Mobilization Effects of Multilateral Development Banks

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Motivation

Huge investment gap to achieve the Sustainable Development Goals

Multilateral Development Banks (MDBs) play a fundamental role in the 2030 Sustainable Development Agenda, providing *direct financial assistance* and **mobilizing private sector resources**:

- The *additionality* could depend on lower political and credit risk, better information, signaling and demonstration effects
- But there could be *no* additionality or crowding out, e.g., because of moral hazard

Research question:

Does MDB lending mobilize *additional* private-sector resources?

Our Contribution

- Most of the evidence on the catalytic effect of international financial institutions has focused on IMF programs (Morris & Shin 2006; Mody & Saravia 2006) or—when looking at MDBs—has used aggregate macroeconomic data, with mixed results
- The key empirical challenge is the selection bias and the **endogeneity of MDB lending** (Carter et al. 2018)
- Our approach uses granular loan-level data on syndicated loans, which allows to:
  - work at the country-sector-year level;
  - absorb all the time-varying country- and sector-specific factors that can drive MDB lending with a large set of fixed effects

We provide the first systematic analysis of MDBs' mobilization

Preview of Results

- When MDBs lend to a country-sector we see a positive significant increase in:
  - number of loans
  - total size of private inflows
  - number of lending banks
  - average maturity of syndicated loans
- Effects are sizable (and not offset by bond issuances) and last up to three years
- No evidence of anticipation effects and results are robust to controlling for confounding factors (top banks, Chinese lending, aid flows, sector value added, bonds)

Plan of the Talk

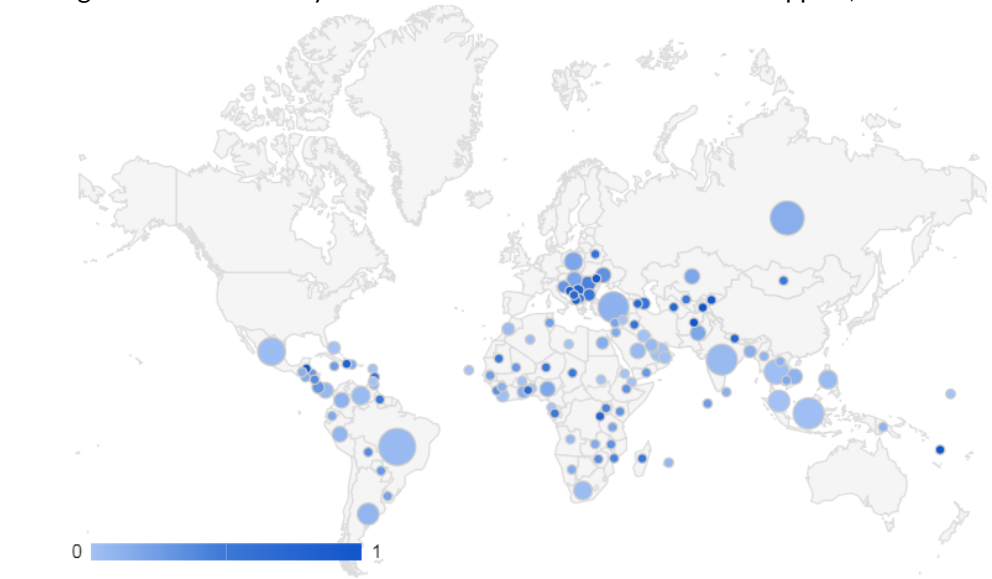
- Data and Empirical Strategy
- Main Results and Robustness
- Extensions
- Conclusion

Data and Empirical Strategy

Data

- Dealogic Loan Analytics database: loan-level data of all syndicated loans, 127 developing countries, 1993-2017
- Information on: value, # of tranches, signing date, maturity, type (investment grade vs leveraged), borrower nationality and industry, # of banks, their name and nationality
- We exclude loans to sovereign entities
- Final sample: 21,373 syndicated loans to 117 countries
- Additional data on corporate bond issuances (Dealogic), sectoral aid (OECD), sectoral value added (WDI), and Chinese official development finance (AidData)

