

The Phenomenon of National Development Bank: Theoretical Foundation and Effectiveness*

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Abstract. Virtually every country has at least one institution regarded as a development bank. However, there is a marked gap in studies of development banks on national scale. Following this demand, the current paper aims to shed light on a phenomenon of national development banks. This article identifies theoretical roots of development bank's existence and investigates its effectiveness. Based on the substantial amount of data observed we suggest an umbrella definition of a development bank. Further, we suggest relevant taxonomy to avoid potential misleading benchmarks. Descriptive statistics on macro-level of analysis demonstrates idiosyncratic nature of national development banks and its extreme heterogeneity. Constructed empirical model identifies general positive association between development bank's foundation and national economic growth.

Аннотация. Актуальность темы статьи обусловлена объективной необходимостью дальнейшего изучения феномена национального банка развития. В данной работе изучены теоретические аспекты существования банков развития и существующие подходы к оценке их эффективности. Основываясь на проведенном анализе, мы предлагаем «зонтичное» определение национального банка развития, а также подход к классификации банков развития, необходимый для проведения корректного внешнего бенчмаркинга. Представленная автором эмпирическая модель эффективности деятельности национальных банков развития документирует общую позитивную связь между их присутствием и экономическим ростом на национальном уровне. По результатам исследования сформулированы рекомендации по повышению эффективности деятельности национальных банков развития.

Key words: Development bank, development theory, political theory, effectiveness, economic growth.

Virtually every country has at least one institution regarded as a development bank (DB). Its potential role in boosting economic growth and complementary domains of development is highlighted by the experts in development economics. At the same time, while the performance of global DBs, such as the World Bank Group's institutions, European Investment Bank, African DB, Inter-American DB, is discussed in the literature (e.g. Alacevich, 2009; Massa, 2011), there is a marked gap in studies of DBs on national and regional scales.

Yet, national DBs seem to perform highly successfully in last decades (Sanderson and Forsythe, 2013; Lazzarini *et al.*, 2011) and therefore become a widely employed tool of policymakers in promotion development. Thus, after the global financial crisis there have been "calls to create a develop-

ment bank even in the United States" (Musacchio and Lazzarini, 2012: 15), while the new DB of BRICS countries¹ was established just recently².

However, national DBs' strategies and operational plans are often not upgraded in line with growth theory evolution, as well as DBs' management is not aware of challenges, opportunities and progress, experienced by other DBs. In this vein, in the latest survey, experts of the World Bank underline that "despite its size and importance, little is known about DBs", and acknowledge "an

¹ Although the New DB is not national per se, its mandate is grounded on cooperation of national DBs of the BRICS states.

² *The Economist* (2014) The BRICS bank: An acronym with capital. Available at <http://www.economist.com/news/finance-and-economics/21607851-setting-up-rivals-imf-and-world-bank-easier-running-them-acronym> [Accessed 25 July 2014].

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increasing number of requests for data and new studies about DBs' (De Luna-Martinez and Vicente, 2012: 2). Following this demand, the current paper aims to shed light on a phenomenon of national DBs and their effectiveness in providing economic growth.

1. THEORETICAL FOUNDATION

Obviously, DBs reflect "their environment and their times" (Diamond, 1957: viii), particularly the fundamental attitude towards government presence in the economy. The latter always determines the rationale behind development banking. In this vein, theoretical roots of DB's creation as well as of its critique could be found in two competing theories — "development" and "political" theory respectively. The concept of sustainable development and agency theory also provide valuable insights into the question.

According to the *development view*, government's participation is vital for economic growth, while one of its hybrid forms is DBs' investments (Musacchio and Lazzarini, 2012). Indeed, economic theory provides a series of reasons that support the continuing need for DBs such as market failures, economies of scale, difference between economic and social benefits and risk aversion of the private sector. Thus, DBs aim at facilitating economic growth by investing in strategic long-term projects and balancing market failures by supporting underserved, infant industries, which often lead to social benefits (Gerschenkron, 1962; Stiglitz, 1994; Andrianova *et al.*, 2009; Levy-Yeyati *et al.*, 2004). In a similar spirit, *social view* is often identified as a supportive concept to the state presence in the economy (e.g. Körner and Schnabel, 2010). In fact, it seems to be part of the development approach, since lack of the socially desirable investments, in essence, is a market failure.

Essential role of DBs is also underlined by proponents of *sustainable development concept* (e.g. Pezzey, 1992), according to which apart from conventional economic there are also social and environmental pillars of development. This triple bottom line approach highlights distinctive ability of DBs to address the sustainability challenge. Thus, Mazzucato (2013) points out that "wind, solar and biomass technologies have been the largest benefactors of development bank funding in recent years"³ (*ibid.*: 139). Indeed, DBs' contribution to

"environmental, social, cultural or sport domains" of development (Schmit *et al.*, 2011: 80) leads to the large positive externalities.

However, there is an alternative approach — *political view* (Shleifer and Vishny, 1994; La Porta *et al.*, 2002; Schleifer, 1998), according to which government intervention in the economy seeks political gains "in terms of electoral voting shares, political support" (Körner and Schnabel, 2010: 5) or opportunistic advantages of wealth accumulation, and can produce unintended distortions, limit intermediation, financial innovation and competition (Hart *et al.*, 1997). In addition, "public banks are more prone to bureaucratisation, agency issues and poorer governance than their private counterparts" (Schmit *et al.*, 2011: 33). Therefore, DBs, being one of the government instruments, are supposed to be biased in their investment decisions dictated by redistributive politics, and therefore be both inefficient and ineffective in allocation of resources, sometimes even harmful for economic growth.

In this vein, *agency theory* should be stressed. As Körner and Schnabel (2010: 4) put it, "public banks may suffer from two principal-agent problems: first, between the politician and the bank manager, and second, between society (the taxpayer) and the politician". While the former type of conflict is accelerated by soft budget constraints and might lead to the misguided and limited managerial incentives to be efficient, the latter is of special interest for the purpose of the current research. Thus, an effective DB allocates resources in consistence with its mission and interests of society (taxpayer), which can be in conflict with political interests and connections leading to the resource misallocation. In essence, this is the point made by the proponents of the political view.

Finally, to avoid the binary thinking, in the literature there is an attempt to suggest *synergetic and symbiotic forms of market and government co-existence* (Stiglitz, 2013), since "the classical paradigms of social and economic development seem to have exhausted themselves" (Morgan, 1997: 491). It might seem that compilation of development and political views in integrated approach is hardly achievable since their different policy implications. However, in practice "in attempting to address the central problem from the perspective of one paradigm, they [government] made the problems under the others worse" (De la Torre and Ize, 2010: 110). From this *eclectic perspective*, a DB can be justified as an organizational innovation (Kane, 1975), an underestimated vehicle for com-

³ For instance, "approximately \$40 billion has been provided by development banks between 2007 and 2010 in support of a variety of renewable energy projects" (Mazzucato, 2013: 139).

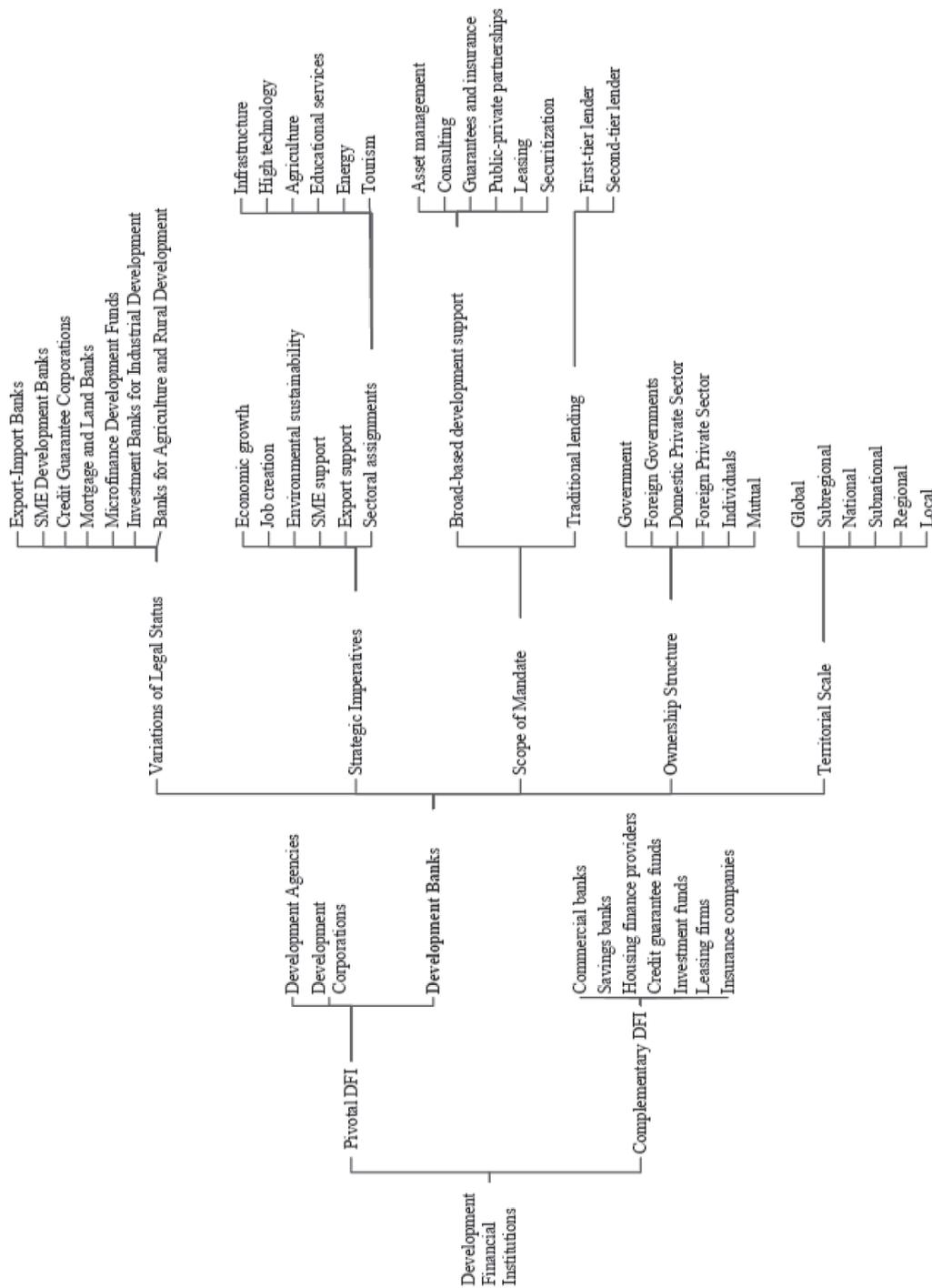


Figure 1. The taxonomy of DFI with the focus on DBs.
Source: Author's compilation based on data described in the text.

munication between government and private sector, an effective tool of coordination between top-down and bottom-up approaches of national and regional development.

