CDB	China Development Bank
Eximbank China	Export-Import Bank of China
LGFV	Local Government Financing Vehicle (China)
PBC	People's Bank of China
Sinosure	China Export and Credit Insurance Corporation
France	
Ademe	Agence de l’Environnement et de la Maîtrise de l’Énergie
AFD	Agence Française de Développement
AII	Agence pour l'Innovation Industrielle
Anvar	Agence Nationale pour la Valorisation de la Recherche
BDPME	Banque du Développement des PME
BPI France	Banque Publique d'Investissement
CDC	Caisse des Dépôts et Consignations
Coface	Compagnie Française d'Assurance pour le Commerce Extérieur
FSI	Fonds stratégique d'investissement
Sofaris	Société Française pour l'Assurance du Capital

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Germany	
DEG	Deutsche Investitions- und Entwicklungsgesellschaft
KfW	Kreditanstalt für Wiederaufbau
KfW IPEX-Bank	Internationale Projekt- und Exportfinanzierung Bank
NRW.Bank	Nordrhein-Westfalen Bank
India	
Eximbank India	Export Import Bank of India
Hudco	Housing and Urban Development Corporation Limited
ICICI	Industrial Credit and Investment Corporation of India
IDBI	Industrial Development Bank of India
IFCI	Industrial Finance Corporation of India
IIFCL	India Infrastructure Finance Company Limited
IRFC	Indian Railway Finance Corporation
LIC	Life Insurance Corporation of India
Nabard	National Bank for Agriculture and Rural Development
PFC	Power Finance Corporation
REC	Rural Electrification Corporation Limited
Sidbi	Small Industries Development Bank of India
Italy	
CDP	Cassa Depositi e Prestiti
Sace	Servizi Assicurativi del Commercio Estero
Simest	Società Italiana per le Imprese all'Estero
Japan	
DBJ	Development Bank of Japan
Jasme	Japan Finance Corporation for Small and Medium Enterprise
JBIC	Japan Bank for International Cooperation

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Japan	
JFC	Japan Finance Corporation
JHF	Japan Housing Finance Agency
Jica	Japan International Cooperation Agency
Nexi	Nippon Export and Investment Insurance
NLFC	National Life Finance Corporation
SMRJ	Organization for Small & Medium Enterprises and Regional Innovation
Mexico	
Bancomext	Banco Nacional de Comercio Exterior
Banjercito	Banco Nacional del Ejército, Fuerza Aérea y Armada
Banobras	Banco Nacional de Obras y Servicios Públicos
Bansefi	Banco del Ahorro Nacional y Servicios Financieros
Fira	Fideicomisos Instituidos en Relación con la Agricultura
Focir	Fondo de Capitalización e Inversión del Sector Rural
Nafin	Nacional Financiera
SHF	Sociedad Hipotecaria Federal
South Korea	
IBK	Industrial Bank of Korea
KDB	Korea Development Bank
KEIC	Korea Export Insurance Corporation
Kexim	Export-Import Bank of Korea
KHFC	Korea Housing Finance Corporation
KICGF	Korea Infrastructure Credit Guarantee Fund
Kodit	Korea Credit Guarantee Fund
Koica	Korea International Cooperation Agency
Korean RE	Korean Reinsurance Company

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Spain	
Cersa	Compañía Española de Reafianzamiento
Cesce	Compañía Española de Seguros de Crédito a la Exportación
Cofides	Compañía Española de Financiación del Desarrollo
Enisa	Empresa Nacional de Innovación Innovación, SA
ICO	Instituto de Crédito Oficial
Other	
DB	Development bank
DFI	Development financial institution
ECA	Export credit agency
GDP	Gross domestic product
GFCF	Gross fixed capital formation
MSME	Micro, small and medium enterprise
NSFDI	National system of development financial institutions

Introduction

A national system of development financial institutions (NSDFI) is composed, in each country, by the group of development financial institutions (DFI) acting in its territory in a complementary way.

The rationale behind an NSDFI operation is of public intervention in the financial market. That is, its construction and operation stem from the perception, by public agents, that this market, if left to be guided by its own free forces, would not operate efficiently. This perception can be characterized using various economic theoretical approaches. Among these, the post-Keynesian approach stands out, according to which the financial market is subject not only to specific market failures, but also to inherent structural problems, such as the presence of uncertainty in its radical sense, the trust crises among the agents and the cycles triggered by expectation instability.

Thus, for a financial system to be efficient, it must be helpful to economic development. In other words, it has to be able to foster investment aiming at economic growth, to preserve the systemic safety of the economy, and to be complete, concerning financial instruments. This operability must be built by public policy, both in the shape of a regulatory mechanism and through the establishment of institutions, structure and instruments to make financial resources available to foster investment. The group made up of these institutions, structures and tools can be associated to the concept of NSDFI, that is, to the group of DFIs in a territory: (i) that aim at operating in segments that are not supported by the private sector in a suitable way, complementing the financial system; (ii) whose projects are not assessed solely in relation to their profitability, but take the socioeconomic benefits involved into account; and (iii) that act in a complementary way to promote a broader objective: development.

There are studies in literature that describe the Brazilian NSDFI, containing details of its historical background (PINTO; PAULA; SALLES, 2007; ARAÚJO *et al.*, 2011). However, there is a lack of literature on other countries' NSDFIs; consequently, it is more difficult to make international comparisons and show the relevance of the DFIs to development. To fill this gap, this article intends to describe the NSDFIs of ten countries (China, Germany, Brazil, Japan, Italy, France, Mexico, India, Spain and South Korea), seeking to update and advance the data collection already done by Além and Madeira (2015). Moreover, there will be a detailed historical analysis of the establishment of the NSDFIs in South Korea and France. These two cases were chosen because, despite following different paths, their NSDFIs enabled the construction of financial systems that were operational for many decades, always adapting to the new challenges imposed by the development process.

This article starts with the introduction of the Brazilian Development Bank (BNDES) as a member of the Brazilian NSDFI, and the description of the concepts of NSDFI and DFI. The following section presents the theoretical framework, describing the role of public intervention in the credit market according to different paradigms, and highlighting the post-Keynesian one. After that, ten NSDFIs are described, with particular emphasis on the historical background of the French and South Korean cases. Finally, some conclusions of the research are presented.

Brazilian Development Bank (BNDES)

BNDES has as its premise "to promote a sustainable and competitive development of the Brazilian economy, generating jobs and reducing social and regional inequalities". Thus, it is an institution that acts in various segments and sectors. Historically, BNDES has adapted to the different needs of Brazilian economy, selecting its activities according to the economic policy orientation. Since its establishment in 1952, the Bank is the main provider of long-term financing in Brazil, and it participates actively in the planning and following-up of the projects financed.

The institution has participated actively in the financing of the Brazilian infrastructure and in the development of numerous industries. BNDES has also been crucial in various development plans that took place in the Brazilian economy, recently being an important tool in various public policies, like the Programa de Aceleração do Crescimento (PAC), launched to foster investments in infrastructure, and the Programa Brasil Maior (PBM), which aims to increase the Brazilian industry competitiveness.

During the 2008 crisis, BNDES was fundamental to avoid a sudden credit crunch in Brazilian economy. In 2009, the disbursements of BNDES increased about 50%. The Bank launched various new financial instruments, extended the existing ones and reduced its interest rates.

At present, BNDES has a special concern with the financing of innovations, of sustainable and regional development, and the financing of micro, small and medium-sized companies (MSME). In 2014, the Bank disbursed US$ 79.8 billion, of which US$ 25.23 billion went to MSMEs, US$ 12.02 billion to green economy and US$ 2.51 billion to innovation.[1] In addition, in 2014, BNDES's disbursements towards investment had a share of 15% in the Brazilian total gross formation of fixed capital (GFFC). Thus, it contributed to the generation and maintenance of about 5.5 million jobs in that same year. Besides, the North and Northeastern regions received 20% of the total disbursements in 2014, showing an increase in share of disbursement compared to the share of 13% registered in 2007.

