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The Role and Impact of Development Banks

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OUP Handbook on State Capitalism

WORLD
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Motivation

- Development Banks are used as a tool to solve market imperfections. Yet their actions are controversial because there hasn't been much impact measurement
- Seen as keys for development based on 1960s-1970s

What we do

- We look into Corfo (Chile), BDC (Canada), KfW (Germany), KDB (Korea), BNDES (Brazil), and CDB (China) to
  - Create a typology of “market failures” they aim to address
  - Examine the tools each uses to address these market failures
  - We create a typology of DBs based on our analysis
  - Summarize the existing studies; and,
  - analyze the impact of their policy tools

Lessons from this study can have consequences for other DBs worldwide

	Develop-ment agencies (A)	General develop-ment banks (B)	Special-purpose development banks (C)	Commercial banks with development objectives (D)	Total, by region (E)
Africa	3	26	21	20	70
North America		1	1		2
South and East Asia	13	23	22	27	85
Eurasia		7	2	9	18
Europe		7	3	2	12
Latin America/ Caribbean	4	29	17	1	51
Middle East		1	3	3	7
Oceania	1	5	5	4	15
Regional/Global		19	5	3	27
Total, by type	21	117	79	69	287

Source: We counted and classified all banks associated with the World Federation of Development Financial Institutions and the EFDI (European Development Finance Institutions), using the information on profiles and missions from their web pages: http://www.wfdfi.org.ph/members/list-of-members/ and http://www.edfi.be/members.html <access on February 12, 2012>. Note on the classification scheme:

A. Development agencies: includes investment authorities, training centers, and organizations that provide technical assistance to specific sectors, but that do not specialize in giving out loans.

B. General development banks are those focused on providing loans for or investing in the equity of industrial and/or infrastructure projects. It includes also banks that provide guarantees so that industrial or infrastructure projects can get private funding. They can be regional, such as the Inter-American Development Bank, or domestic, such as the Korea Development Bank.

C. Special-purpose development banks are those financial institutions specialized on credits to agriculture, small and medium enterprises, or the construction industry. That is, we include banks that want to promote construction and housing developments for families who could not get mortgage loans from regular banks. This category can include agricultural banks like The Principal Bank for Development and Agricultural Credit, from Egypt or The Land Bank of the Philippines, or banks with broader objectives such as the National Housing Bank of India.

D. There are many banks that we classify as commercial banks with some development objectives because these banks, public or private, operate as regular banks, but tend to have one part of their portfolio focused on specific sectors that the government is targeting. Examples of this are Azerigazbank in Azerbaijan, the Banco de Desarrollo Productivo in Bolivia, and the Bhutan National Bank Ltd, in Bhutan.

Dev Banks are BIG PLAYERS

Size of the DBs in 2014

	BDC (Canada)	KfW (Germany)	KDB (Korea)	BNDES (Brazil)	CDB (China)
Main Indicators (Billion USD$)					
Total Assets	16.9	593.8	251.7	330.3	1686
Outstanding loans	15.3	534.6	130.5	246.4	1297.9
Net income	0.4	1.8	0.6	3.2	16
Annual disbursements*	3.9	5.6	11.5	70.7	129.7
Ratios					
Total Assets to GDP	0.9%	15.4%	17.8%	14.1%	16.3%
Outstanding loans to GDP	0.9%	13.8%	9.3%	10.5%	12.6%
Private credit to GDP	166.7%	79.6%	138.4%	67.1%	141.9%
Dev. Bank loans to priv credit	0.5%	17.3%	6.7%	15.7%	8.9%

Theory of Development Banks

Market Failures Addressed (optimistic view)

Industrial Policy	Social
• Reducing information asymmetry and credit rationing • Promoting latent capabilities • Reducing coordination problems by promoting complementary investments with large spillover effects. • Reducing “discovery costs” (information externalities) • Strategic trade: subsidizing firms in costly international markets.	Socio-environmental impact: • Investment in regions or customer segments that are not profitable for the private sector. • Supporting socially oriented initiatives (including high employment). • Investment in environmentally-friendly projects.