To shed light on this potential provider of development, we design a conceptual taxonomy for development institutions and highlight the role of DBs with its further stratification, which is essential for generating the research population.

2. TAXONOMY DESIGN

As Diamond (1957: ix) put it, “development banks cannot be fruitfully discussed in isolation from the many other institutions and factors related to economic development”. However, for the best of our knowledge, no studies on development financial institutions (DFI) have brought them together in the conceptual paradigm. Consequently, in the relevant literature one can find controversial treatment of DBs: for instance, World Bank’s economists (De Luna-Martinez and Vicente, 2012: 7) refer to the study on Fannie Mae and Freddie Mac (Acharya, 2011) as an example of DB’s failure. Fragile boundaries between pivotal and complementary DFI lead to the complaints about public ownership structure: “the privatization of profits (for the shareholders and executives) in good times but the socialization of downside risk (for the taxpayer)” (*ibid.*: 5). However, while this argument is applicable to the complementary DFI such as housing finance providers, it is not consistent with DBs’ fundamental nature, according to which profits go to the special development funds rather than privatized by executives. In this vein, it is essential to distinguish pivotal DFI from complementary ones (Figure 1).

At the same time, complementary DFI are present in our taxonomy, since they can provide innovative solutions to development issues. For instance, in case of insurance companies “use of catastrophe insurance might be able to diversify the weather related risk towards other investors and facilitate the interest of commercial banks in lending to farmers” (Rudolph, 2009: 5).

Based on empirical observations, we suggest to classify DBs according to their legal status, strategic priorities, scope of mandate, ownership structure and territorial scale. Besides, DBs use dissimilar financial instruments in their operational activities: long-term and short-term loans, syndicated loans, bonds or other securities, stakes (shares, stock), guarantees, public-private partnerships, etc. Technically, a DB may invest in projects

directly or, being a second-tier institution, provide target-oriented resources to the first-tier banks. Worth noting, that the rationale behind their establishment also varies: from the post-war economic restructuring via infrastructure investment to financing the most innovative high-risk firms and activities (Bruck, 1998).

We think that careful taxonomy of DFI, particularly DBs, is essential for accurate assessment of their effectiveness. Otherwise, benchmarking of different DBs and further generalization of research findings are prone to misleading conclusions.

3. WHAT IS A DEVELOPMENT BANK?⁴

In essence, previous literature on DBs is thin and mostly limited to descriptive reports. To our knowledge, there is no one clear-cut definition of a DB. Thus, the Latin American Association of Development Financial Institutions for the purpose of identification a DB as its member uses the self-definition selection principle, since “it is difficult to define whether an institution is a development bank or not” (Levy-Yeyati *et al.*, 2004: 17). Based on the reviewed literature, we suggest the following *umbrella definition of a DB* (Appendix 1): a financial institution often controlled by the public sector and operated under special legal mandate, offering long-term lending to the bankable economic development projects⁵ in line with broad-based development support aimed at achieving socioeconomic goals in a country, region, sector or particular market segment.

It should be borne in mind that strategic *vision* of DBs is to be complementary to private banks meaning not to create market distortions (Rudolph, 2009). In addition, one should be careful in description of DB’s *functions*. For instance, during recent global financial crisis, most DBs successfully participated in the federal governments’ *anti-cyclical efforts* (De Luna-Martinez and Vicente, 2012). However, this function is supportive and can be treated just as an additional rationale for DBs’ existence (Levy-Yeyati *et al.*, 2004), since monetary policy is generally the object of central banks’ mandate. As we noticed, in relation to DBs economists determine two main functional directions: investment in long-term costly projects,

⁴ Thereafter, we mean national DB.

⁵ Bankable development projects both have a positive development impact (first developmental criteria) and are expected to be fully repaid according to a pre-determined schedule (second banking criteria) (Kane, 1975).

which bring economic growth under condition of underfinance by market, and bridging the gaps of market failures. While the former function is well understandable — “investment is essential to the process of development” (Diamond, 1957: 7), the latter requires additional discussion.

De la Torre and Ize (2010) link market failures to several types of frictions. Thus, the asymmetric information and control gap — principal-agent issue — includes market failures of *adverse selection* of a contract, *moral hazard* and *shirking* during the contract implementation and *false reporting* afterwards, while interaction between the individual and the group may suffer from *externalities*, *free riding* and *coordination failures*. However, mentioned market failures are not idiosyncratic features of market. Instead, in practice it is highly feasible to diagnose them in DB’s activity as well⁶. In this vein, Rudolph (2009) finds typical market failures that a DB is supposed to offset in high-risk segment of SME, while Levy-Yeyati *et al.*, (2004: 12) underline “agriculture (plagued by asymmetric information and aggregated shocks), R&D-intensive sectors like the pharmaceutical industry (with a large share of intangible assets and potentially large spillovers), or capital-intensive industries with long start-up periods involving negative cash flow (such as the aerospace industry)”.

Therefore, in the discussion of market failures, which a DB is supposed to mitigate, one should think about strategic sectors rather than traditional market failures cited in economic literature. Moreover, in accordance with such approach market failures become dynamic and time- and context-dependent.

In addition, if a DB targets non-profitable sector, it becomes “an institution that only leverages the subsidies from the government” (Rudolph, 2009: 6). Since such situation is common for DBs, issue of their effectiveness receives a central place not “to end up with losses and frequent recapitalizations” (*ibid.*: 6) or, at least, to justify them.

4. EFFECTIVENESS OF DEVELOPMENT BANKS: DIFFERENT APPROACHES

Since DB is a state-owned bank, most papers on the effectiveness of government presence in the banking sector include DBs in the object of research. We believe that for the purpose of current thesis this approach is relevant due to the same

fundamental arguments applied to the effectiveness (and efficiency) of public banks in general and DBs in particular. Based on that, we divide literature related to the DB’s effectiveness into *three grand categories*.

The *first strand of the literature* fundamentally supports *political view* in line with its *agency theory implications*. Generally, scholars create empirical models to compare private banks with public banks, including DBs, and demonstrate that the latter are detrimental to economic growth in terms of *growth-promoting ineffectiveness on the macro-level* or their *internal inefficiency on the micro-level*.

Thus, La Porta *et al.* (2002) in their influential paper run ordinary least squares regressions on a large cross-country sample and find that the share of government ownership of banks in 1970 is negatively correlated with annual growth rate of GDP per capita for 1960 to 1995, controlling for standard determinants of growth. Authors document *ineffectiveness of public banks on the macro-level*. Following these findings, the World Bank’s economist Hanson (2004) suggests that less growth at the macroeconomic level reflects the lower *efficiency* of state-owned banks on the *micro-level*. Indeed, the latter are often characterized by large non-performing loans (Hanson, 2004), overhead costs to bank assets and high spread between the lending and the borrowing rates (La Porta *et al.*, 2002), negative operating income (Dinc, 2005), and low level of financial development (Barth *et al.*, 2000). The main explanations of public banks’ low efficiency are grounded on *political considerations*. Thus, Dinc (2005) complements findings of La Porta *et al.* (2002) by examining individual bank data with different ownership structure in 22 emerging countries of the 1990s and providing empirical evidence that government-owned banks increase their lending in election years relative to the private banks. Sapienza (2004) analyses the panel data on credit relations of over than 37 000 Italian firms with state- and privately-owned banks and finds out that “party affiliation of state-owned banks’ chairpersons does have a positive impact on the interest rate discount given by state-owned banks in the provinces where the associated party is stronger” (*ibid.*: 24). In a similar spirit, Khawaja and Mian (2005) document that in Pakistan politically connected firms get the preferential corporate lending from the state-owned banks. In essence, above-discussed papers, directly or indirectly, support political view’s arguments and advocate for the state-owned banks’ privatization.

⁶ The extensive discussion of market failures one can find in Stiglitz (1994).

Table 1. DBs sample, by income group and region*.

<i>Income group</i>	<i>DBs</i>	<i>Region DBs</i>	
<i>High income: non-OECD</i>	9	<i>East Asia & Pacific</i>	22
<i>High income: OECD</i>	9	<i>Europe & Central Asia</i>	20
<i>Low income</i>	11	<i>Latin America & Caribbean</i>	26
<i>Lower middle income</i>	29	<i>Middle East & North Africa</i>	4
<i>Upper middle income</i>	38	<i>North America</i>	1
Σ	96	<i>South Asia</i>	9
		<i>Sub-Saharan Africa</i>	14
		Σ	96

Source: Author's analysis based on data described in the text.