Figure 1. Number of Syndicated Loans and Share with MDB Support, 1993-2017



Summary Statistics at the Loan Level

▸ Descriptives at country-sector level

The deals that involve at least one MDB are 9.2% of the sample, and they are larger, with fewer banks and longer maturities than other deals

	Mean	SD	Min	Max	N
Panel A. *All Syndicated Loans*					
Size (% GDP)	0.108	0.319	0.001	4.295	21,164
Number of participating banks	6.153	7.498	1	80	21,373
Maturity (years)	5.458	4.476	0.083	35.083	18,603
Panel B. *Syndicated Loans with MDB Participation*					
Size (% GDP)	0.169	0.403	0.001	3.938	1,946
Number of participating banks	4.487	5.976	1	59	1,967
Maturity (years)	7.489	4.499	0.2	30	1,111

Empirical Strategy

We estimate the following country-sector fixed effects model

$$y_{cs,t} = y_{cs,t-1} + \sum_{k=0}^{2} \beta_k MDB_{cs,t-k} + \delta_{c,t} + \zeta_{s,t} + \alpha_{cs} + \varepsilon_{cs,t}$$

where the outcome variable $y_{cs,t}$ in country-sector pair cs at time t is, alternatively:

- the number of syndicated loans;
- the total size of syndicated loans, scaled by GDP;
- the number of banks participating in syndicated lending;
- loan maturity (in years)

$$y_{cs,t} = y_{cs,t-1} + \sum_{k=0}^{2} \beta_k MDB_{cs,t-k} + \delta_{c,t} + \zeta_{s,t} + \alpha_{cs} + \varepsilon_{cs,t}$$

- $MDB_{cs,t}$ is a dummy equal to 1 if at least one deal is supported by one MDB in the country-sector pair *cs* at time *t*
- β_k measures the association with MDBs' participation (on impact and up to 2 lags)
- $\delta_{c,t}$, $\zeta_{s,t}$ and α_{cs} are time-varying country and sector effects and country$\times$sector fixed effects
- Standard errors ($\varepsilon_{cs,t}$) are clustered at country level

Key assumption

Unobservable factors varying over time within each country-sector pair are not correlated with changes in the MDB dummy variable

Main Results

Baseline Results

Table

Panel A.	Number of Loans				Size (% GDP)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$MDB_{cs,t}$	0.6553***	0.5502**	0.3791**	0.3846**	0.1099***	0.0835***	0.0656***	0.0637***
	(0.222)	(0.224)	(0.169)	(0.161)	(0.025)	(0.022)	(0.022)	(0.020)
$MDB_{cs,t-1}$	0.3006*	0.2396	0.1245	0.1235	0.0493*	0.0349	0.0192	0.0125
	(0.156)	(0.161)	(0.152)	(0.158)	(0.025)	(0.023)	(0.024)	(0.024)
$MDB_{cs,t-2}$	-0.0528	-0.1072	-0.0583	-0.0508	0.0792***	0.0559***	0.0509***	0.0492***
	(0.106)	(0.179)	(0.155)	(0.159)	(0.020)	(0.015)	(0.016)	(0.018)
Number of $Loans_{cs,t-1}$	0.9521***	0.8712***	0.8688***	0.8685***				
	(0.053)	(0.073)	(0.078)	(0.078)				
Size $(\%GDP)_{cs,t-1}$					0.4382***	0.2282***	0.2214***	0.2155***
					(0.078)	(0.069)	(0.071)	(0.071)
$\sum_{k=0}^{2} MDB_{cs,t-k}$	0.903***	0.683	0.445	0.457	0.238***	0.174***	0.136***	0.125***
Wald test : p value	0.008	0.124	0.228	0.214	0.000	0.000	0.002	0.005
Observations	24,219	24,219	24,219	24,219	24,219	24,219	24,219	24,219
R^2	0.779	0.792	0.833	0.835	0.197	0.319	0.401	0.410
Sector-country FE	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Country-year FE	No	No	Yes	Yes	No	No	Yes	Yes
Sector-year FE	No	No	No	Yes	No	No	No	Yes
Average MDB	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048
Average Number of Loans	0.760	0.760	0.760	0.760				
Average Size (%GDP)					0.105	0.105	0.105	0.105