Tools used: subsidies, long-term capital, guarantees, equity, technical assistance and R&D

Theory of Development Banks

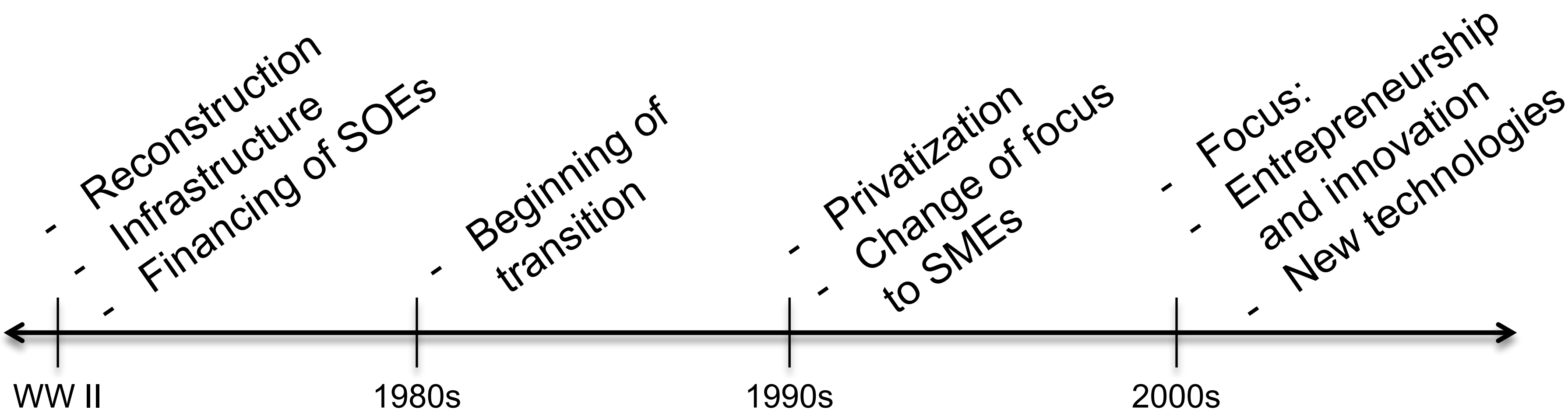
Political view (pessimistic view)

DBs create rent-seeking behavior (government failures)

<u>Government failures created:</u>

- Misallocation of credit (e.g. subsidized capital to large firms that do not need support in the first place).
- “Soft budget constraints”: supporting unproductive or failing firms.
- “Rent-seeking”: provision of subsidies to firms that do not need subsidized capital

Common History of Development Banks



Bank Comparison
Tools

	Corfo	BDC	KfW*	KDB	BNDES	CDB
Domestic						
Private						
Loans to large companies	□	□	■	■	■	■
Loans to SMEs	■	■	■	■	■	■
Loans to individuals	■	□	■	■	■	■
Credit guarantees	■	■	■	■	■	■
Leasing and securitization	□	■	■	■	■	■
Equity for large companies	□	□	□	■	■	■
Equity for SMEs	■	■	■	■	■	□
Venture capital	■	■	■	■	■	■
Grants	■	□	■	□	■	□
Technical assistance/consulting	■	■	■	■	□	■
Public						
Infrastructure	□	□	■	■	■	■
Social development	□	□	■	□	■	■
International						
Private						
Loans	□	□	■	■	■	■
Public						
Loans	□	□	■	□	■	■
Grants	□	□	■	□	□	□

■ = Yes
□ = No

Source: Based on authors' research of each bank's offerings.

*KfW only grants loans with public funds to large companies for environmental projects. Loans for this subject area are made through KfW IPEX bank at market rates and using its own funds.

Banks Comparison
Orientation Spectrum

- We see that 3 types of DBs emerge from our analysis:

BDC (Canada) & CORFO (Chile)

KfW (Germany) KDB (S. Korea)

BNDES (Brazil) & CDB (China)

Entrepreneurial-oriented
Banks in this category are focused on SMEs in the domestic market

Hybrids
Banks in this category present traits of the two different poles.

KfW is an Entrepreneurial hybrid, while KDB is a National champion hybrid.

National champion-oriented
Banks in this category are focused on lending to large firms (sometimes holding equity) and facilitating strategic trade.