* Classification according to the World Bank.

The *second set of studies* is more careful in generalizations. Thus, Andrianova *et al.* (2009) challenge findings of La Porta *et al.* (2002) by running the same regression but extending the set of conditioning variables to include omitted ones – institutional growth determinants (e.g. Hall and Jones, 1999). At this stage, “the coefficient of government ownership of banks becomes insignificant as soon as one such variable is introduced” (Andrianova *et al.*, 2009: 2). Further, they test cross-country regression based on more recent datasets and document that during 1995–2007 government ownership of banks has been associated with faster long-run growth. Most importantly, authors pointed out the necessity to interpret such results with caution, since found relationship might be *heterogeneous* across countries. In this vein, Körner and Schnabel (2010) analyse the nexus between public ownership in the banking sector and economic growth and find heterogeneity pattern: in countries with high level of financial development and high-quality political institutions they document public banks' positive effects on economic growth. Beck and Levine (2002) in their analysis of cross-country industry-level data for 39 countries also do not find clear-cut support for either development or political views: in their model financial structure does not help to explain “industrial growth patterns or the efficiency of capital allocation” (*ibid.*: 32). Rather, high level of financial development in line with efficient legal system determines the coherence of investment flows across industries, which is again in support of the heterogeneity hypothesis.

The heterogeneous results have been also obtained in the micro-level studies aimed at banking *efficiency* evaluation. Thus, Micco *et al.* (2007) analyse bank-level annual financial information for 179 countries during 1995–2002 and conclude that state-owned banks are not necessarily less profitable than private ones: this is the case only in developing countries, while in industrial countries

such correlation is not present. In this vein, Altunbas *et al.* (2001: 950) estimate relative cost-profit efficiency of German banks with different ownership structure and find that “public and mutual banks have slight cost and profit advantages over their private commercial banking counterparts”.

In fact, after considering results of above-discussed papers from the first category of the literature before their concluding generalizations, it becomes evident that they are in line with obtained heterogeneous results for developing and developed countries (e.g. La Porta *et al.*, 2002: 291, Table VIII). In this vein, we find heterogeneous hypothesis to be plausible, since principal-agent problems are significantly limited in the developed countries, “where the politicians' actions are controlled by the public and their exercise of power is constrained to their political mandate” (Körner and Schnabel, 2010: 5).

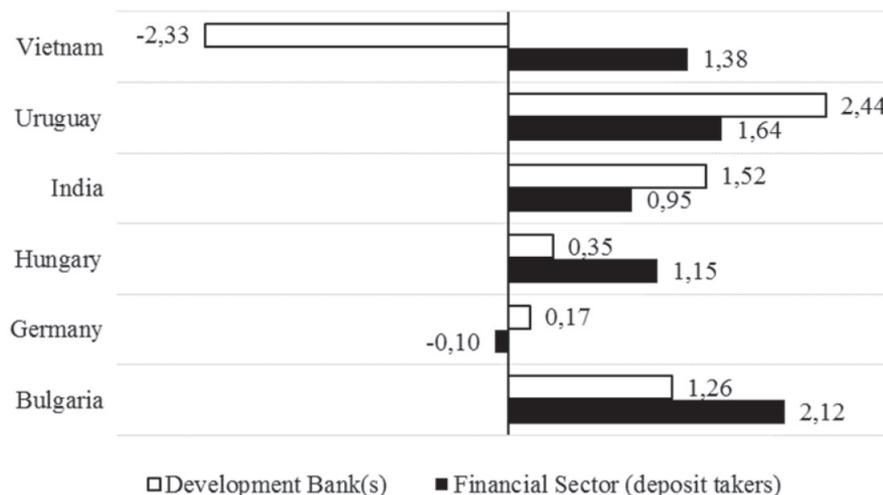
Taking into account the heterogeneity of DBs, the *third stream of the literature* investigates their performance and effectiveness by means of case studies on individual DBs, which often represent best practice in development banking. For instance, performance of Canada's Business DB, Chile's BancoEstado, South Africa's DB of Southern Africa, Finland's Finnvera plc. (Rudolph, 2009), Brazil's DB BNDES⁷ (Lazzarini *et al.*, 2011), and China's DB (Sanderson and Forsythe, 2013) for different reasons is regarded as effective. Based on good practices, scholars justify DB's presence and demonstrate its great potential in solving market failures, supporting strategic sectors, and providing economic growth at different scale and scope. According to this approach, above-mentioned issues of public banks' underperformance can be solved under certain conditions: clearly defined mission (Schmit *et al.*, 2011; Levy-Yeyati *et al.*, 2004), sus-

⁷ Interestingly, in case of BNDES Lazzarini *et al.* (2011) document an increasing lending for politically connected firms. However, they argue that this pattern is not detrimental for the bank's effectiveness, since these firms bring “good” projects.

Table 2. Descriptive statistics of efficiency indicators for 88 DBs, 2006–2009.

Variable	Obs	Mean	Std. Dev.	Min	Max
ROA06	77	1.067623	5.279757	-29.31	18.48
ROA07	79	.9266683	7.360992	-60.09	14.22225
ROA08	81	1.388473	2.69748	-6.9564	13.56793
ROA09	79	1.034896	3.12639	-17	11
ROE06	82	5.927629	13.35411	-42.35	47.85
ROE07	82	7.341995	10.06996	-19.9	39.29335
ROE08	82	5.888734	16.92058	-85.165	50.45663
ROE09	82	5.464588	16.41031	-65.02	63.45
NPL06	74	14.43685	24.04769	0	100
NPL07	75	13.16465	22.1068	0	100
NPL08	75	14.33244	21.8702	0	99
NPL09	75	14.8164	23.79413	0	120.61

Source: Author's analysis based on data described in the text.

**Figure 2.** ROA in DBs and private banks, 2008.

Source: Author's analysis based on IMF data.

tainable self-financed mandate with target sectors, and clear-cut minimum criteria of efficiency, high quality management, sound institutional environment and transparent ownership policy (Scott, 2007).

To sum up, there is no a clear-cut DB's effectiveness valuation system. However, one essential thing to acknowledge is that DBs endeavour to achieve *effectiveness rather than efficiency*. Effectiveness demonstrates how well a DB fulfils its mandate with less weight to comparison its profits with costs. Interestingly, Levy-Yeyati *et al.* (2004)

consider a profitable DB as ineffective, since cost-saving actions aimed at increasing operational efficiency in some cases reduce long-term development impact of a DB leading to the decreasing of its effectiveness. In a similar spirit, Tirole (1994: 1) points out that "incentives based on measurable goals must be limited to not completely jeopardize the non-measurable dimensions of social welfare". To address that potential trade-off between internal efficiency and effectiveness, DBs are generally required to support so-called "bankable development projects" and at least to break even, "allow-

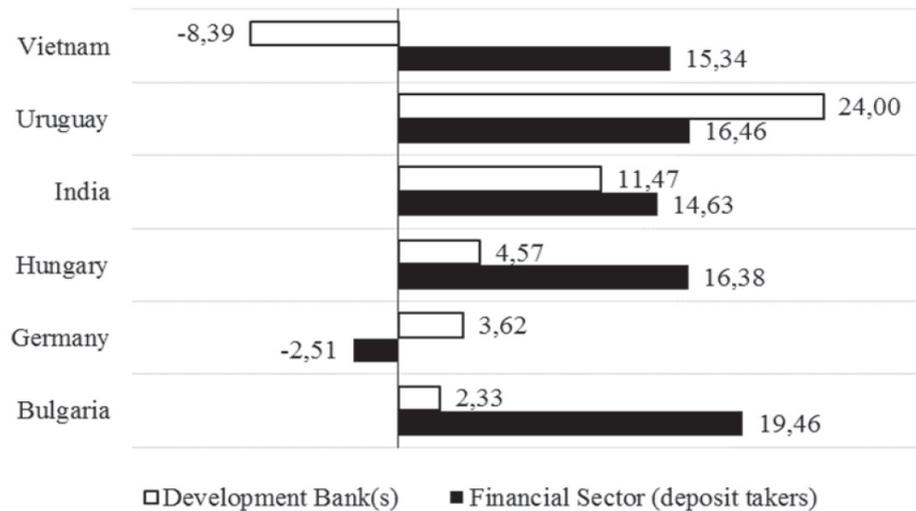


Figure 3. ROE in DBs and private banks, 2008.
Source: Author's analysis based on IMF data.

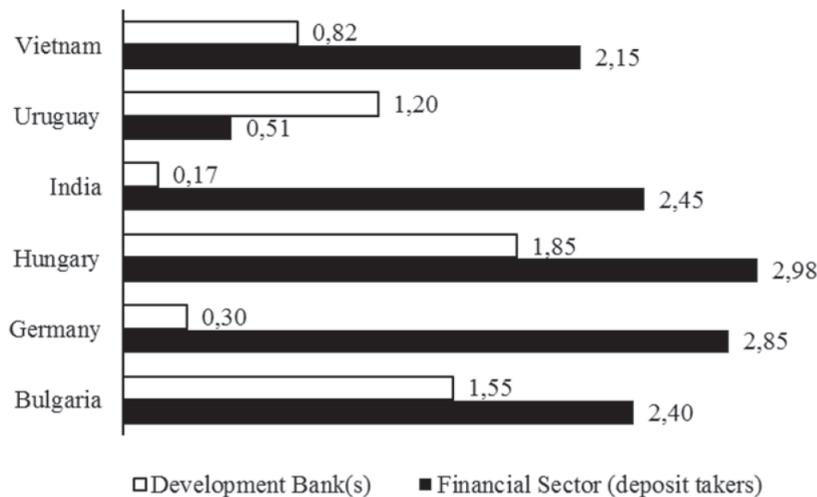


Figure 4. NPL in DBs and private banks, 2008.
Source: Author's analysis based on IMF data.

ing that bad-debt losses on some projects will be offset by higher returns from others” (Kane, 1975: 18). Yet, “only few institutions [...] are in the process of developing a number of indicators/proxies to measure their special contribution dictated by their mandate”, while currently in most cases DB’s effectiveness is measured by comparing its “achievements against predetermined (but arbitrary) targets”(Rudolph, 2009: 20). Such a proxy of effectiveness seems to be questionable, since self-determination of key performance indicators is prone to unfair target setting. In addition, these

indicators do not offer insights whether there is any value added from DB’s existence. Therefore, an empirical examination of national DB’s effectiveness is required.