Baseline Results

▸ Table

Panel B.	Banks per Loan				Maturity			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$MDB_{cs,t}$	1.5789***	0.8945***	0.4796**	0.4634**	1.3678***	0.8443***	0.6855***	0.6371***
	(0.259)	(0.262)	(0.206)	(0.200)	(0.149)	(0.133)	(0.133)	(0.125)
$MDB_{cs,t-1}$	1.3708***	0.8162***	0.5634***	0.6026***	0.7080***	0.3605***	0.1762	0.1345
	(0.238)	(0.249)	(0.188)	(0.180)	(0.149)	(0.121)	(0.125)	(0.125)
$MDB_{cs,t-2}$	1.2071***	0.5697**	0.4287*	0.5157**	0.9294***	0.5888***	0.3672***	0.3096***
	(0.218)	(0.219)	(0.223)	(0.226)	(0.114)	(0.095)	(0.095)	(0.092)
Banks per $Loan_{cs,t-1}$	0.6377***	0.3016***	0.2310***	0.2221***				
	(0.031)	(0.033)	(0.032)	(0.031)				
$Maturity_{cs,t-1}$					0.4430***	0.1310***	0.0856***	0.0751***
					(0.032)	(0.022)	(0.017)	(0.017)
$\sum_{k=0}^{2} MDB_{cs,t-k}$	4.157***	2.280***	1.472***	1.582***	3.005***	1.794***	1.229***	1.081***
Wald test : p value	0.000	0.000	0.003	0.001	0.000	0.000	0.000	0.000
Observations	24,219	24,219	24,219	24,219	23,439	23,439	23,439	23,439
R^2	0.479	0.592	0.670	0.676	0.284	0.439	0.522	0.531
Sector-country FE	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Country-year FE	No	No	Yes	Yes	No	No	Yes	Yes
Sector-year FE	No	No	No	Yes	No	No	No	Yes
Average MDB	0.048	0.048	0.048	0.048	0.038	0.038	0.038	0.038
Average Banks per Loan	1.526	1.526	1.526	1.526				
Average Maturity					0.752	0.752	0.752	0.752

Anticipation Effects

	Number of loans	Size (% GDP)	Banks	Maturity
	(1)	(2)	(3)	(4)
$MDB_{cs,t}$	0.4378***	0.0628***	0.4477**	0.6169***
	(0.144)	(0.024)	(0.217)	(0.136)
$MDB_{cs,t-1}$	0.3278**	0.0112	0.5824***	0.0868
	(0.135)	(0.024)	(0.183)	(0.132)
$MDB_{cs,t-2}$	0.1437	0.0515***	0.4831**	0.2512***
	(0.107)	(0.018)	(0.236)	(0.092)
$MDB_{cs,t+1}$	0.1878	0.0277	0.2271	0.0986
	(0.258)	(0.029)	(0.202)	(0.109)
$MDB_{cs,t+2}$	0.1553	0.0450	0.2789	0.1153
	(0.135)	(0.048)	(0.257)	(0.106)
Dep. $var._{cs,t-1}$	0.7307***	0.2036***	0.2151***	0.0706***
	(0.077)	(0.072)	(0.032)	(0.018)
Observations	22,113	22,113	22,113	21,388
R^2	0.829	0.404	0.680	0.531
Sector-country FE	Yes	Yes	Yes	Yes
Country-year FE	Yes	Yes	Yes	Yes
Sector-year FE	Yes	Yes	Yes	Yes
Average MDB	0.049	0.049	0.049	0.039
Average Dep. Var.	0.730	0.105	1.545	0.736