Banks Comparison
Portfolio Composition

- In 2014, the portfolio composition of the DBs as a percentage of assets was:

	BDC (Canada)	KfW (Germany)	KDB (Korea)	BNDES (Brazil)	CDB (China)
Loans	90.70%	90.02%	51.85%	74.60%	76.98%
Equity	2.56%	4.42%	7.75%	5.13%	6.59%
Others	6.75%	5.56%	40.40%	20.27%	16.43%

Effects on Private Market Performance
Impact Studies Methodology

- In our definition, *impact* means *additionality*. Additionality refers to what happens thanks to DB programs vs. the *counterfactual* (without the DB program)

- The gold standard for evaluating impact is a *Randomized Controlled Trial* (RCT), but researchers also create artificial control groups using *matching* techniques

Effects on Private Market Performance
Available Studies

- Some banks have evolved in the direction o becoming more transparent, providing more data on loans and investments
- Notwithstanding, studies which implement counterfactual analysis are still too scant
- In our search, we were not able to find studies with randomization, although there are some that use matching techniques to create synthetic groups

Effects on Private Market Performance
Examples

- Corfo
  - Arráiz, Henríquez and Stucchi (2013) measure the difference in performance of firms which received the support of the *Chilean Supplier Development Program* to those that didn't. To create the synthetic control group the authors use a *Propensity Score Matching* (PSM) technique. Findings suggest that the program has achieved its objective of stabilizing and improving supply chains (basically helping local SMEs to integrate into important supply chains and to remain there). The program also helped the customers of the targeted firms to become exporters, and generated employment and increases in salaries.

- BDC
  - BDC conducted a study to evaluate the impact of its programs offered between 2001 and 2010. Using also a PSM technique, they created a control group of firms that did not receive any support from the bank. The main finding is that BDC clients performed better than non-clients when receiving financial aid, but <u>even more</u> when it was accompanied by consulting services. Nevertheless, consulting services alone did not yield any result.

Examples: BNDES, loans to publicly-traded, large firms

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What Do State-Owned Development Banks Do? Evidence from BNDES, 2002–09

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Summary. — Defendants of state-owned development banks emphasize their role in reducing capital constraints and fostering productive investment; detractors point out that they may benefit politically connected capitalists or bail out inefficient firms. We study the effect of loans and equity investments of the Brazilian National Development Bank (BNDES) and find that they do not have any consistent effect on firm-level performance and investment, except for a reduction in financial expenditures due to the subsidies accompanying loans. However, BNDES does not systematically lend to underperforming firms. Our results indicate that BNDES subsidizes firms that could fund their projects with other sources of capital.

Key words — state-owned banks, development banks, industrial policy, political connections, BNDES

Using OLS and PSMatching we find no sig effect of loans and equity investments of BNDES on ROA, Tobin's Q & capex (2002-09)

Table 5. *Effect of BNDES loans and equity on firm-level performance variables: fixed-effect regressions*

	ROA				EBITDA/Assets				Tobin's q			
BNDES loans)$_t$	0.000	−0.002			0.001	−0.003			−0.010	−0.009		
	[0.002]	[0.002]			[0.002]	[0.003]			[0.011]	[0.008]		
BNDES loans)$_{t-1}$		0.001				0.002				−0.01		
		[0.003]				[0.003]				[0.015]		
BNDES loans)$_{t-2}$		−0.001				−0.004				−0.03		
		[0.003]				[0.004]				[0.021]		
BNDES equity)$_t$	0.001	−0.002			0.000	−0.004			−0.006	0.000		
	[0.002]	[0.002]			[0.003]	[0.003]			[0.008]	[0.006]		
BNDES equity)$_{t-1}$		−0.001				0.001				−0.024		
		[0.004]				[0.004]				[0.016]		
BNDES equity)$_{t-2}$		0.004				0.003				0.030		
		[0.005]				[0.005]				[0.019]		
NDES loans$_t$			0.020	0.018			0.031	0.025			0.033	0.0
			[0.022]	[0.026]			[0.021]	[0.031]			[0.177]	[0.1
NDES loans$_{t-1}$				0.038				0.028				−0.0
				[0.029]				[0.036]				[0.1
NDES loans$_{t-2}$				−0.011				−0.012				−0.0
				[0.027]				[0.029]				[0.1
NDES equity$_t$			0.030	−0.092			0.006	−0.156			−0.652	0.6
			[0.181]	[0.151]			[0.200]	[0.186]			[0.476]	[1.0
NDES equity$_{t-1}$				−0.07				0.069				−1.
				[0.272]				[0.258]				[0.9
NDES equity$_{t-2}$				0.315				0.191				2.5
				[0.367]				[0.383]				[1.9