5. RESEARCH DESIGN

First, we analyse the collected quantitative primary and secondary data on more than 90 national DBs by means of descriptive statistics. Further, following the methodology of Wacziarg and Welch (2007) in their study of trade liberalization effect

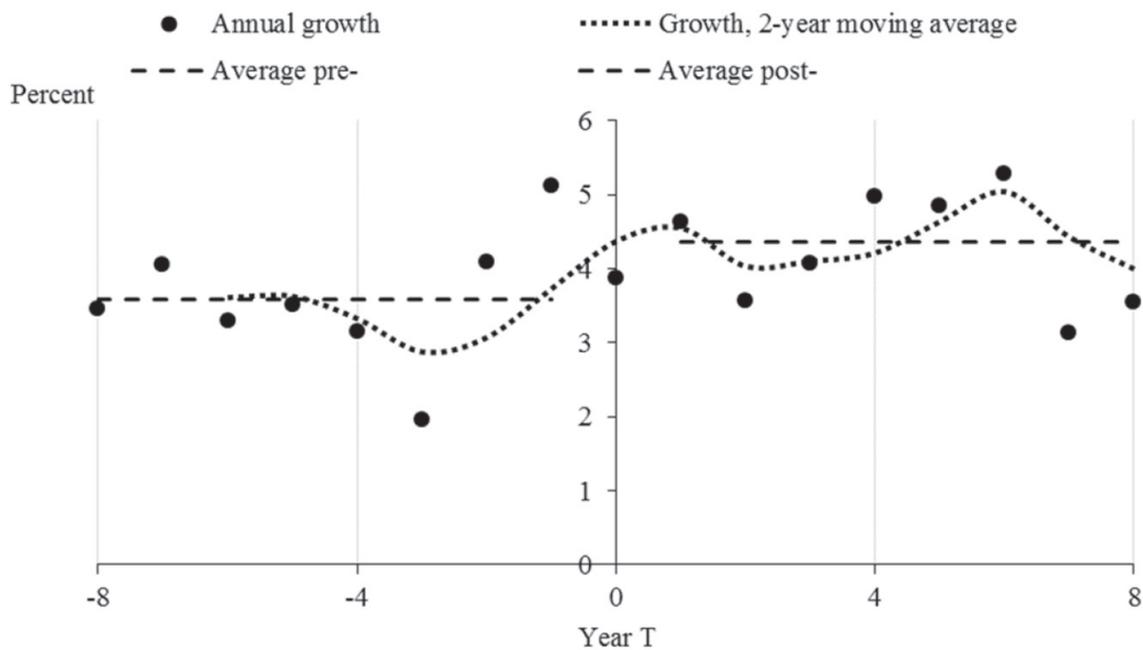


Figure 5. Sample means for growth before and after DB' foundation.

Source: Author's analysis based on data described in the text.

on growth, we compare the sample means of economic growth on macro-level for 50 DBs in pre- and post-DB periods.

Data. Our analysis is based on the unique dataset on 96 national DBs of 65 countries (Appendix 2) from different income group and regions (Table 1). The data on 88 DBs is based on the survey conducted by De Luna-Martínez and Vicente (2012) on behalf of the World Bank, results of which was kindly shared with me. In section 6.2 we add in the model additional independently collected data on 8 national DBs.

Assumptions. One should notice an assumption that referred to the conceptual framework used in the paper. Thus, GDP, being a quantitative measure, only partly reflects the level of development. As we noticed in section 1, sustainable development concept in line with economic growth incorporates environmental and social outcomes in an integrated system of DBs' effectiveness, which quantification is a tricky task (Slaper and Hall, 2011). Although we recognize the importance of these perspectives, in the current paper we restrict our discussion of sustainable development concept and focus on analytically rigorous economic growth as a proxy of development. In the following section, we investigate empirically existing approaches to the effectiveness of national DBs.

6. EMPIRICAL FINDINGS ON NATIONAL SCALE

6.1. LOW EFFICIENCY OF DEVELOPMENT BANKS: EVIDENCE?

Banking efficiency is measured, among others, by profitability indicators of return on assets (ROA), return on equity (ROE), and non-performing loans (NPL) ratio (e.g. Lin and Zhang, 2009). The descriptive statistics of panel dataset of 88 national DBs (Table 2) shows comparable with private banks average earnings power of DBs (ROA), while ROE and NPL ratio are lower than those of private banks (IMF data)⁸. These results are consistent with theoretical mission of a DB to trigger socioeconomic development rather than generate profit, as well as with previous empirical studies on dichotomy between public and private banks.

However, average results may mask significant deviations of indicators, wherefore we need to look at DBs' efficiency more specifically. In this vein, we identify countries, for which data on efficiency is available for both national DBs and private banks for the same time period⁹. A brief

⁸ IMF (2014). Financial Soundness Indicators. Available at <http://elibrary-data.imf.org> [Accessed 20 August 2014].

⁹ There are several national DBs from India and Germany that participated in the survey: indicators for these two countries are averaged.

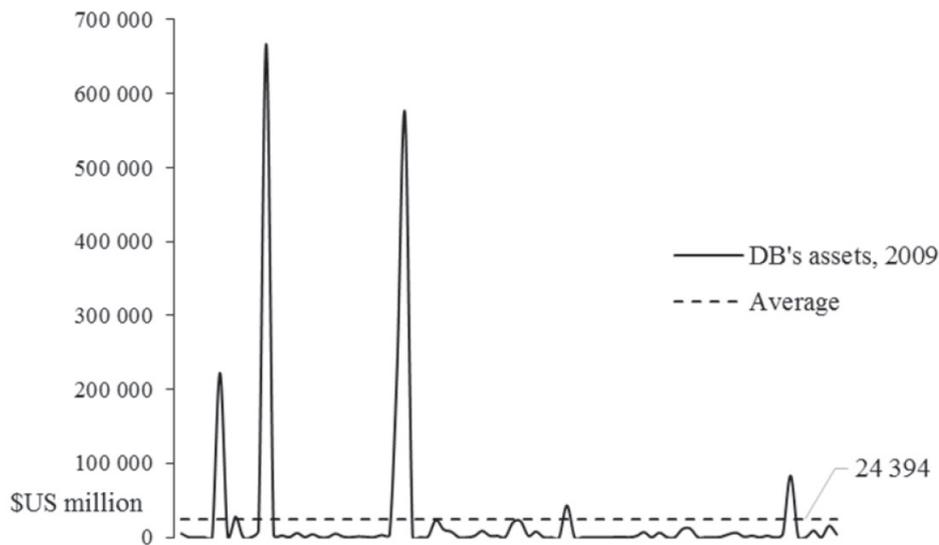


Figure 6. DBs' asset size, 2009.

Source: Author's analysis based on data described in the text.

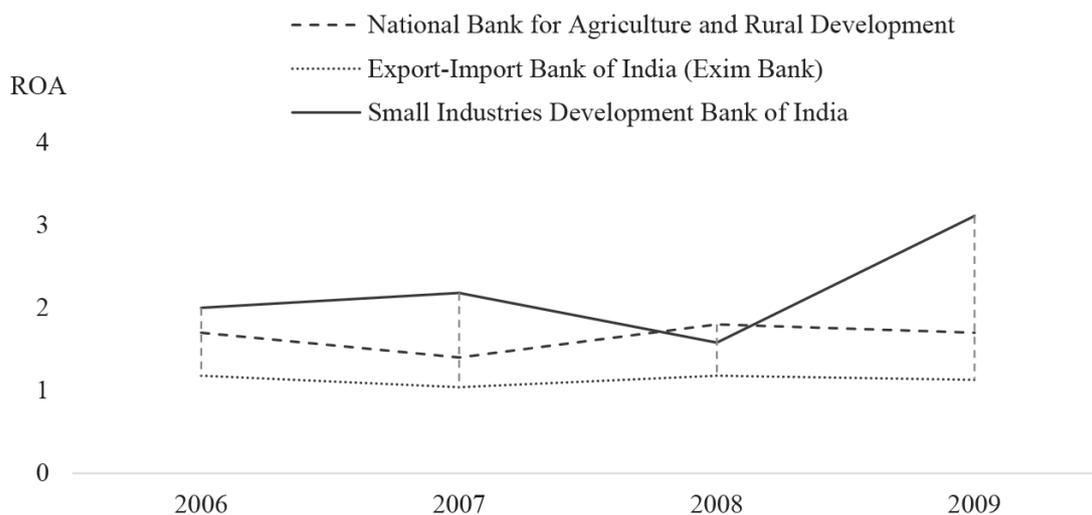


Figure 7. ROA in Indian national DBs.

Source: Author's analysis based on data described in the text.

snapshot of six countries' banking sectors demonstrates that DBs' efficiency is somewhat irrelevant to generalization.

It is clear from Figures 2–4 that under similar macroeconomic conditions DBs can be either more or less efficient than national private banking sector. Therefore, our analysis of DBs' efficiency does not provide evidence on their clear-cut lower efficiency in comparison with private banks.