Confounding Factors: Top 10 Banks

Table

	Number of loans	Size (% GDP)	Banks	Maturity
	(1)	(2)	(3)	(4)
$MDB_{cs,t}$	0.3941**	0.0632***	0.4557**	0.6300***
	(0.157)	(0.020)	(0.201)	(0.125)
$MDB_{cs,t-1}$	0.1846	0.0092	0.5356***	0.0811
	(0.156)	(0.023)	(0.182)	(0.121)
$MDB_{cs,t-2}$	0.0041	0.0462***	0.4578**	0.2659***
	(0.161)	(0.017)	(0.230)	(0.091)
Top 10 Banks	-0.6419***	0.0345	0.7738***	0.4959***
	(0.182)	(0.037)	(0.231)	(0.112)
Dep. $Var._{cs,t-1}$	0.8727***	0.2130***	0.2050***	0.0578***
	(0.077)	(0.072)	(0.033)	(0.017)
$\sum_{k=0}^{2} MDB_{cs,t-k}$	0.583	0.119***	1.449***	0.977***
Wald test : p value	0.105	0.006	0.004	0.000
Observations	24,219	24,219	24,219	23,439
R^2	0.836	0.410	0.677	0.533
Sector-country FE	Yes	Yes	Yes	Yes
Country-year FE	Yes	Yes	Yes	Yes
Sector-year FE	Yes	Yes	Yes	Yes
Average MDB	0.048	0.048	0.048	0.038
Average Dep. Var.	0.760	0.105	1.526	0.752

Confounding Factors: (DAC) Aid Flows

	Number of loans	Size (% GDP)	Banks	Maturity
	(1)	(2)	(3)	(4)
$MDB_{cs,t}$	0.4917***	0.0750***	0.5286**	0.6797***
	(0.167)	(0.027)	(0.252)	(0.149)
$MDB_{cs,t-1}$	0.2375**	0.0007	0.4519**	0.1014
	(0.119)	(0.026)	(0.194)	(0.150)
$MDB_{cs,t-2}$	0.1328	0.0481**	0.3214	0.2315**
	(0.118)	(0.020)	(0.261)	(0.100)
ODA	0.0335*	-0.0150	-0.0817	-0.0389
	(0.020)	(0.014)	(0.116)	(0.049)
Dep. $Var._{cs,t-1}$	0.7461***	0.2055***	0.2006***	0.0644***
	(0.083)	(0.073)	(0.034)	(0.019)
$\sum_{k=0}^{2} MDB_{cs,t-k}$	0.862***	0.124**	1.302**	1.013***
Waldtest : pvalue	0.000	0.0217	0.0273	0.000
Observations	21,168	21,168	21,168	20,505
R^2	0.834	0.404	0.675	0.530
Sector-country FE	Yes	Yes	Yes	Yes
Country-year FE	Yes	Yes	Yes	Yes
Sector-year FE	Yes	Yes	Yes	Yes
Average MDB	0.043	0.043	0.043	0.032
Average Dep. Var.	0.670	0.104	1.415	0.691

Confounding Factors: Chinese Development Finance

	Number of loans	Size (% GDP)	Banks	Maturity
	(1)	(2)	(3)	(4)
$MDB_{cs,t}$	0.3809***	0.0627	0.7119**	0.6793***
	(0.133)	(0.041)	(0.278)	(0.146)
$MDB_{cs,t-1}$	0.4378**	0.0423	0.8823***	0.2603*
	(0.179)	(0.036)	(0.249)	(0.153)
$MDB_{cs,t-2}$	0.2100	0.0598**	0.5468**	0.1895*
	(0.134)	(0.024)	(0.234)	(0.099)
Chinese lending	-0.0669	-0.0202	0.0449	-0.1847***
	(0.066)	(0.035)	(0.113)	(0.065)
Dep. $Var._{cs,t-1}$	0.6143***	0.0982	0.1888***	0.0327
	(0.106)	(0.109)	(0.048)	(0.027)
$\sum_{k=0}^{2} MDB_{cs,t-k}$	1.029***	0.165*	2.141***	1.129***
Wald test : p value	0.000	0.0588	0.000	0.000
Observations	11,934	11,934	11,934	11,468
R^2	0.837	0.418	0.731	0.576
Sector-country FE	Yes	Yes	Yes	Yes
Country-year FE	Yes	Yes	Yes	Yes
Sector-year FE	Yes	Yes	Yes	Yes
Average MDB	0.063	0.063	0.063	0.047
Average Dep. Var.	0.855	0.104	1.522	0.799