No consistent increase in capex after getting BNDES loans (but reducing financial expense)

Table 6. *Effect of BNDES loans and equity on firm-level financial expenses, capital expenditures, and investments: fixed-effect regressions*

	Finex/Debt				Capex/Assets				Fixed assets/Assets			
$\ln(\text{BNDES loans})_t$	−0.006*	−0.013*			0.002	0.004*			−0.004	−0.002		
	[0.003]	[0.005]			[0.001]	[0.002]			[0.003]	[0.005]		
$\ln(\text{BNDES loans})_{t-1}$		[illegible]				[illegible]				0.000		
		[0.006]				[0.002]				[0.002]		
$\ln(\text{BNDES loans})_{t-2}$		[illegible]				−0.004				−0.004		
		[illegible]				[0.002]				[0.003]		
$\ln(\text{BNDES equity})_t$	[illegible]	[illegible]			−0.002	−0.003			0.000	0.001		
	[illegible]	[illegible]			[0.002]	[0.003]			[0.003]	[0.002]		
$\ln(\text{BNDES equity})_{t-1}$		[illegible]				0.001				0.003		
		[illegible]				[0.002]				[0.002]		
$\ln(\text{BNDES equity})_{t-2}$		0.003				−0.001				−0.001		
		[0.007]				[0.002]				[0.004]		
$\%\text{BNDES loans}_t$			0.005	0.101			−0.032†	0.000			0.013	−0.041†
			[0.050]	[0.065]			[0.017]	[0.021]			[0.028]	[0.024]
$\%\text{BNDES loans}_{t-1}$				−0.124**				−0.007				[illegible]
				[0.047]				[0.024]				[0.031]
$\%\text{BNDES loans}_{t-2}$				0.093				−0.063				−0.020
				[0.069]				[0.061]				[0.045]
$\%\text{BNDES equity}_t$			−0.099	0.277			−0.045	−0.135			−0.011	0.182
			[0.306]	[0.352]			[0.147]	[0.284]			[0.169]	[0.207]
$\%\text{BNDES equity}_{t-1}$				−2.100***				−0.003				0.109
				[0.496]				[0.120]				[0.133]
$\%\text{BNDES equity}_{t-2}$				−0.171				−0.135				−0.048
				[1.704]				[0.204]				[0.184]

Thus, marginal dollar from BNDES reduces financial expenditures to debt by around 4-12 p.p.

BNDES is not lending to firms with financial constraints (otherwise those firms would show additionality)

Table 8. *Effect of BNDES loans and equity on firm-level financial constraints: fixed-effect regressions*

	Investment (Capex/stock of fixed assets in $t-1$)			
Cash flow	0.028*	0.059**	0.027*	0.046***
	[0.012]	[0.019]	[0.011]	[0.013]
%BNDES loans$_t$	−22.642	−17.365		
	[14.154]	[12.775]		
%BNDES equity$_t$	−523.029	−474.118		
	[425.345]	[351.557]		
Ln(BNDES loans)$_t$			−0.688	−0.262
			[0.996]	[0.979]
Ln(BNDES equity)$_t$			−5.130	−4.451
			[5.003]	[4.093]
Cash flow × %BNDES loans$_t$		−0.057		
		[0.123]		
Cash flow × %BNDES equity$_t$		−0.382		
		[0.243]		
Cash flow × Ln(BNDES loans)$_t$				0.000
				[0.003]
Cash flow × Ln(BNDES equity)$_t$				−0.008
				[0.006]

Policy Recommendations for DBs

- Improve accountability & transparency
- Closely monitor the performance and/or partner with private sector (crowding in)
- Loans/investments + technical assistance/consulting
- Careful with crowding out private lenders
- Use direct lending or direct equity investment with discretion and preferably when there are real credit constraints
- Limit investment to projects with significant positive externalities
- Act as an impact investor (evaluations)

Development banks and COVID

- The COVID pandemic and the lockdown have created new opportunities for governments to use development banks as coordination mechanisms and providers of liquidity.
- The failures in this case are clear, but the obstacle can be that some of these banks are still used to lending to large companies and not to the SMEs that need financing the most.
- In that sense, the business model of Corfo, BDC, and KfW can be more effective to bounce back from the recession induced by COVID