We find lack of any systematic relationship between DBs and private banks to be indicative of the fundamental difference between these financial institutions. Consequently, comparison between

them tends to be misleading. In essence, it seems that DBs to a greater extent are about development, rather than banking. Hence, as discussed above, criterion for their effectiveness evaluation should be linked with its mission of promoting economic growth.

6.2. EFFECTIVENESS AT A GLANCE

In this vein, we aim to identify the changes in national growth rate associated with foundation of a national DB. For that purpose, a panel data is constructed, which shows foundation years for the sample of 50 DBs in line with corresponding national

GDP growth for 8-year period before and after the year of each DB's creation¹⁰ (Appendix 3). Further, simple means of growth rates are taken for each year in period T – 8 to T + 8. Figure 5 displays the results.

Firstly, before DB's creation some downward trends are documented. This can be explained by the fact that DBs are often created in time of economic crises or other depressing factors. Secondly and most importantly, one can observe an increase of average growth rate from 3.6 percent in pre-DB period to 4.4 percent in post-DB span. Notice that these results are obtained without controlling for any fixed effects.

Evidently, generalization about the factors that may explain this slight increase of growth rates is difficult to draw. Although this exercise sheds some light on the effectiveness of DBs on national scale, the growth difference does not seem to be sustained. In addition, foundation of a DB is often complemented by a set of reforms, which effect on growth is difficult to disentangle. Besides, as we already mentioned, different macroeconomic and institutional environment is likely to cause significant deviations from average DB's effectiveness.

6.3. IT'S HETEROGENEITY, STUPID!

Difficulties in assignment of national growth purely to the DB's activity also proved by the findings that DBs is an extremely heterogeneous family.

Thus, although DBs are relatively congruent in ownership structure – mostly state-owned, they demonstrate extreme diversity in terms of size, resources of funding, business products provided, strategic sectors and market segments served. For instance, Figure 6 illustrates deviation of assets level from the sample average.

Interestingly, many indicators vary significantly even if compared DBs are located in the same country – for instance, Figure 7 highlights heterogeneity of Indian DBs.

Further visual elaboration on heterogeneous characteristics of national DBs can be found in Appendix 4.

7. CONCLUDING REMARKS AND POLICY RECOMMENDATIONS

To sum up, we demonstrate the existence of reasonable arguments – both pros and cons DB's

foundation. However, it seems that such binary judgement overlooks non-linear character of development process. Hence, we find eclectic approach based on synergetic state-market collaboration to be the most fruitful. In this vein, we do not expect markets to promote sustainable development themselves and treat a DB as a by-product of cross-fertilisation between development and political views, which is able to be an effective tool of intelligent government intervention aimed at providing economic growth and mitigating market failures. Further, reflecting diagnosed fundamental heterogeneity of national DBs, we suggest the taxonomy to avoid potential misleading benchmarks.

Our analysis puts forward *several considerations*.

- Efficiency evaluation of a DB (financial and operational performance) should be explicitly recognized as a discrete exercise from effectiveness measurement (development impact).
- General positive association between DB's foundation and national economic growth is documented on the sample of 50 DBs.

- Descriptive statistics on macro-level of analysis demonstrates idiosyncratic nature of national DBs: substantial variation among national DBs in our sample indicates that effectiveness of a DB is also a diverse category conditioned by individual DB's and territory-specific characteristics. Therefore, it is essential to allow for the heterogeneity between and within countries. *Ex-ante* diagnosis of the territorial pattern and specific market gaps is crucial to “understand the main obstacles to productive investment” (Diamond, 1957: 18). A model of national DB therefore is expected to be flexible in order to tailor the specific requirements.

Based on that, we think that an increase of DBs' effectiveness requires improvements in traditional approach to its valuation system, since there are a number of alternative substitutes for the national DB and therefore its foundation has a certain opportunity cost. As we noted above, there is a possibility that economic growth evaluation cannot capture the contribution of a national DB in a development process. In this vein, design of special indicators to quantify environmental and social outcomes might be a gainful recommendation. The experience of global DFI in implementation of cost-benefit analysis is likely to be a sound basis for such improvements (e.g. Asian Development Bank, 2013).

However, to get a more complete picture a further research on the topic is required. To avoid misleading generalizations and not to conclude with insufficient “one-size-fits-all” recommendations (Barca, 2009), it might be fruitful to con-

¹⁰ Since the World Bank data on annual GDP growth rates is available only for the post-1960 period, the time span is reduced to 8 years before and after DB's foundation, while research sample of DBs diminishes to 50 DBs, which are founded, consequently, after 1968.

duct additional qualitative bottom-up analysis of meso-level “untraded interdependencies” (Storper, 1995), putting the region at the centre of development efforts (Morgan, 1997). It might be a valuable contribution to the debate on national DB’s effectiveness.

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Appendices

Appendix 1: Review of “Development Bank” definitions.

<i>Development Bank is...</i>	<i>Reference</i>
<i>A financial institution devoted primarily to stimulating the private sector of the economy.</i>	Diamond, 1957: 4
<i>A financial intermediary supplying long-term funds to bankable economic development projects and providing related services.</i>	Kane, 1975: 14
<i>A specialized financial institution with functions and operations that can be defined with regard to its hybrid financial development character. An institutional instrument of public policy whose performance is measured more in terms of social benefits [...]</i>	Bruck, 1998: 62
<i>A financial institution that is primarily concerned with offering long-term capital finance to projects that are deemed to generate positive externalities and hence would be underfinanced by private creditors.</i>	Levy-Yeyati et al., 2004:16
<i>A financial institutions set up to foster economic development, often taking into account objectives of social development and regional integration, mainly by providing long-term financing to, or facilitating the financing of, projects generating positive externalities.</i>	United Nations, 2005:10
<i>A non-monetary financial institution controlled by the public sector that is primarily active in equity participations and bond issue subscriptions and awards long-term loans (that are beyond other financial institutions' capability or willingness to provide) in a bid to further national and regional development.</i>	Schmit, 2011: 38 (based on the OECD and IMF definition)
<i>A bank or financial institution with at least 30 percent state-owned equity that has been given an explicit legal mandate to reach socioeconomic goals in a region, sector or particular market segment.</i>	De Luna-Martinez and Vicente, 2012: 4

Appendix 2: List of observed national development banks.

Region	Country		Name of institution
<i>East Asia & Pacific</i>	Cambodia	1	Rural Development Bank
	China	2	China Development Bank
	Fiji	3	Fiji Development Bank
	Malaysia	4	Bank Pembangunan Malaysia Berhad
	Malaysia	5	Bank Perusahaan Kecil & Sederhana Malaysia Berhad
	Malaysia	6	Credit Guarantee Corporation Malaysia Berhad
	Malaysia	7	Sabah Credit Corporation
	Micronesia, Fed. Sts.	8	FSM Development Bank
	Mongolia	9	The Microfinance Development Fund
	Palau	10	National Development Bank of Palau
	Philippines	11	Al-Amanah Islamic Investment Bank of the Philippines
	Philippines	12	Development Bank of the Philippines
	Philippines	13	Philippine Postal Savings Bank, Inc.
	Philippines	14	Philippine Export-Import Credit Agency
	Philippines	15	Land Bank of the Philippines
	Samoa	16	Development Bank of Samoa
	Samoa	17	Samoa Housing Corporation
	Thailand	18	Small and Medium Enterprise Development Bank of Thailand
	Tonga	19	Tonga Development Bank
	Vanuatu	20	Vanuatu Agriculture Development Bank
	Vietnam	21	Vietnam Bank for Social Policies (VBSP)
<i>Europe & Central Asia</i>	Bulgaria	22	Bulgarian Development Bank AD
	Croatia	23	Croatian Bank for Reconstruction and Development (HBOR)
	Cyprus	24	TRNC Development Bank
	Finland	25	Finnvera plc
	Germany	26	Thüringer Aufbaubank (TAB)
	Germany	27	North Rhine-Westphalia (NRW Bank)
	Germany	28	Kreditanstalt für Wiederaufbau (KfW) Development Bank
	Hungary	29	Hungarian Export Import Bank Private Company Limited
	Latvia	30	Mortgage and Land Bank of Latvia
	Norway	31	KBN Kommunalbanken Norway
	Poland	32	Bank Gospodarstwa Krajowego (BGK)
	Slovak Republic	33	Slovak Guarantee and Development Bank
	Slovenia	34	Slovene Export and Development Bank
	Turkey	35	Export Credit Bank of Turkey (Türk Eximbank)
	Turkey	36	T.C. Ziraat Bankası A.Ş.
	Turkey	37	Development Bank of TURKEY