BNDES is the major actor of a broad NSDFI, including other federal public institutions, regional banks and credit agencies. As this paper will show, it is common for countries to have a main DFI, which acts in various segments.

1 Brazilian Central Bank 2014 average exchange rate: 1 US$ = R$ 2.3547.

Definitions

A NSDFI is composed of a group of DFIs, acting in their countries in a complementary way. In literature, the DFI definition is often confused with the definition of development bank (DB).[2] This comes from the fact that DBs are invariably DFIs. Nevertheless, a DFI also encompasses other institutional structures,[3] such as small credit agencies, export credit agencies (ECA) and international cooperation organizations. It also includes hybrid institutions as the public multiple banks and institutions that manage pension funds or saving account deposits, with initiatives that are typical of DBs, as a long-term financing to specific segments (ALÉM; MADEIRA, 2015). Selyavina (2014) also developed a taxonomy for these institutions.

Generally, the DFIs have two main features (ARONOVICH; FERNANDES, 2006). Firstly, they usually focus on long-term maturation loans and they act to complement the private market. Secondly, they are considered as economic policy tools, and their performance must be assessed mainly for the social and economic benefits that their operations bring. Although the DFIs are mostly public, they may also be private, which is the case of some ECAs, operating in the export sector by means of guarantees, with governmental resources. The DFIs can also be regional, national or multilateral.

In spite of their variety, size and importance to the economies, it is important to point out that the studies that focus their analyses on the behavior of these institutions are scarce. They are relatively recent and derive from the attention that these institutions have had thanks

2 Luna-Martínez and Vicente (2012) and UN-DESA (2005) define the DB concept.

3 A broad concept was presented by BDC (2009).

to their countercyclical role during the 2008–2009 financial crisis. Despite their size and importance to the economies, little academic research has been done specifically about the DFIs' role.[4] Most of the bibliography related to the theme has a broader approach, trying to identify the general role of the financial system on the economic growth. This literature is usually divided into two groups of approach: one of a historical and institutional aspect, and another of an aspect that is aligned with the economic theory.[5]

Therefore, there is no consensus on a DFI definition in literature. Each study formulates its own definition, according to the goals of its analysis. A relatively wide concept, presented by Além and Madeira (2015), considers that the DFIs are financial institutions, public or private, that have: (i) a narrow mandate to support specific market segments that generate relevant socioeconomic impact; or (ii) a broad mandate to provide financing to the socioeconomic development of a certain region.

Bearing in mind what has been discussed before, a NSDFI can be understood as the group of DFIs, in a national territory, that operate in a complementary way in terms of support to diverse sectors/segments/regions, through a wide range of financial products. Exactly as it happens to the DFIs, there is not an encompassing enough description to hold the multiplicity of institutional profiles existing in an NSDFI. However, there are three fundamental features that must be highlighted (CASTRO, 2014). Firstly, its institutions provide support to sector/segments which are not served by the private sector in a suitable way, as the projects that involve longer-

4 See Luna-Martínez and Vicente (2012).

5 For a detailing of the different approaches, as well as the differences, see Ferraz, Além and Madeira (2013).

terms of maturation require a large amount of capital and have more difficult risks assessment. Secondly, there is the acknowledgement that the risks taken by these institutions must be assessed not only in relation to the individual profitability of their projects. Recognizing that it is necessary to maintain the financial sustainability of institutions in the long term, it is advisable to practice cross-promotion between different activities, as the creation of funds in which the success of one project makes the others viable. Thirdly, the various institutions maintain complementary and interconnected relationships for a broader common goal: national development.

Theoretical framework

The level of public sector intervention in the financial system of each economy – including the establishment of state-owned institutions and the organization of NSDFIs – depends on the objective conditions of the market and on the assessment of the parts involved in it.[6] Among these factors, some are particularly relevant, like the stage of economic development of the country – and, consequently, of its financial system – and the international financial context. Another important element related to the intervention profile refers to what the public agent considers the most adequate manner of having efficiency gains in the financial system, taking into account the defined goals. In this case, three approaches can be identified: (i) the financial repression models, based on Shaw (1973) and McKinnon (1973); (ii) the credit rationing models based on the theoretical contributions of Akerlof (1970), Stiglitz and Weiss (1981, 1983), Mankiw (1991) and Stiglitz (1993); and (iii) the post-Keynesian approach, based on papers by

6 More details on this is available in Studart and Hermann (2001).

Keynes himself (1937a, 1937b, 1964) and on the contributions of the financial instability hypothesis by Minsky (1982, 1986).

According to the Shaw-McKinnon model, which is the basis of the neoclassical economic theory of the financial markets, the credit market can be understood as a market of loanable funds. In this market, there is the interaction of agents that have funds surplus, offering resources in the form of savings; also, there are agents with a deficit, demanding resources in the form of investments. In this model, savings are the result of the intertemporal choice between consuming in the present and future, the interest rate being the reward for the abstinence of consuming now, for the possibility of higher consumption later. In its turn, the investment is determined by the marginal productivity of capital. Thus, credit volume in the economy will be defined by the intersection of the two curves and adjusted by the interest rate that, as described, is a real variable in the economy, defined in the assets market. In this model, the role of financial intermediation is to allocate funds to be lent through the purchase and sale of bonds. Therefore, the banks may affect the bonds market with their operational decisions, but alone they cannot create new volumes of funds to be lent. That is, investment can only be generated by the previous saving of resources.

Supposing that markets are free and efficient, the model will present an equilibrium, where real interest rates and aggregated levels of savings and investments – as well as the pace of capital accumulation and growth of the product – stay at socially optimum levels. The role of the political action, in this case, is quite limited, once the initiatives that aim to reduce interest rate end up inhibiting savings, which reduces the volume of resources available for investments. This situation illustrates what the authors have called "financial repression". If the government wishes to accelerate the process of capital accumulation, it is advisable that it implements systemic policies that reduce the risk of investments and increase the productivity of the production factors.

Credit rationing models stem from a theoretical hypothesis similar to the Shaw-McKinnon model, but they incorporate some elements according to which the inefficiencies of the credit market – such as information asymmetry, imperfect competition and the externalities of the bank monitoring of the investment projects – make the banks restrict credit granting to certain clients. This paradigm highlights the information asymmetry problem between the bank and the borrower for investment, according to which, the risk of an investment project should be covered by the interest rate charged by the bank.[7] In this case, the bank does not want the interest rate being charged to be above an optimum level, not to overstress the risk of their loans. For this reason, some investment projects are refused even when there are resources available to finance them, mainly those compatible with the highest interest rates. Exemplifying those are investments that require a large amount of resources, and investments involving a higher level of risk, with longer maturation terms and prone to having sector and regional externalities, so that social values are not reflected on its financial profitability. Likewise, investors that have no guarantees (collaterals) to offer to the banks and those without a relationship background with financial institutions are disadvantaged. Therefore, in this theoretical hypothesis, there is a role for public sector action in order to solve – or at least to mitigate – the effects of the market failures in credit sector. In this case, the intervention emphasis is decided by a proper regulatory apparatus and by the interest rate macroeconomic control, but it allows the direct action

7 More details about the mechanisms that cause this problem are in Stiglitz and Weiss (1981).

by means of state-owned institutions, as long as it happens in specific market sectors.

The post-Keynesian approach, in turn, opposes to the mainstream economic line of thought, represented both by the Shaw-McKinnon model and by the credit rationing approach. According to the post-Keynesian theory, the economies' financial market is subject not only to sporadic information failures and imperfections, but also to structural problems inherent to its nature, like uncertainty, trust crises among the agents involved, cycles caused by instability, and the development of defense mechanisms by agents facing uncertainty. In this paradigm, uncertainty is understood in its radical sense, not capable of being estimated according to any probability structure made available by the agents, as it happens to risk (BERTOCCO, 2007; DAVIDSON, 2000; GLICKMAN, 1994; LAWSON, 1985). This comes from the fact that economic agents make their decisions in a non-Ergodic world, where the future consequences of present decisions cannot be fully foreseen.