Confounding Factors: Sector Value Added

	Number of loans	Size (% GDP)	Banks	Maturity
	(1)	(2)	(3)	(4)
$MDB_{cs,t}$	0.5457**	-0.0062	0.3807	0.3079
	(0.251)	(0.025)	(0.333)	(0.194)
$MDB_{cs,t-1}$	0.4407*	-0.0059	0.2891	0.0761
	(0.236)	(0.021)	(0.288)	(0.206)
$MDB_{cs,t-2}$	0.7730**	0.0847***	0.9260**	0.2969*
	(0.334)	(0.025)	(0.385)	(0.156)
Value Added $_{cs,t}$	0.002	-0.001	0.011	0.0021
	(0.004)	(0.001)	(0.011)	(0.005)
Dep. $Var._{cs,t-1}$	0.6363***	0.1958***	0.1241***	0.0357
	(0.055)	(0.064)	(0.040)	(0.029)
$\sum_{k=0}^{2} MDB_{cs,t-k}$	1.759***	0.0726**	1.596**	0.681**
Waldtest : pvalue	0.006	0.035	0.018	0.028
Observations	7,325	7,325	7,325	7,067
R^2	0.877	0.549	0.766	0.668
Sector-country FE	Yes	Yes	Yes	Yes
Country-year FE	Yes	Yes	Yes	Yes
Sector-year FE	Yes	Yes	Yes	Yes
Average MDB	0.040	0.040	0.040	0.030
Average Dep. Var.	0.685	0.0549	1.159	0.612

Other Robustness Exercises

- We control for **bonds**
- To control for the **large share of zeros**, we exclude:
  - countries that have fewer than 100 syndicated loans in total
  - sectors with fewer than 1,000 syndicated loans in total
  - both countries and sectors that have fewer than 100 and 1000 syndicated loans, respectively
- We **cluster the standard errors** at the country-sector level, in line with MDB support assigned across country-sector pairs ▸ Table
- We control for country-sector linear and quadratic **trends** ▸ Table
- We estimate **Oster bounds**

Extensions

Multiplier

	Size (ln $ lent)		
	(1)	(2)	(3)
MDB size (ln $ lent)$_{cs,t}$	0.0873***	0.0862***	0.0824***
	(0.020)	(0.018)	(0.018)
MDB size (ln $ lent)$_{cs,t-1}$	0.0415**	0.0484**	0.0451**
	(0.020)	(0.021)	(0.021)
MDB size (ln $ lent)$_{cs,t-2}$	0.0353	0.0443*	0.0414
	(0.025)	(0.025)	(0.025)
Size (ln $ lent)$_{cs,t-1}$	0.1860***	0.0472**	0.0515***
	(0.022)	(0.018)	(0.018)
$\sum_{k=0}^{2} MDB_{cs,t-k}$	0.164***	0.179***	0.169***
Wald test : p value	0.000	0.000	0.000
Marginal Effect	6.862***	7.490***	7.071***
Observations	24,219	24,219	24,219
R-squared	0.714	0.748	0.747
All FE	Yes	Yes	Yes
Country-sector Trends	No	Yes	Quadratic
Average Size (ln $ lent)	0.859	0.859	0.859
Average MDB size (ln $ lent)	0.175	0.175	0.175
Average Size ($ lent)	158.5	158.5	158.5
Average MDB size ($ lent)	3.788	3.788	3.788

Implied multiplier in line with estimating effect on lending per capita

Direct and Indirect Mobilization

We look at **total mobilization**, including the volume of the loan in which MDBs participate (excluding their share) and the number of private creditors partnering in the loan itself in the outcome variables ▸ Table

Total mobilization is larger than the indirect one

Is There a Crowding Out of Corporate Bonds?