Region	Country		Name of institution
<i>Latin America & Caribbean</i>	Antigua and Barbuda	38	Antigua & Barbuda Development Bank
	Bolivia	39	Banco de Desarrollo Productivo (BDP)
	Brazil	40	Banco Nacional de Desenvolvimento Econômico e Social (BNDES)
	Brazil	41	Banco Da Amazonia (BASA)
	Brazil	42	Banco Do Nordeste DO Brasil
	Colombia	43	Banco De Comercio Exterior de Colombia
	Colombia	44	Fondo Para El Financiamiento del Sector Agropecuario (FINAGRO)
	Costa Rica	45	Banco Nacional de Costa Rica (Bncr)
	Curacao	46	Curacao Development Corporation (Korpodeko)
	Dominican Republic	47	Banco De Reservas De La Republica Dominicana
	Ecuador	48	Banco del Estado (BEDE)
	Ecuador	49	Banco Ecuatoriano de la Vivienda (BEV)
	Ecuador	50	Corporacion Financiera Nacional del Ecuador (CFN)
	Guatemala	51	El Crédito Hipotecario Nacional de Guatemala
	Mexico	52	Banco Nacional de Obras y Servicios Públicos, S.N.C. (BANOBRAS)
	Mexico	53	Nacional Financiera (NAFIN)
	Mexico	54	Financiera Rural
	Mexico	55	Fideicomisos Instituidos en Relación con la Agricultura (FIRA)
	Paraguay	56	Credito Agricola de Habilitacion (CAH)
	Paraguay	57	Agencia Financiera de Desarrollo (AFD)
	Paraguay	58	Banco Nacional de Fomento de Paraguay (BNF)
	Peru	59	Banco Agropecuario (Agrobanco)
	Peru	60	Corporación Financieras de Desarrollo S.A. (Cofide)
Peru	61	Banco de la Nacion (BN)	
Uruguay	62	Banco de la Republica Oriental del Uruguay (BROU)	
Venezuela, RB	63	Banco de Dearrollo Economico y Social de Venezuela (BANDES)	
<i>Middle East & North Africa</i>	Egypt, Arab Rep.	64	Industrial Development and Workers Bank of Egypt
	Oman	65	Export Credit Guarantee Agency of Oman
<i>North America & South Asia</i>	Canada	66	Business Development Bank of Canada (BDC)
	Bangladesh	67	Saudi Bangladesh Industrial and Agricultural Investment Co. Ltd.
	Bhutan	68	Bhutan Development Finance Corporation Limited
	India	69	National Bank for Agriculture and Rural Development
	India	70	Export-Import Bank of India (Exim Bank)
	India	71	Small Industries Development Bank of India
	Nepal	72	Nepal Industrial Development Corporation Ltd.
	Pakistan	73	First Credit & Investment Bank Limited
	Pakistan	74	Pak Oman Investment Company Limited
Sri Lanka	75	DFCC Bank	

Region	Country		Name of institution
<i>Sub-Saharan Africa</i>	Angola	76	BANCO DE POUPANÇA E CRÉDITO S.A.R.L
	Congo, Dem. Rep.	77	FPI – Industrial Promotion Fund
	Côte d'Ivoire	78	Banque de l'Habitat de Côte d'Ivoire (BHCI)
	Ghana	79	National Investment Bank Limited
	Kenya	80	Industrial and Commercial Development Corporation (ICDC)
	Kenya	81	Kenya Tourist Development Corporation (KTDC)
	Kenya	82	IDB Capital Ltd
	Nigeria	83	Nigerian Export-Import Bank (NEXIM)
	Rwanda	84	Rwanda Development Bank (BRD)
	South Africa	85	Development Bank of Southern Africa
	Sudan	86	The Agricultural Bank of Sudan
	Tanzania	87	TANZANIA INVESTMENT BANK LIMITED
	Uganda	88	Uganda Development Bank Limited
<i>Middle East & North Africa</i>	Bahrain	89	Bahrain Development Bank (BDB)
<i>East Asia & Pacific</i>	Indonesia	92	Bank Mandiri
<i>Europe & Central Asia</i>	Bulgaria	90	Bulgarian Development Bank (BDB)
	Hungary	91	Hungarian Development Bank
	Kazakhstan	93	Development Bank of Kazakhstan
	Macedonia, FYR	94	Macedonian Bank for Development Promotion
<i>Middle East & North Africa</i>	United Arab Emirates	95	Mubadala Development Company
<i>Sub-Saharan Africa</i>	Zimbabwe	96	Infrastructure Development Bank of Zimbabwe (IDBZ)

Appendix 3: Sample of national development banks.

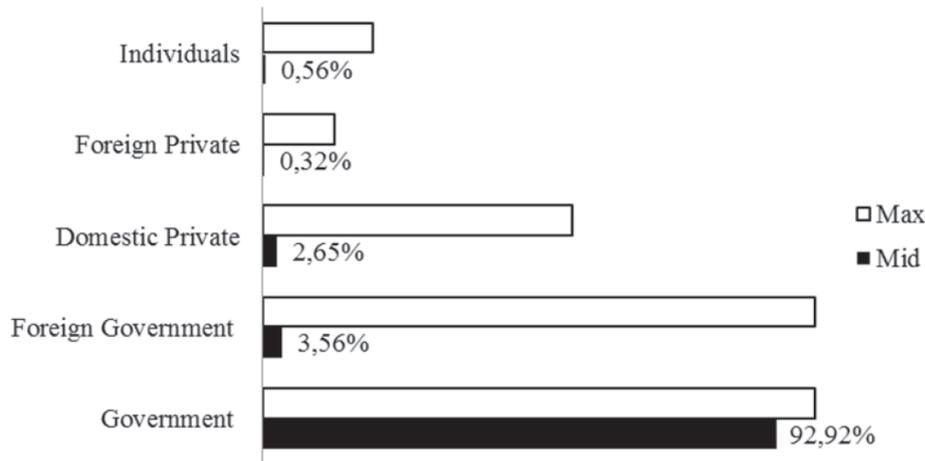
Country	Name of institution	Year of foundation
Angola	BANCO DE POUPANÇA E CRÉDITO S.A.R.L	1991
Bahrain	Bahrain Development Bank (BDB)	1992
Bangladesh	Saudi Bangladesh Industrial and Agricultural Investment Co. Ltd.	1984
Bhutan	Bhutan Development Finance Corporation Limited	1988
Bolivia	Banco de Desarrollo Productivo (BDP)	2007
Bulgaria	Bulgarian Development Bank AD	1999
Bulgaria	Bulgarian Development Bank (BDB)	1999
China	China Development Bank	1994
Colombia	Banco De Comercio Exterior de Colombia	1991
Colombia	Fondo Para El Financiamiento del Sector Agropecuario (FINAGRO)	1990
Congo, Dem. Rep.	FPI – Industrial Promotion Fund	1989
Côte d'Ivoire	Banque de l'Habitat de Côte d'Ivoire (BHCI)	1994
Ecuador	Banco del Estado (BEDE)	1992

Country	Name of institution	Year of foundation
<i>Egypt, Arab Rep.</i>	Industrial Development and Workers Bank of Egypt	1976
<i>Finland</i>	Finnvera plc	1998
<i>Germany</i>	Thüringer Aufbaubank (TAB)	1992
<i>Germany</i>	North Rhine-Westphalia (NRW Bank)	2004
<i>Hungary</i>	Hungarian Export Import Bank Private Company Limited	1994
<i>Hungary</i>	Hungarian Development Bank	2001
<i>India</i>	National Bank for Agriculture and Rural Development	1982
<i>India</i>	Export-Import Bank of India (Exim Bank)	1982
<i>India</i>	Small Industries Development Bank of India	1990
<i>Indonesia</i>	Bank Mandiri	1998
<i>Kazakhstan</i>	Development Bank of Kazakhstan	2000
<i>Kenya</i>	IDB Capital Ltd	1973
<i>Malaysia</i>	Bank Pembangunan Malaysia Berhad	1973
<i>Malaysia</i>	Credit Guarantee Corporation Malaysia Berhad	1972
<i>Malaysia</i>	Sabah Credit Corporation	1995
<i>Mexico</i>	Financiera Rural	2002
<i>Mongolia</i>	The Microfinance Development Fund	2002
<i>Nigeria</i>	Nigerian Export-Import Bank (NEXIM)	1991
<i>Oman</i>	Export Credit Guarantee Agency of Oman	1991
<i>Pakistan</i>	First Credit & Investment Bank Limited	1989
<i>Pakistan</i>	Pak Oman Investment Company Limited	2001
<i>Paraguay</i>	Agencia Financiera de Desarrollo (AFD)	2005
<i>Peru</i>	Banco Agropecuario (Agrobanco)	2002
<i>Peru</i>	Corporación Financieras de Desarrollo S.A. (Cofide)	1971
<i>Philippines</i>	Al-Amanah Islamic Investment Bank of the Philippines	1973
<i>Philippines</i>	Philippine Postal Savings Bank, Inc.	2006
<i>Philippines</i>	Philippine Export-Import Credit Agency	1977
<i>Republic of Macedonia</i>	Macedonian Bank for Development Promotion	1998
<i>Slovak Republic</i>	Slovak Guarantee and Development Bank	1991
<i>South Africa</i>	Development Bank of Southern Africa	1983
<i>Thailand</i>	Small and Medium Enterprise Development Bank of Thailand	2002
<i>Turkey</i>	Export Credit Bank of Turkey (Türk Eximbank)	1987
<i>Turkey</i>	Development Bank of TURKEY	1975
<i>United Arab Emirates</i>	Mubadala Development Company	2002
<i>Venezuela, RB</i>	Banco de Desarrollo Economico y Social de Venezuela (BANDES)	2001
<i>Vietnam</i>	Vietnam Bank for Social Policies (VBSP)	1996
<i>Zimbabwe</i>	Infrastructure Development Bank of Zimbabwe (IDBZ)	2005

Appendix 4: Heterogeneity of national development banks in the sample¹.