The existence of radical uncertainty has two main consequences over the financial and economic system. First, agents have expectations in relation to the future results of their decisions. These expectations follow the average of society, that is, they are based on social beliefs. When such expectations are frustrated by external events, they may trigger the herd effect in the markets. Second, there is a behavior towards liquidity preference. In the face of uncertainty, currency is a financial asset that is available to investors, with no return and with the highest liquidity throughout the economy. The fluctuations in demand of currency follow levels of uncertainty perceived by the agents, so the higher the uncertainty level is, the higher the demand for liquidity in the economy will be. However, the more the agents demand liquidity, the smaller will be their productive investments, having less liquidity and thus creating the economic cycles (BIBOW, 2005; CARVALHO, 1999; 2007; KEYNES, 1937a; 1937b; KREGEL, 1988; PAULA, 1998; and WRAY, 2009; 2010).

The financial system, in a post-Keynesian perspective, has an important role in investment financing, both in providing resources and for establishing a monetary contract system to coordinate the economic activity in an uncertainty context. The provision of resources for investment by the financial market takes place in two instances. First, in finance, responsibility for short-term bank loans, geared towards the initial moments of an entrepreneurship. Second, in funding, geared towards the capital markets and long-term loans and equity, responsible for the realignment of the financial positions of the entrepreneurships conducted.

Therefore, one condition to economic development is a continuous expansion of the financial system operation capable of increasing the finance and funding resources provision to investing companies. Nevertheless, this expansion is not spontaneously guaranteed by the financial system. It depends on the willingness of the public to forgo liquidity to acquire long-term bonds and equities. Thus, the conditions for investment depend on the time horizon of the financial investors and of the productive investors, which tend to be different.

This discrepancy between the time horizons of the financial investors and the production system investors tends to take economy to a point that Minsky (1982, 1986) called "hypothesis of financial instability".[8] This situation derives mainly of the insufficient provision of funding for companies to solidify their financial positions. It consists of the

8 More details can be found in Kregel (1997), Crotty (2011) and Findlay and Williams (1985).

formation of economic cycles along with the deterioration of the financial position of banks and companies. In this line of thought, at optimistic times of stability and economic growth, the companies tend to make riskier investments and create more aggressive financial policies, whereas the banks have a smaller preference for liquidity and keep their credit provision in high levels. At this stage, there is a continuous deterioration of the financial position of the economic agents, who accumulate debts. In the face of an unforeseen shock on their expectations, which becomes more probable the worse the financial conditions in economy are, there is an increase in the uncertainty perceived by the agents. Therefore, the investors become more liable to default, whereas the banks that react to this with an increased preference for liquidity and a reduction of credit provision trigger both an investment downturn and an economic crisis. That is, the credit provision through the financial system is procyclical. The behavior of the banks tends to deepen the crises, as they reduce the system liquidity exactly when it is most necessary. Moreover, due to the uncertainty in the financial markets, the resources allocation may be inefficient in two senses. In the real sense, the markets may favor the concentration of resources in expanding sectors, to the detriment of other that may become bottlenecks or new sources of economic growth. In the monetary-financial sense, the allocation of resources may broaden and intensify movements of valuation or devaluation of assets, having its origin in sheer expectation (STUDART; HERMANN, 2001).

Consequently, the role of political action on the financial market goes far beyond correcting occasional imperfections in its operations. An efficient and well-functioning financial system depends on public policies and must provide support for the economic development (CARVALHO, 2010; STUDART; HERMANN, 2001). In order to support the economic development, a well-functioning financial system must meet three objectives: (i) to make financial resources available in volume and terms that are appropriate to investments that can increase and modernize the production capability of economy; (ii) to create assets with return profiles and risks demanded by the agents, enabling their wealth accumulation; and (iii) to preserve the systemic safety of the economy, preventing crises.

The need of an appropriate legal framework stands out among the means to build a well-functioning financial system. It is crucial to have regulatory and supervision institutions in these markets, as well as the adoption and implementation of rules and prudential behavior by specialized regulators. Besides, the establishment of institutions, structures and tools is important to make financial resources available to foster the investments. The focus of these institutions, like the DFIs, is the provision of funding to the economic system, providing more long-term resources to solidify the financial position of the companies, so as to mitigate the financial instability trend along the economic cycle.[9] More specifically, according to the post-Keynesian paradigm, the DFIs have three roles in contributing to the economic development (HERMANN, 2010). First, they must serve segments neglected by the private sector, as long-term financing. In other words, the existence of public DFIs is justified by the presence of sectors or investment projects that require long-term financing, but are neglected by the private sector due to their higher uncertainty level concerning future gains (ALÉM; MADEIRA, 2015). This is the case with more complex and expensive sectors and projects. Those demand sophisticated expertise in their assessment or could

9 A deeper description of the public financial institutions' role according to this approach was made by Castro (2008), Maia (2009), Martini (2014) and Studart (1993).

generate positive externalities, with social returns that are higher than the private ones, as the case of infrastructure, technological innovations, MSMEs, microcredit and environmentally sustainable projects (green economy).[10] Second, it is the duty of the public DFIs to provide financial autonomy for the implementation of public policies, emphasizing the support for strategic sectors. Third, they must offset the procyclical trend of the private credit market.

National systems of DFIs: comparative experiences

As observed in the first section, an NSDFI may be defined as the group of DFIs of a country. Some countries have official definitions of their DFIs, which is the case of China and Mexico; other countries have associations that aim at establishing this group, like Germany and Brazil; in the other cases, more comprehensive research was necessary to define their NSDFIs. In this section, these definitions are explained, and the shape of some countries NSDFIs are presented, seeking to map the largest number of institutions possible.

Ten NSDFIs are presented (China, Germany, Brazil, Japan, Italy, France, Spain, India, Mexico and South Korea), aiming to update and advance the research made by Além and Madeira (2015). When there are private DFIs, they are included in the NSDFI group.

Figure 1 shows the NSDFI of various countries defined in this paper. The South Korean and the French NSDFIs are described in more detail, starting from their establishment. These experiences are

10 Castro (2011) highlights the importance of the DBs in the correction of market failures generated by externalities.

examples of NSDFIs that adapted along the development path, although they represent different experiences. While the French NSDFI is more concentrated, with a strong and central role of one institution, the South Korean NSDFI is more specialized, having a big number of institutions to assist various segments and sectors, in spite of having one DFI that stands out from the rest.

The Brazilian NSDFI is described in detail in Pinto, Paula and Salles (2007), Araújo *et al*. (2011) and ABDE (2013), with the latter definitions being adopted in this study. In this description, there is one private bank, Bancoob,[11] and one non-financial institution, Sebrae, which acts as a consultant to MSMEs. Brazil has various state-owned and regional DFIs.[12] Most of them still depend on financial transfers from BNDES, given the budget restriction that states usually face (ARAÚJO *et al*., 2011). The role of Caixa Econômica and Banco do Brasil, two public multiple banks, is also important in the promotion of activities. Despite the fact that both serve various niches of development, their main mandate is, respectively, housing and rural credit. The assets of BNDES and Finep – a financial institution that provides resources for innovation and research –, two public DFIs, represented, respectively, 16.2% and 0.2%[13] of Brazilian gross domestic product (GDP) in 2013. BNDES has a crucial role in the long-term credit, being responsible, in 2014, for more than 50% of credit supply to juridical person with a five-year or more term.