The positive mobilization that we have documented so far could be partially (or fully) offset by a reduction in other capital inflows

- We look at corporate bond issuances, which represent the closest substitute to syndicated loans, as they have similar size and maturity
- No significant association with the number of bonds nor with the size of corporate bond financing at the same time and in the two years after MDBs' participation

▸ Table

Country Heterogeneity

We investigate the extent of mobilization across countries at different levels of income and risk

Mobilization is:

- stronger for countries with investment grade, while for riskier countries there is a positive association with loan terms but not on quantity Table
- weaker in low-income countries and in low-growth country-year pairs Table

Conclusion

Key Takeaways

1. MDB lending is positively and significantly associated with the number of syndicated loans, the total size of inflows, the number of lending banks, and the average loan maturity

2. The mobilization is large and persistent over time, with no evidence of anticipation effects

3. For each dollar that the MDB puts in a country sector, the private sector lends almost 7 dollars in the next 3 years

Policy Implications

- MDBs can play a **fundamental role** through a stronger engagement to attract additional resources from the private sector
- MDB lending is less effective in low-income and risky countries, suggesting that MDBs still face **challenges** to attract private resources especially in countries with larger financing needs

Additional Slides

Summary Statistics at the Loan Level

Back

	Mean	SD	Min	Max	N
Panel A. *Syndicates Loans*					
Number of Loans	0.737	4.518	0	188	26,325
Size (% GDP)	0.109	0.693	0	41.514	26,325
Size w/o Loan w/MDB (% GDP)	0.101	0.672	0	41.514	26,325
Banks	1.474	5.185	0	80	26,325
Banks w/o MDB partners	1.562	5.309	0	80	26,325
Maturity (years)	0.724	2.174	0	35	26,096
Panel B. *Corporate Bonds*					
Number of Bonds	1.245	8.801	0	336	15,075
Bond Size (% GDP)	0.037	0.18	0	6.187	15,075

No lagged dep. var.

Back to Panel A Back to Panel B

	Number of loans	Size (% GDP)	Banks	Maturity
	(1)	(2)	(3)	(4)
$MDB_{cs,t}$	0.8514	0.0724***	0.5475**	0.6198***
	(0.535)	(0.022)	(0.223)	(0.123)
$MDB_{cs,t-1}$	0.8166*	0.0293	0.7406***	0.1270
	(0.453)	(0.025)	(0.219)	(0.108)
$MDB_{cs,t-2}$	0.7803*	0.0561***	0.6865**	0.3055***
	(0.439)	(0.019)	(0.270)	(0.095)
$\sum_{k=0}^{2} MDB\_Support_{cst-k}$	2.448*	0.158***	1.975***	1.052***
Wald test : p value	0.084	0.003	0.002	0.000
Observations	24,219	24,219	24,219	24,023
R^2	0.607	0.381	0.713	0.522
Sector-country FE	Yes	Yes	Yes	Yes
Sector-year FE	Yes	Yes	Yes	Yes
Country-year FE	Yes	Yes	Yes	Yes
Average MDB	0.048	0.048	0.048	0.048
Average Number of Loans	0.760			
Average Size (% GDP)		0.105		
Average Banks			2.871	
Average Maturity				0.762

Lagged Dep. Var. Model

Back to Panel A Back to Panel B

	Number of loans	Size (% GDP)	Banks	Maturity
	(1)	(2)	(3)	(4)
$MDB_{cs,t}$	0.5010***	0.0847***	1.1021***	1.0142***
	(0.160)	(0.026)	(0.221)	(0.142)
$MDB_{cs,t-1}$	0.2116	0.0231	1.1286***	0.3919***
	(0.157)	(0.027)	(0.197)	(0.123)
$MDB_{cs,t-2}$	0.0410	0.0703***	1.0900***	0.5866***
	(0.105)	(0.023)	(0.180)	(0.106)
Dep. $Var._{cs,t-1}$	0.9461***	0.4116***	0.5241***	0.2808***
	(0.060)	(0.084)	(0.049)	(0.023)
$\sum_{k=0}^{2} MDB\_Support_{cst-k}$	0.754***	0.178***	3.321***	1.993***
Wald test : p value	0.009	0.003	0.000	0.000
Observations	24,219	24,219	24,219	23,439
R^2	0.825	0.310	0.593	0.443
Sector-country FE	No	No	No	No
Sector-year FE	Yes	Yes	Yes	Yes
Country-year FE	Yes	Yes	Yes	Yes
Average MDB	0.048	0.048	0.048	0.048
Average Number of Loans	0.760			
Average Size (% GDP)		0.105		
Average Banks			1.526	
Average Maturity				0.752