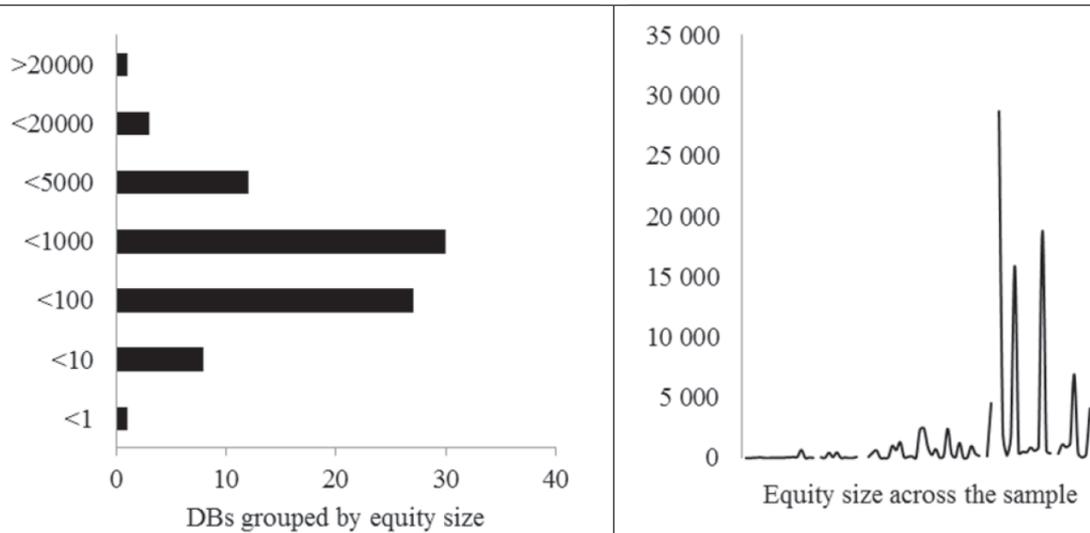
The only instance of congruence in the sample – ownership structure, 2009

Source: Author's analysis based on data described in the text



Equity, US\$ million, 2009

Source: Author's analysis based on data described in the text



¹ Based on the dataset for 88 DBs from Appendix 2.

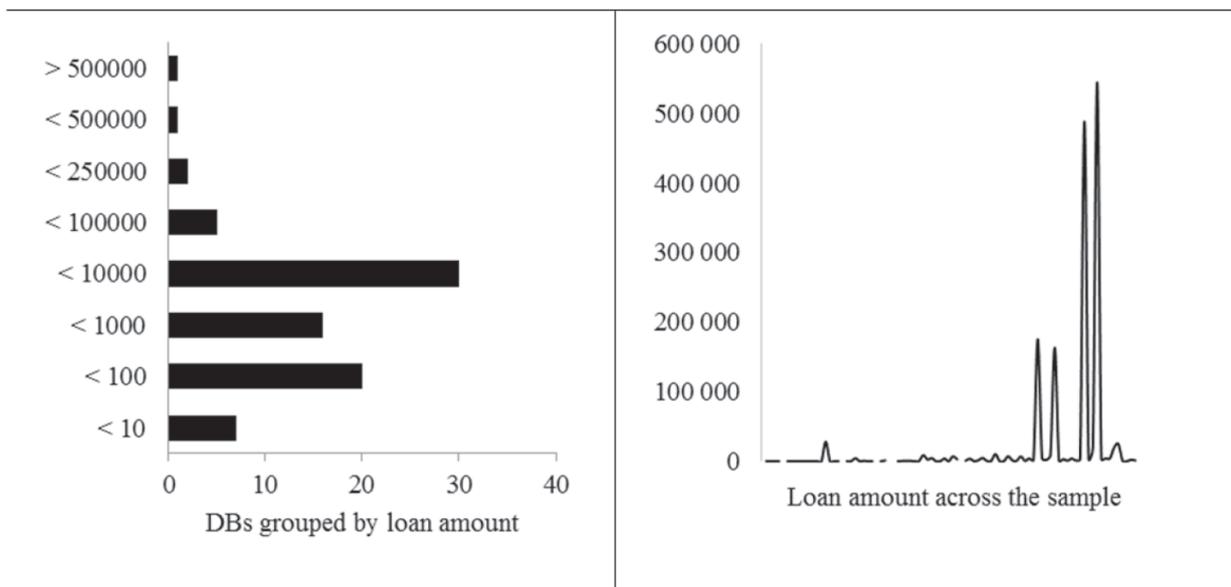
Assets, US\$ million, 2009

Source: Author's analysis based on data described in the text



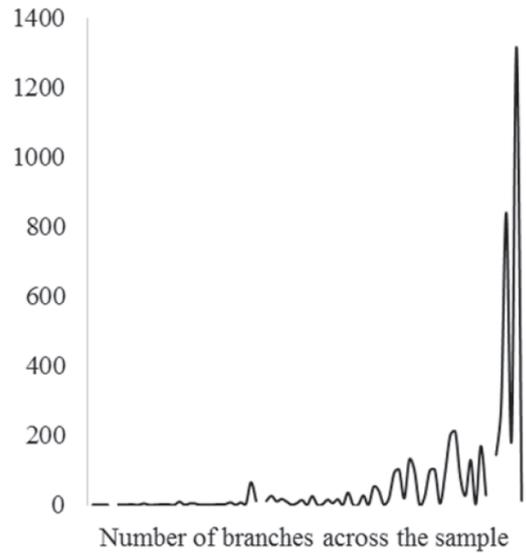
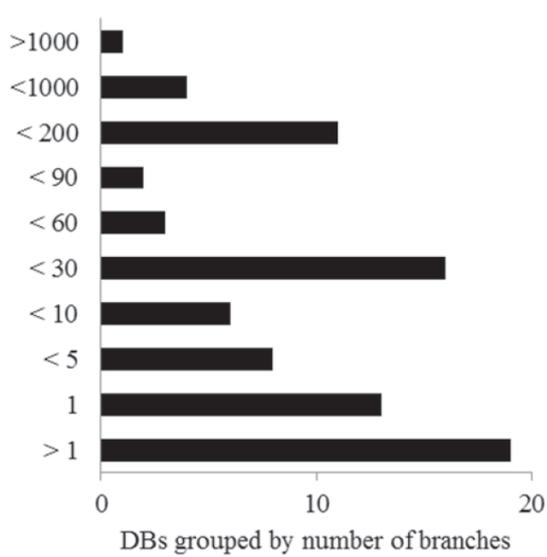
Loans, US\$ million, 2009

Source: Author's analysis based on data described in the text



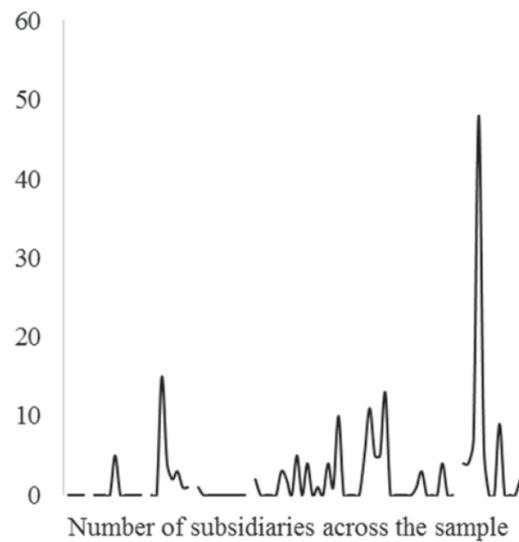
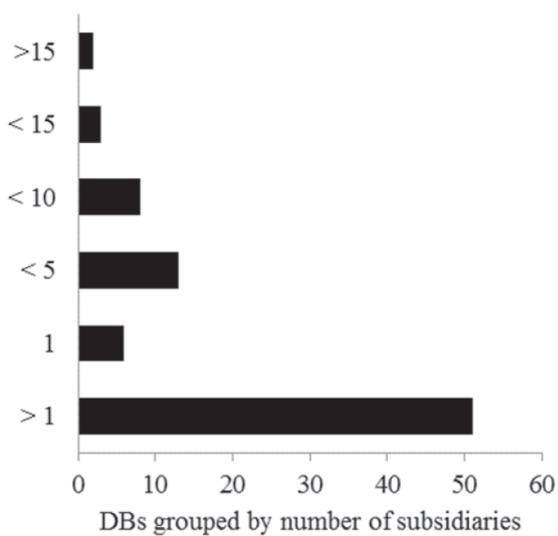
Number of branches, 2009