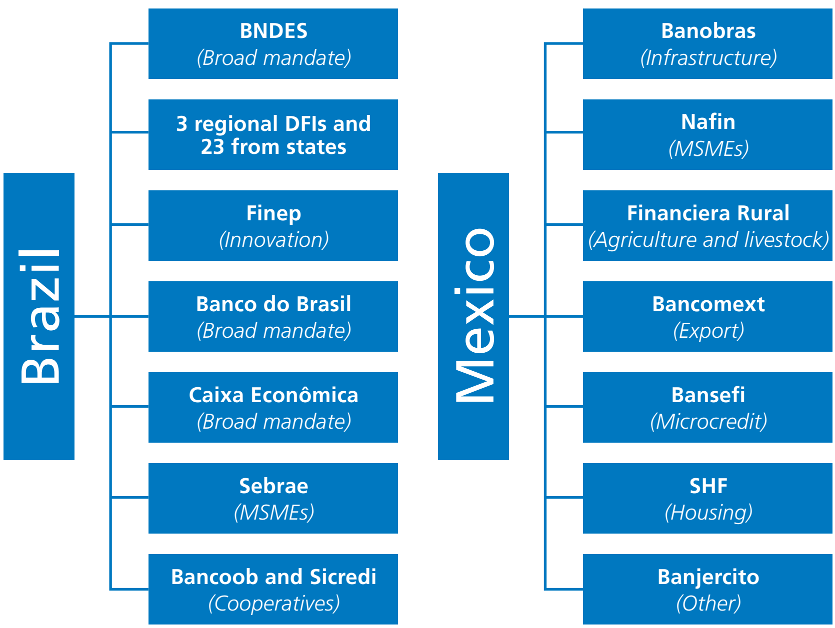
11 The full name of the DFIs will be omitted from the text, but it is present in the Acronyms List, which is in the beginning of the article.

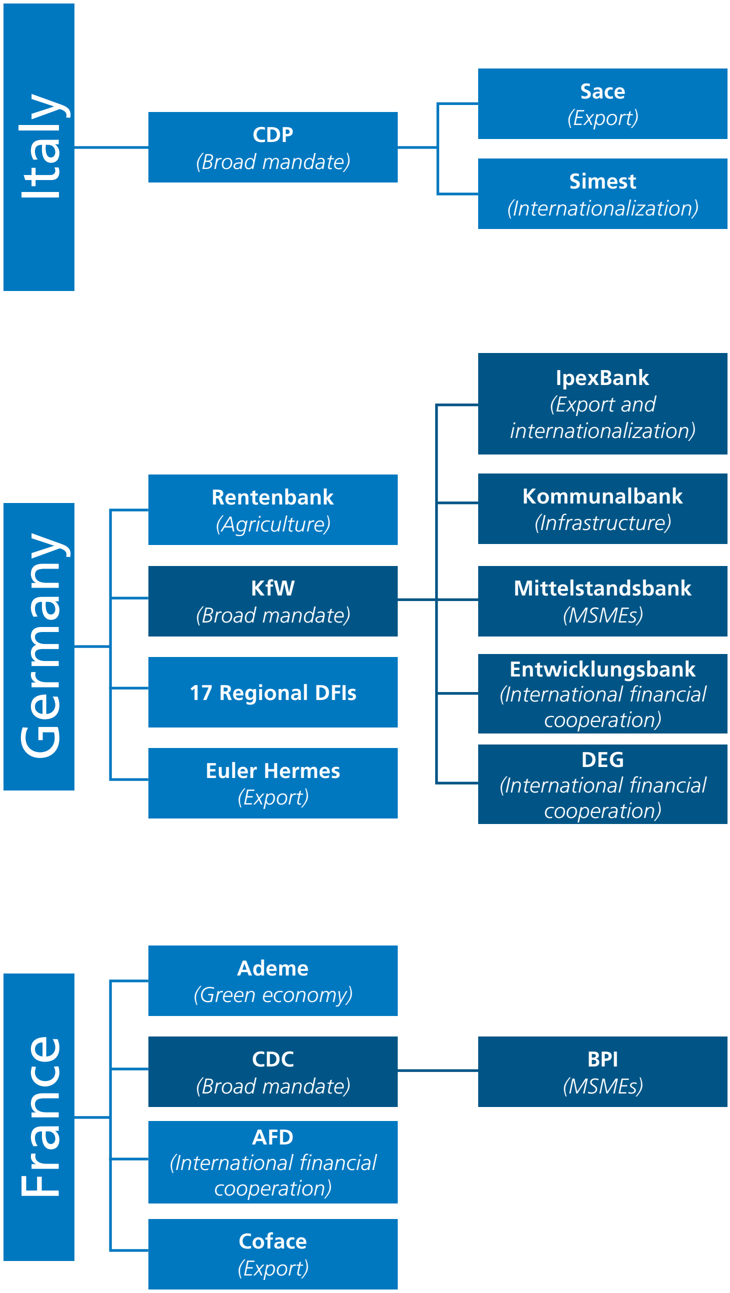
12 For more details, see ABDE (2013).

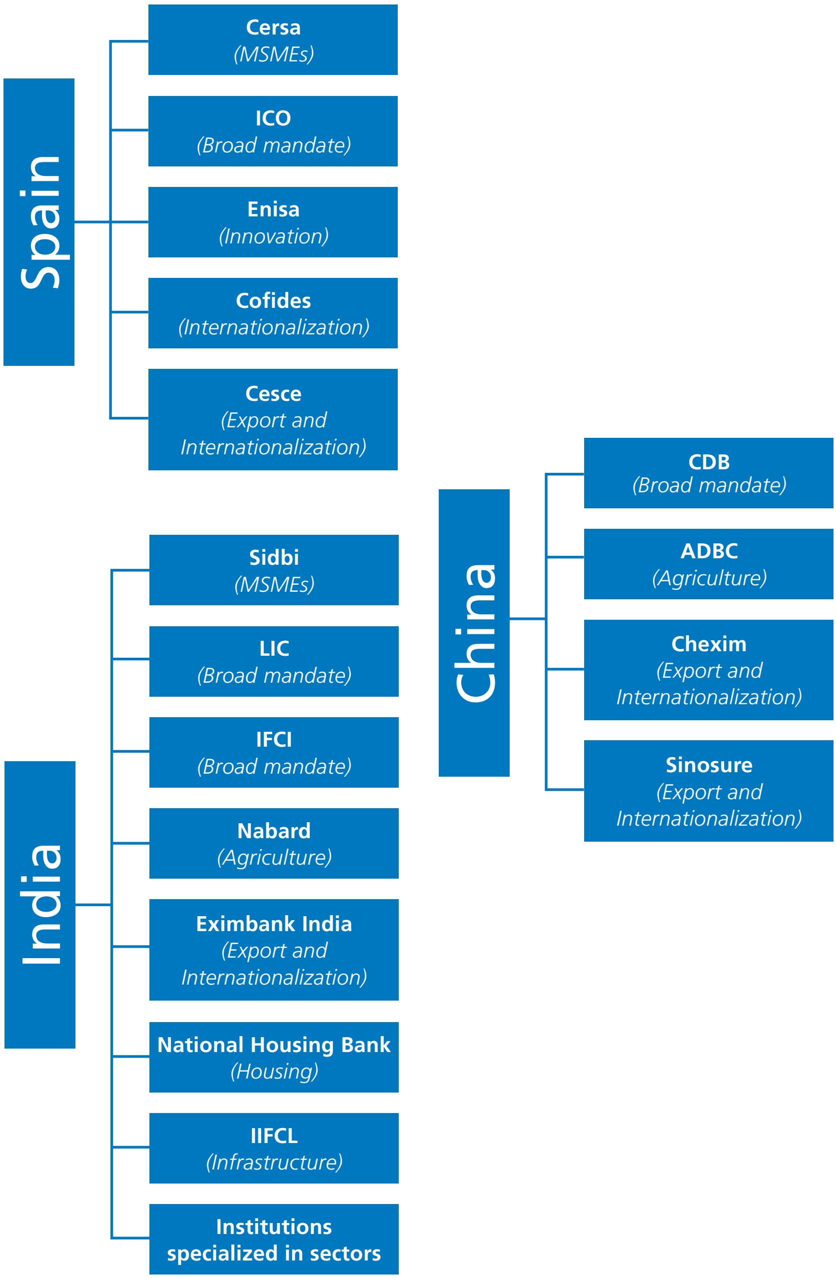
13 It is possible that there is some kind of double counting, once Finep transfers funds from BNDES. However, the effect in number order of magnitude is not relevant. The same may happen to the NSDFI's numbers of other countries.