Trends

Back

Panel A.	Number of loans			Size (% GDP)		
	(1)	(2)	(3)	(4)	(5)	(6)
$MDB_{cs,t}$	0.3846**	0.4931***	0.5126***	0.0637***	0.0693***	0.0665***
	(0.161)	(0.149)	(0.154)	(0.020)	(0.025)	(0.024)
$MDB_{cs,t-1}$	0.1235	0.2825**	0.3205**	0.0125	0.0171	0.0145
	(0.158)	(0.137)	(0.127)	(0.024)	(0.027)	(0.026)
$MDB_{cs,t-2}$	-0.0508	0.1246	0.1656	0.0492***	0.0537***	0.0518***
	(0.159)	(0.129)	(0.113)	(0.018)	(0.019)	(0.019)
Dep. $Var._{cs,t-1}$	0.8685***	0.7006***	0.6519***	0.2155***	0.1334*	0.1366*
	(0.078)	(0.068)	(0.062)	(0.071)	(0.071)	(0.070)
$\sum_{k=0}^{2} MDB_{cs,t-k}$	0.457	0.900***	0.999***	0.125***	0.140**	0.133**
Wald test : p value	0.214	0.002	0.000	0.005	0.016	0.015
Observations	24,219	24,219	24,219	24,219	24,219	24,219
R^2	0.835	0.858	0.865	0.410	0.453	0.452
Sector-country FE	Yes	Yes	Yes	Yes	Yes	Yes
Country-year FE	Yes	Yes	Yes	Yes	Yes	Yes
Sector-year FE	Yes	Yes	Yes	Yes	Yes	Yes
Country-sector Trends	No	Yes	Quadratic	No	Yes	Quadratic
Average MDB	0.0483	0.0483	0.0483	0.0483	0.0483	0.0483
Average Dep. Var.	0.760	0.760	0.760	0.105	0.105	0.105

Trends

Back

Panel A.	Banks per Loan			Maturity		
	(1)	(2)	(3)	(4)	(5)	(6)
$MDB_{cs,t}$	0.4634**	0.5331***	0.4522**	0.6371***	0.5609***	0.5386***
	(0.200)	(0.203)	(0.205)	(0.125)	(0.127)	(0.127)
$MDB_{cs,t-1}$	0.6026***	0.7400***	0.6596***	0.1345	0.0966	0.0693
	(0.180)	(0.208)	(0.200)	(0.125)	(0.131)	(0.131)
$MDB_{cs,t-2}$	0.5157**	0.7416***	0.6660***	0.3096***	0.2784***	0.2605***
	(0.226)	(0.199)	(0.198)	(0.092)	(0.090)	(0.090)
Dep. $Var._{cs,t-1}$	0.2221***	0.1193***	0.1244***	0.0751***	-0.0097	-0.0117
	(0.031)	(0.035)	(0.034)	(0.017)	(0.018)	(0.018)
$\sum_{k=0}^{2} MDB_{cs,t-k}$	1.582***	2.015***	1.778***	1.081***	0.936***	0.868***
Wald test : p value	0.001	0.000	0.000	0.000	0.000	0.000
Observations	24,219	24,219	24,219	23,439	23,439	23,439
R^2	0.676	0.708	0.706	0.531	0.570	0.571
Sector-country FE	Yes	Yes	Yes	Yes	Yes	Yes
Country-year FE	Yes	Yes	Yes	Yes	Yes	Yes
Sector-year FE	Yes	Yes	Yes	Yes	Yes	Yes
Country-sector Trends	No	Yes	Quadratic	No	Yes	Quadratic
Average MDB	0.0483	0.0483	0.0483	0.0483	0.0483	0.0483
Average Dep. Var.	1.526	1.526	1.526	0.752	0.752	0.752

Alternative Clustering (country-sector)