Source: Author's analysis based on data described in the text



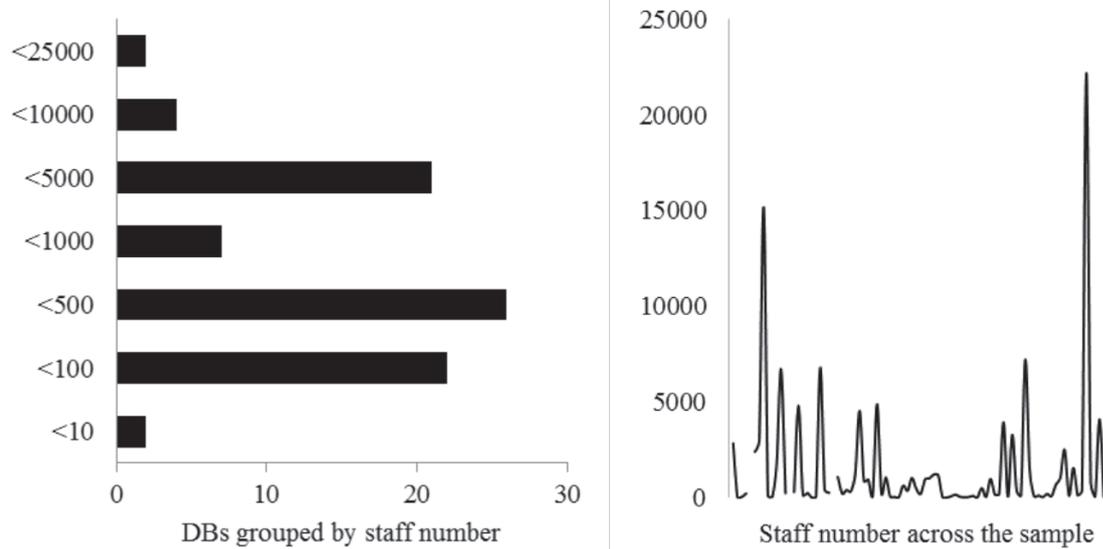
Number of subsidiaries, 2009

Source: Author's analysis based on data described in the text



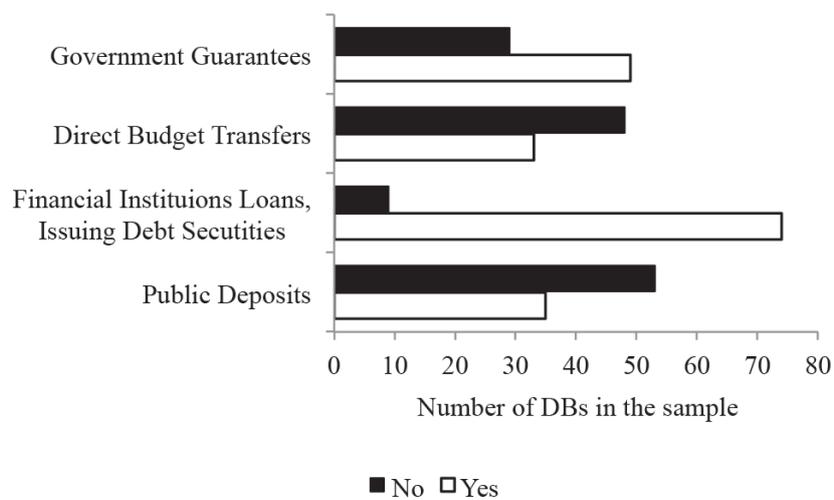
Staff, 2009

Source: Author's analysis based on data described in the text



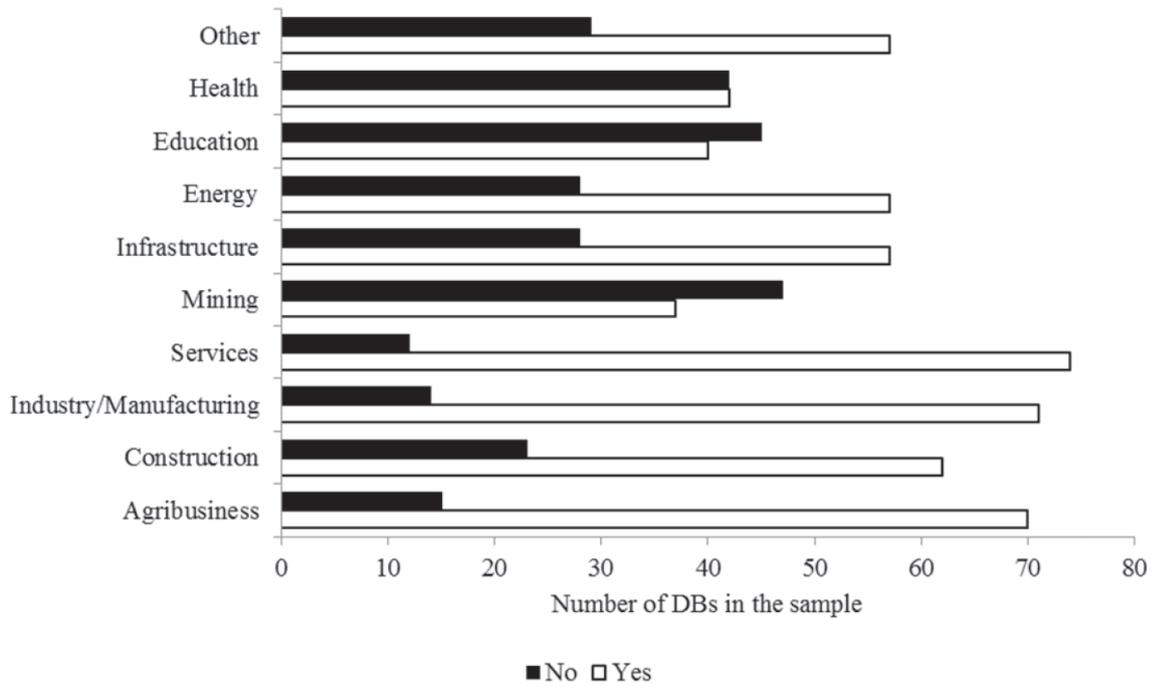
Funding options

Source: Author's analysis based on data described in the text



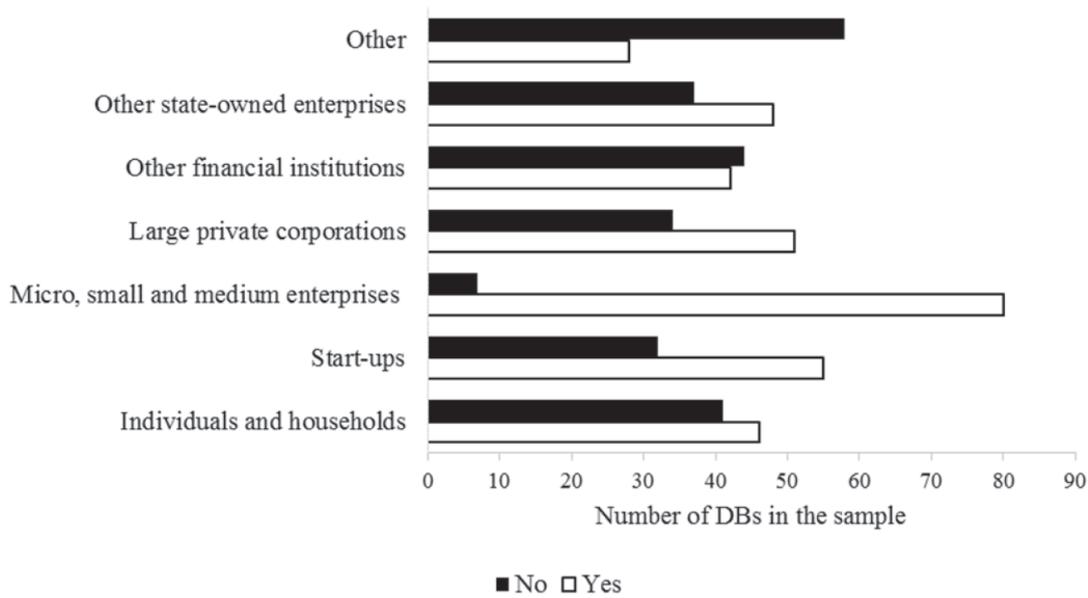
Sectoral assignment

Source: Author's analysis based on data described in the text



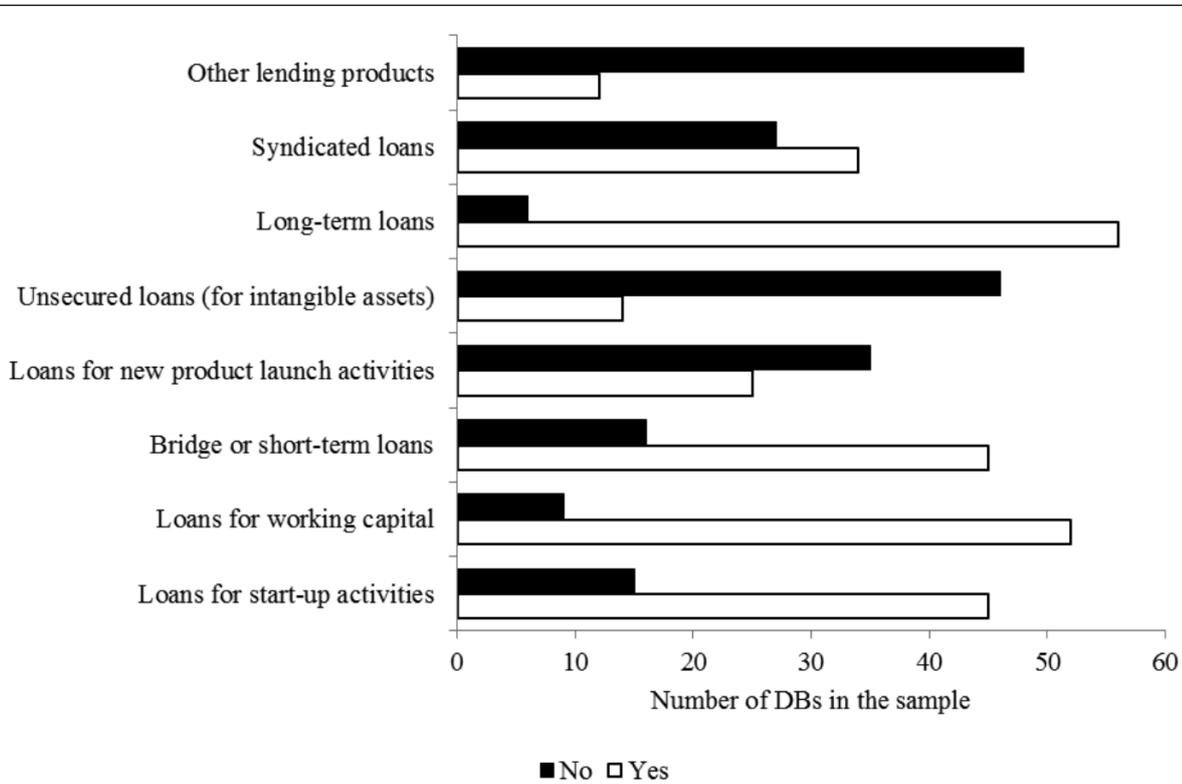
Targeted market segments

Source: Author's analysis based on data described in the text



Lending products

Source: Author's analysis based on data described in the text



Products and services provided

Source: Author's analysis based on data described in the text