In Mexico, in the 2000s, there was a rationalization of their NSDFI. The system, through mergers and closing fragile institutions, was reduced to six DBs and one federal mortgage company (Sociedad Hipotecaria Federal – SHF). DBs operate mainly through indirect financing operations, while SHF provides guarantees and insurance for real estate sector.

Figure 1 • **National Systems of DFIs – selected countries**




Italy
CDP
(Broad mandate)
Sace
(Export)
Simest
(Internationalization)
Germany
Rentenbank
(Agriculture)
KfW
(Broad mandate)
17 Regional DFIs
Euler Hermes
(Export)
IpexBank
(Export and internationalization)
Kommunalbank
(Infrastructure)
Mittelstandsbank
(MSMEs)
Entwicklungsbank
(International financial cooperation)
DEG
(International financial cooperation)
France
Ademe
(Green economy)
CDC
(Broad mandate)
AFD
(International financial cooperation)
Coface
(Export)
BPI
(MSMEs)


Spain
Cersa
(MSMEs)
ICO
(Broad mandate)
Enisa
(Innovation)
Cofides
(Internationalization)
Cesce
(Export and Internationalization)
India
Sidbi
(MSMEs)
LIC
(Broad mandate)
IFCI
(Broad mandate)
Nabard
(Agriculture)
Eximbank India
(Export and Internationalization)
National Housing Bank
(Housing)
IIFCL
(Infrastructure)
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China
CDB
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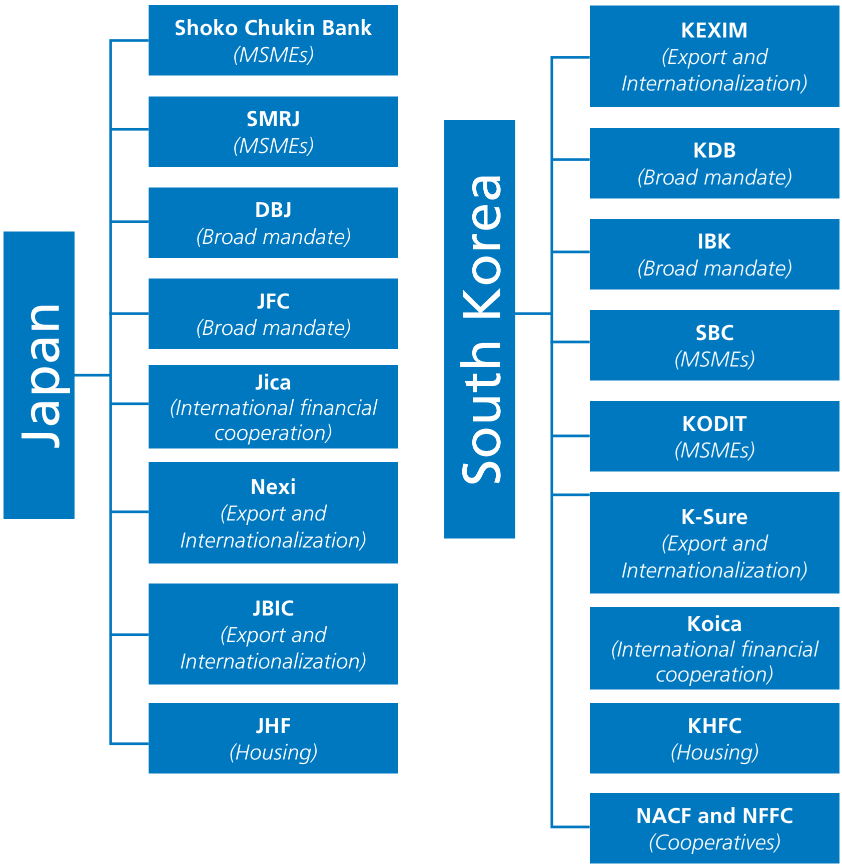
ADBC
(Agriculture)
Chexim
(Export and Internationalization)
Sinosure
(Export and Internationalization)



Besides these institutions, the Mexican Ministry of Economics (Secretaría de Hacienda y Crédito Público – SHCP) also launched Fira and Focir, funds for rural sector that are part of the NSDFI. In this paper, they were not considered a part of the Mexican NSDFI due to the nature of their operation. Moreover, Banjercito, in spite of being considered part of the official DBs, it is an uncommon DFI, focusing on credit for militaries of the armed forces.[14] In 2014, the Mexican NSDFI had assets that represented around 13% of the GDP and, between 2008 and 2014, it showed an average growth of around 16% in the total credit portfolio.

The Chinese NSDFI consists of three institutions, officially defined by the People's Bank of China (PBC) as policy-banks that operate in a complementary way. In the Chinese case, an economy largely controlled by the government, its NSDFI comprises only policy-banks and a policy-oriented institution, operating as an ECA, the Sinosure. However, China also has several state investment vehicles in various sectors.

The China Development Bank (CDB) is the main DFI, and most of its resources is related to financing infrastructure development. The sectors of electrical energy, roads, railways and urban infrastructure compose 53% of the total DB financing portfolio. As an example, the institution provides resources to Local Government Financing Vehicles (LGFV), which act as investment vehicles for the local governments. CDB stands out in foreign policy and in the internationalization of Chinese companies. The bank is responsible for financing projects in other countries, to guarantee national interests (SANDERSON; FORSYTHE, 2013).

Sinosure and Chexim operate in the same segment with similar tools, as credit insurance, but the former focuses on short term, while the latter concentrates on medium and large terms. In addition, Sinosure deals mainly with insurance for investments and international trade, and Chexim operates mainly with financing. The assets of the four

14 More information on the Mexican NSDFI can be found in CEFP (2008), The World Bank (2010), Gallegos and Brando (2013).

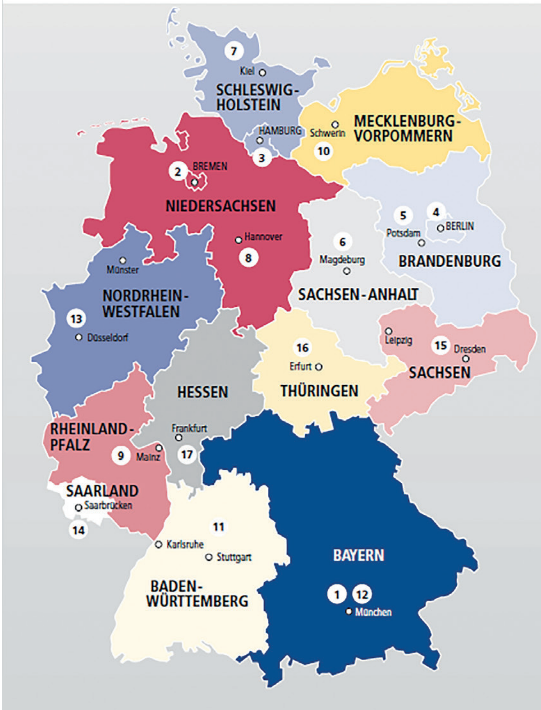
Chinese NSDFI institutions accounted for about 22% of China's GDP in 2013.

The German NSDFI, besides the outstanding KfW operations, has many regional DFIs. According to the German Public Banks Association definition, there are two national institutions and 17 regional ones. German historical and political features[15] enabled the development of various strong regional institutions (Figure 2). The NRW Bank, which operates in the Rhineland of North Westphalia (the largest regional GDP in the country, responsible for 22% of the national GDP), has assets that correspond to about 30% of KfW. The scope of activities of these regional banks is generally similar to the one of KfW, but in a smaller scale and focusing mainly on regional particular features, prioritizing segments or sectors according to the development policy of each region. Euler Hermes, a private DFI that operates in the export sector, is responsible for international trade insurance and it is the official manager of the export guarantees (collaterals) program of the German Federal Government, thus being included in the country's NSDFI. KfW and Rentenbank, the two national public DFIs, had assets of about 20% of the German GDP in 2014.

The Japanese NSDFI went through reforms in 2007, with the creation of the JFC and the beginning of the privatization process of DBJ and the Shoko Chukin Bank. JFC resulted from the integration of NLFC (microcredit), AFC (agriculture), Jasme (MSMEs) and the export credit division of JBIC. Nevertheless, in April 2012, JBIC

15 The German federalism is known for giving a big independence to the states, which are responsible for legislating in some specific issues, like regional infrastructure, education, among others. Some of the goals of this system are to respect the historical differences among states and to motivate competition among regions.

Figure 2 • **Regional development banks – Germany**



1 Bayerische Landesbodenkreditanstalt (Bayern Labo)
2 Bremer Aufbau-Bank GmbH
3 Hamburgische Investitions- und Förderbank (IFB Hamburg)
4 Investitionsbank Berlin (BB)
5 Investitionsbank des Landes Brandenburg (ILB)
6 Investitionsbank Sachsen-Anhalt
7 Investitionsbank Schleswig-Holstein (IB.SH)
8 Investitions- und Förderbank Niedersachsen (NBank)
9 Investitions- und Strukturbank Rheinland-Pfalz (ISB)
10 Landesförderinstitut Mecklenburg-Vorpommern
11 L-Bank
12 LfA Förderbank Bayern
13 NRW.Bank
14 Saarländische Investitionskreditbank AG (SIKB)
15 Sächsische Aufbaubank - Förderbank (SAB)
16 Thüringer Aufbaubank (TAB)
17 Wirtschafts- und Infrastrukturbank Hessen (WIBank)

Source: Association of German Public Banks (VÖB).

separated from JFC. DBJ and the Shoko Chukin Bank have been in privatization processes since 2008. However, due to the financial crisis and the earthquake in 2011, the start of the process was postponed to the beginning of 2015 at first, and then it was postponed again. The goal of total privatization will continue, but the government has not decided when it will start selling its stake in the two institutions. In the case of DBJ, the government will keep more than 50% of the shares until 2026. The postponements resulted from a stronger need to strengthen the competitiveness of the Japanese companies and to increase regional development.

Even after the complete privatization, the two institutions will still be relevant to provide credit in times of crisis and natural disasters. This is so because the Japan Public Finance Corporation Law (2007) makes explicit the use of these institutions to provide credit in case of extraordinary events and in specific cases related to the development of sustainable products, innovation and competitiveness.[16] In order to do so, these institutions would receive credit from JFC, created in the same law mentioned above (FERRAZ; ALÉM; MADEIRA, 2013; and ALÉM; MADEIRA, 2015).

Japan also has one institution operating in the international financial cooperation (Jica), one in the housing sector (JHF), one for MSME consultancy (SMRJ) and two in the export and internationalization segments, although they use different financial instruments. While Nexi offers insurance (both to credit and goods), JBIC works with credit and guarantees (collaterals). JHF was established in the restructuring process of the Japanese housing financing, when there

16 Act on the Promotion of Businesses to Develop and Manufacture Energy and Environmentally Friendly Products and Act on Special Measures for Industrial Revitalization and Innovation, available at JFC (2014).

was the transfer of the credit provision activity to the private sector, with JHF operating in the insurance market to provide resources to financial institutions in this segment. The assets of DBJ, JFC, the Shoko Chukin Bank and JBIC amounted to 14.5% of Japanese GDP in March 2014.

The Italian NSDFI also went through changes in 2012, with the incorporation of Sace and Simest by CDP. CDP is a public institution established in 1850 to receive deposits from the public with the State guarantee. Along its history, the institution started to focus on savings deposits, and, in 2009, its operation expanded to development financing, with the subsequent establishment of Fondo Strategico Italiano (Italian Strategic Fund) for the purchase of shares and stakes in companies that had national interest, as well as the incorporation of the two DFIs mentioned. CDP also manages the Treasury resources. Because it receives savings deposits, CDP uses this funding in its activities to promote development. CDP's assets related to development activities (that is, taken from the Treasury deposits) represented 12.6% of the Italian GDP.

In Spain, ICO is the largest DFI, having minor stakes in Cersa and in Cofides. Among the Spanish DFIs, Cesce, which operates with insurance and guarantees in the export segment, is going through a privatization process. However, just like in the German and French cases, the ECA will keep managing the export guarantees granted by the government (ALÉM; MADEIRA, 2015). ICO's assets represented 7.9% of Spanish GDP in 2014. The importance of the institution to long-term credit is supported by financial sector statistics: in 2013, the credit portfolio of the institution represented 11.4% of the total credit with a term longer than one year.

In the Indian case, the definition of NSDFI was based on Nayyar (2015), who describes a background of the DFIs in India. According to the author, few institutions are still relevant to development financing, after important changes that occurred along the way. The DFIs related to long-term financing (ICICI and IDBI) were transformed into commercial banks and ceased their long-term loans in the 2000s. IFCI, however, has gone on as a DFI targeting the industrial sector. India also has various specialized credit institutions, which is the case of REC (rural electricity), PFC (energy), IRFC (railways) and Hudco (housing and urban development), being the most active ones in the country today. Besides that, in 2006, a public institution was established to finance the infrastructure sector, IIFCL. Nowadays, the most active institutions in the Indian NSDFI are Sidbi, aiming at MSMEs, and LIC, which operates mainly with investments in debt securities and bonds, to finance companies and infrastructure projects. LIC uses resources derived from its activities of insurance and pension funds. One can see that the Indian NSDFI is still going through changes that may result in the merging or closing of some institutions. The existence of overlapping financial instruments and competing institutions is considerable.

The French NSDFI

The French financial system has developed based on the paramount importance of the banking institutions, similar to the other continental European countries.[17] In this process, the establishment of CDC stands out; it is a public institution established in 1816, aiming at managing

17 An important study on the history of French banks since the Middle Ages was prepared by Plessis (2003).

savings private funds, specifically in order to protect and grant safety to the emerging middle class' savings (COUR DES COMPTES, 2001).

In 1820, the funds of the bank started to be used to finance industrial development and infrastructure construction work in the country. In 1837, CDC became responsible for managing the funds of all the private savings banks,[18] and its resources were invested in long-term Treasury bonds. From the second half of the 19th century on, CDC has also become responsible for the management of pension funds and insurance, and, at the beginning of the 20th century, its activities incorporated the social housing sector, thus solidifying the bank's position as the financial arm of the French government.

After the Second World War, the country needed funds to finance its rebuilding (BEDU; GRANIER, 2014). This made most of the French banking system be nationalized, including the savings banks and the main commercial banks.

CDC considerably extended its activities, including the financing of local authorities and serving as a direct government intervention mechanism in activities of funds administration, whose resources were collected through savings banks and post offices. Other institutions were established in this period: AFD, in 1941, focusing on international cooperation and investments in public services in the French colonies; and Coface, in 1946, a foreign trade support agency.

The French financial system was completely reformed after 1980, mainly due to necessity of compliance of country's institutions to

18 The savings banks are institutions dedicated to receive and remunerate the savings balances of the public. They were created at the same time as the big French banking conglomerates in the middle of the 19th century. They were often non-profit institutions, built by reliable private companies and of charity funds (MAIXE-ALTES, 2009).

European Union rules (O'SULLIVAN, 2012). From 1984 on, there has been a deregulation of the system according to which the same rules were applied to all the banks, with the end of the specialization imposed to institutions. In 1987, a process of financial system denationalization started in the country, leading to some changes.

The denationalization process of the French financial system had two main dimensions. First, there was a considerable contraction of the role of the State concerning the allocation of funds, with the privatization of all the commercial banks and motivation to competition in the market. Second, there was the development of alternatives for financing (shares and securities), reducing partially the role of the banks in general. The participation of the state was crucial in this process.

The French DFIs were also subjected to changes as the French financial system reorganized itself. Coface was privatized in 1994 and today is part of the Natixis group, although it is still responsible for managing the government guarantees to exports. In 1999, the savings banks were unified in the Groupe Caisse d'Épargne as credit cooperatives, dedicated to local government financing (MAIXE-ALTES, 2009). In 2009, this group merged with Banque Fédérale des Banques Populaires, establishing Banque Populaire Caisses d'Épargne.

In this process, there was also the restructuring of public institutions supporting MSMEs, aiming at creating a stronger financing provider to the sector through concentrating activities (MASQUIN; HUBER, 2012). In 2005, Oséo was created through the merger of Anvar with Sofaris and BDPME. In 2007, AII joined the group. Later, Oséo, together with other institutions (FSI, FSI Régions and CDC Enterprises), has become part of BPI, a subsidiary of CDC.

Nevertheless, CDC remains the most important mechanism through which the French State intervenes in the economic system, also having an important role in capital markets. Nowadays, it is an investment institution of public interest. It acts both as a response to a collective need explicitly formulated by the State or by a public organization, and provides credit to niches neglected by private sector financial institutions. Its intervention occurs through its expertise and the provision of funds to finance projects in a complementary way. CDC funding is varied, composed mostly of savings deposits (35%), but also by accumulated reserves, securities issue and raising funds in the market. CDC had US$ 191 billion[19] in assets in 2013, corresponding to 6.8% of the French GDP. With a credit portfolio of US$ 36.6 billion, the institution reported a net profit of US$ 3 billion. Today, CDC action occurs according to two principles: its role is complementary to the private sector; and it intervenes keeping its role as a third party in businesses, being a reliable, neutral and expert actor.

There are four general rules for CDC acting: respecting market and competition rules; being a minor shareholder; adopting a long-term profitability profile; and developing an environmental consciousness.

The segments where CDC acts directly are the so-called public interest missions, among which the typical DFIs missions are included: management of savings funds to finance social housing, urban policies, support to university projects, financing and development of MSMEs, financing of sustainable development and regional development. CDC also plays a role in several other segments as a financial arm of the State, like management of pension funds, banking administration of

19 The average 2013 exchange rate was used (EUR/US$ = 0.75).

the judicial public service and social security, long-term institutional funding, among others.

Besides acting directly, CDC intervenes in several activities through its subsidiaries, as we can see in Figure 3. Among the subsidiaries, the participation in BPI France stands out. BPI France was established in 2013 with the merger of Oséo and FSI, FSI Régions and CDC Enterprises, a CDC subsidiary, in one more step towards the nationalization process and concentration of the French NSDFI. The capital of BPI France is public, being in part (50%) connected to CDC. The bank supports mainly MSMEs, but also large companies in strategic sectors for the French economy. Among its financial products, loans, guarantees, stakes in companies, venture capital, innovation and export support programs stand out.

Figure 3 • **CDC's main subsidiaries**

Sector	Subsidiary	Shareholder	Share	Activity
Investment public bank	BPI France	French Government	50%	Equity, guarantees and support to MSMEs Assets: € 54 bi (2013)
		CDC	50%	
Life insurance	CNP Assurance		41%	Larger French life insurance company Assets: € 366 bi (2013)
Postal and bank nets	La Poste	French Government	74%	Local people bank and postal service Assets: € 214 bi (2013)
		CDC	26%	
Housing	SNI		100%	Social housing
	Icade		42%	Larger French housing financial institution
Services	Transdev		50%	Transports
	Egis		75%	Civil engineering
	Compagnie des Alpes		40%	Recreation and accomodation
	Belambra		34%	Recreation and accomodation

In addition to CDC, other two DFIs also deserve to be highlighted in the French system: AFD and Ademe. AFD was also kept under State control even after the country's financial sector reform. This DFI is dedicated to international financial cooperation, funding or providing donations to international sustainable development projects, mostly to Africa and to French territories abroad. The institution focuses on urban planning projects, infrastructure, rural development, industry, the financial system and the education and health systems. In order to do so, it offers a series of tools, like subsidies, guarantees, shareholding and loans. In 2013, its assets amounted to US$ 36 billion.

Ademe is another important French DFI; the institution was founded in 1991 through the merger of various similar agencies. It has the mission of boosting, facilitating, coordinating and performing operations related to environment protection and energy management. In 2013, its assets amounted to US$ 998 million.

The French case shows the importance of a NSDFI, even in a developed economy with a mature and diversified financial system, which has been through many changes. In each historical time studied, the system was able to be reorganized according to the challenges of investment financing and supporting strategic economic segments for development – mainly industry, infrastructure and technological innovation. It was possible to verify the evolution of the French NSDFI into a more rationalized one and with fewer institutions, with a central role of CDC.

The South Korean NSDFI

The South Korean economy registered high growth rates in the last five decades, with brief exceptions of the two financial crises at the end of the 1990s and 2000s (KIM; LEE, 2010). Industrial policy had an important role in the country economic growth process, mainly in the early steps of its development (MAH, 2007). The government granted the provision of direct subsidies to industry, as well as established fiscal and financial incentives to the investment in strategic sectors defined in each policy plan. It also supported the sector indirectly, through the provision of investments in infrastructure. In this development path, the DFIs had a relevant role and, currently, they are still present in various sectors and segments. An official definition of the South Korean NSDFI has not been found, but the Bank of Korea (2008) points to institutions in the banking sector considered as specialized in segments and sectors that have insufficient provisions of resources (KDB, IBK, Kexim, NFFC and NACF). In order to complement the South Korean NSDFI, other non-banking financial institutions were researched (Kodit, K-Sure, Koica, SBC and KHFC).

An important public institution was established in 1954, with the foundation of KRB, which was created to finance the country's infrastructure rebuilding after the wars, in addition to granting medium and long-term credit to industry. Two thirds of its funding were composed of Central Bank transfers, while the remainder came from diversified sources, like deposits of the public, government loans and fund raising in multilateral financial institutions and foreign banks. In 1969, KRB was renamed Korea Development Bank. Currently, KDB operates in the provision of diverse financial products, supporting a variety of economic sectors. Its main services are long-term corporate loans, working capital, investments in shares, insurance, guarantees, venture capital, project finance, international operation, corporate restructuring and consultancy. Its funding is varied, distributed among deposits (mainly in instalments, but also cash), securities issuing and fund raising in the market. With

US$ 263 billion[20] in assets in 2014, it reported a default rate of 2.5% and a net profit of US$ 1.1 billion.

In 2008, the KDB privatization process began, but it was cancelled. During this process, KoFC was created, split from KDB in 2009 and then reunified in January 2015, when the privatization process was abandoned. During the six years of existence, KoFC operated in activities related to industry with a focus on innovation, green economy, infrastructure, MSMEs, regional development projects and internationalization activities. In order to do so, the DFI provided loans, insurance, guarantees, fund raising in the foreign market, and securities issuing for policy funding, using securities issuing resources in the domestic and foreign markets.

To support exports, South Korea has two institutions. Kexim was established in 1976 with the mission of supporting the exports through loans, project funding and economic cooperation facilitation with other countries. Its funding is composed of capital raising in the market, securities issuing, injection of governmental funds and administration of two public funds, EDFC and IKFC. In 2013, it reached US$ 69.9 billion in assets, keeping a low repayment default rate of 0.01%, and a profit of US$ 81 million. About 45% of its disbursements in 2014 went to industrial plants and shipyards, whereas Keic (1992) issues insurance to export operations, based on the 1968 experience with Korean RE. The DFI was reformed in 2010, being renamed K-Sure, including in its services the issue of insurance for commodity and natural resources imports, export credit guarantees and insurance against exchange rate risks. Its operations are funded by government transfers. In 2013, K-Sure had US$ 3 billion in assets and made a loss of US$ 252 million.

20 The average 2014 exchange rate was considered (Won/US$ = 1,052.96).

In the MSME segment, the South Korean NSDFI has several DFIs. One of them is IBK, established in 1961. The institution has gone through a reform in 1994, when the company issued shares in the stock market for the first time (IPO). Currently, its biggest shareholders are the South Korean State (50.4%), KDB (8.8%) and Kexim (2.3%), and some private investors. After the reform, in addition to the support for MSMEs, the bank diversified its operations performing as a multiple bank. The IBK funding is composed of deposits by the public, capital raising in the market, issue of debentures and retained profits. With US$ 211.7 billion in assets in 2014, it reported a repayment default rate of 1.4% and a net profit of US$ 889 million. SBC was another DFI established in 1979 as a non-profit governmental agency to support MSMEs. It had a budget of US$ 8.36 billion in 2013. SBC aims to serve MSMEs, providing financing from public funds resources, consultancy, training of human resources, marketing and cooperation with international activities. Credit offered by the corporation aims at financing new product development, operation expansion and management improvement of the companies. In 2013, SBC credit portfolio accrued US$ 3.85 billion.

In order to supply MSMEs with a financial tool that is not usually offered by the private sector, the South Korean NSDFI has Kodit, established in 1976 with the purpose of providing credit guarantees to MSMEs. The institution has been playing a countercyclical role during macroeconomic crises since the second oil shock, in the 1980s. Its main financial products include the issue of credit guarantees (including a partnership with IBK), credit data collection and storage, investments in companies that take guarantees through stake holding, services of consultancy and credit insurance to MSMEs and to infrastructure projects. In the latter case, the DFI is the operator of Korea Infrastructure Credit Guarantee Fund (KICGF). Its capital structure consists solely of government transfers. In 2013, it counted on US$ 5.5 billion in assets and a repayment default rate of 4.2%.

In order to stimulate the agricultural and fishing sectors, the South Korean NSDFI has two cooperative institutions. NACF was established in 1961 to promote the development of the South Korean agricultural sector. Its operation is divided into three areas: trade and supply, banking and insurance services, and services of training and innovation support. NFFC was established in April 1962 and looks to develop the fishing sector through a cooperative organization. Its focus is to invest in management and in profitability of companies in this sector, as well as to expand distribution infrastructure and internationalization of production.

With the development of the private banking sector and capital markets, South Korea created a DFI to operate in the housing sector, replacing the public operation in the retail for the capital market. KHFC, founded in 2004, aims at increasing the housing long-term support, through asset securitization and the provision of guarantees. Its operation is similar to the one of JHF, in Japan. In both countries, there was a shift in the role of the public sector in the housing segment, from retail to the provision of resources to private institutions.

Like most developed countries, South Korea has its international financial cooperation agency. Koica, established in 1991, reached an international assistance volume of US$ 10.7 billion in 2013, representing a growth of 116.9% in relation to 2008.

An observation of DFIs assets shows their importance to the South Korean economy. The joint assets of KDB, Kexim, Kodit, K-Sure, KHFC and NACF amounted to 35.8% of South Korean GDP in 2014. Including IBK, this value reaches 50%. However, IBK may distort the weight of the activities connected to the common role of the DFIs, once it operates as a multiple bank. Although they already represent an important share of national economy, these institutions still have high growth rates. Between 2009 and 2013, KDB's assets increased by 126.7%, and Kexim's increased by 75.1%.

It is important to stress the role of KDB in this system, which, along the last five decades, has been an institution dedicated to execute the country's industrial policy, just as explained in the five-year plans, being capable of renewing its lines of action according to the demands deriving from development challenges. Complementing KDB, the South Korean system has several other institutions with a fixed mandate, operating in niches like the export sector and support to MSMEs, using joint or complementary tools, aiming at balancing the economic development throughout the sectors. In contrast to the French experience, the South Korean NSDFI is highly specialized, counting on several DFIs. A summary of the South Korean DFIs record of accomplishment during the South Korean development is represented in Chart 1.

Therefore, the South Korean NSDFI shows the importance of continuous support of DFIs to their economies, which always face new challenges regardless of their development level and its macroeconomic scenario. During all the historical time studied, the DFIs were able to respond adequately to the demands brought about by public policy with the aim to structurally change an economy that was destroyed by wars into an industrial system in the world technological frontier.

Chart 1 • Public policy and the South Korean NSDFI

Period	Public policy	Changes in South Korean NSDFI
Post Wars- (Second World War and Korean War)	Reconstruction of infrastructure, medium and long term financing for manufacturing sector.	Establishment of KRB (1954).
1960s	Substitution of imports, support for exports and MSME.	Nationalization of commercial banks, establishment of IBK (1961), NACF (1961) and NFFC (1962). Establishment of Korean RE (1963). KRB is renamed KDB and launches services for foreign trade (1969).
1970s	Focus on chemical and heavy industry, support for MSMEs and exports.	Establishment of FNI, ruled by KDB, to support strategical sectors (1974). Establishment of Kodit (1976), Kexim (1976) and SBC (1979).
1980s	Focus in R&D activities	Reorientation of the roles of KDB and Kexim.
1990s	Focus in R&D activities, support for MSME and capital goods sector.	Support for development of new products (KDB). Establishment of Koica (1991) anf Keic (1992).
From the end of 1990s on	Countercyclical role (1998 and 2008 economic crisis) and modernization of capital markets.	Countercyclical role in credit provision. Establishment of KHFC (2004), Keic is renamed K-Sure (2010) and launches new modern financial instruments.

Source: Elaborated by the author.

Conclusions

Countries NSDFI are different among themselves, which makes the task of looking for trends and generalizations a hard one. Nevertheless, some features can be highlighted: (i) there are important regional DFIs nets in Germany and Brazil; (ii) common presence of a larger and central institution that acts in various segments; (iii) high segmentation of development activities in Japan, South Korea, India and Mexico, with more specialized DFIs. In India, there are opportunities for the rationalization of institutions; (iv) in France, there was a process of concentration of existing DFIs, in which they have become subsidiaries of the main DFI. In Italy, it is possible to notice a similar movement of DFIs being absorbed as subsidiaries by the main institution; (v) there are several cases of more than one DFI operating in the same segment, but with segmentation of financial products. For instance, this happens in Japan, South Korea, Spain and China, in the export segment, where credit, guarantees and insurance are divided between two institutions. Also in Spain and South Korea, some institutions aim at credit, while others aim at guarantees to MSMEs; (vi) generally, in Europe, ECAs are private. Besides operating in the international trade insurance sector, they manage official government programs for the provision of export guarantees; (vii) in Asia, besides guarantees provided by the public eximbanks, the international trade insurance sector is also controlled by the government; (viii) the housing sector in Japan and South Korea had their public participation reoriented towards capital markets, in order to raise resources for the residential financing, instead of lending directly to the citizens; (ix) South Korea and Japan have recently moved towards the privatization of traditional DFIs, which were cancelled (KDB) or postponed (DBJ and the Shoko Chukin

Bank), due the 2008 financial crisis and, in the case of Japan, also due to the 2011 earthquake; and (x) there usually are international financial cooperation DFIs in developed countries, and they act in developing countries both in partnerships with the private sector and with the governments.

In addition to the fact that the NSDFI is mostly composed of public DFIs, two other general conclusions can be drawn in relation to the dynamism and the completeness of the NSDFIs. They are dynamic, undergoing changes when necessary, be it to reflect the financial market development, to adapt to new economic development strategies or to rationalize the existing institutions, searching synergies, both to exploit new segments and to develop new financial products. Moreover, several countries look to have a complete NSDFI, acting in segments that traditionally lack long-term financing and suitable financial products, among which are agriculture, infrastructure, exports, MSMEs, green economy, innovation and housing.

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