Back

	Number of loans	Size (% GDP)	Banks	Maturity
	(1)	(2)	(3)	(4)
$MDB_{cs,t}$	0.3846**	0.0637***	0.4634*	0.6371***
	(0.164)	(0.021)	(0.246)	(0.116)
$MDB_{cs,t-1}$	0.1235	0.0125	0.6026***	0.1345
	(0.175)	(0.023)	(0.193)	(0.117)
$MDB_{cs,t-2}$	-0.0508	0.0492***	0.5157**	0.3096***
	(0.171)	(0.018)	(0.207)	(0.098)
Dep. $Var._{cs,t-1}$	0.8685***	0.2155***	0.2221***	0.0751***
	(0.071)	(0.068)	(0.028)	(0.016)
$\sum_{k=0}^{2} MDB_{cs,t-k}$	0.457	0.125***	1.582***	1.081***
Wald test: p value	0.233	0.004	0.001	0.000
Observations	24,219	24,219	24,219	23,439
R^2	0.835	0.410	0.676	0.531
Sector-country FE	Yes	Yes	Yes	Yes
Sector-year FE	Yes	Yes	Yes	Yes
Country-year FE	Yes	Yes	Yes	Yes
Average MDB	0.048	0.048	0.048	0.038
Average Dep. Var.	0.760	0.105	1.526	0.752

Total Mobilization Effects

Back

	Direct + Indirect Effects		Indirect Effects	
	Size (%GDP) including MDB loan (1)	Banks including MDB loan (2)	Size (%GDP) excluding MDB loan (3)	Banks excluding MDB loan (4)
MDB $_{cs,t}$	0.2952***	2.6323***	0.0651***	0.5328**
	(0.043)	(0.275)	(0.021)	(0.207)
Dep. Var. $_{cs,t-1}$	0.2151***	0.2205***	0.2252***	0.2394***
	(0.069)	(0.029)	(0.072)	(0.031)
Observations	25,272	25,272	25,272	25,272
R^2	0.407	0.675	0.405	0.672
Sector-country FE	Yes	Yes	Yes	Yes
Sector-year FE	Yes	Yes	Yes	Yes
Country-year FE	Yes	Yes	Yes	Yes
Average MDB	0.048	0.048	0.048	0.048
Average Dep. Var.	0.109	0.112	0.103	1.503

Top Banks

Panel A.	Industrial and Commercial Bank of China				Bank of China			
	Number of loans	Size (%GDP)	Banks	Maturity	Number of loans	Size (%GDP)	Banks	Maturity
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\sum_{k=0}^{2} MDB\_Support_{\text{cst-k}}$	0.415	0.115***	1.488***	1.051***	0.456	0.120***	1.547***	1.088***
Waldtest : *pvalue*	0.228	0.008	0.004	0.000	0.202	0.007	0.001	0.000
$\sum_{k=0}^{2} TopBank_{\text{cst-k}}$	1.079	0.199	0.610	0.630	0.771	0.211	0.195	-0.198
Waldtest : *pvalue*	0.491	0.134	0.624	0.224	0.486	0.0344	0.907	0.536
Observations	24,219	24,219	24,219	23,439	24,219	24,219	24,219	23,439
R^2	0.835	0.406	0.669	0.532	0.835	0.408	0.671	0.530
Sector-country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country-year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector-year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Average MDB	0.048	0.048	0.048	0.038	0.048	0.048	0.048	0.038
Average Top Bank	0.009	0.009	0.009	0.009	0.011	0.011	0.011	0.011
Average Dep. Var.	0.748	0.103	1.478	0.745	0.747	0.102	1.460	0.743

Top Banks

Panel B.	**China Construction Bank**				**Agricultural Bank of China**			
	Number of loans (1)	Size (%GDP) (2)	Banks (3)	Maturity (4)	Number of loans (5)	Size (%GDP) (6)	Banks (7)	Maturity (8)
$\sum_{k=0}^{2} MDB_Support_{\text{cst-k}}$	0.476	0.121***	1.546***	1.071***	0.456	0.113***	1.445***	1.095***
p value	0.202	0.005	0.002	0.000	0.189	0.004	0.004	0.000
$\sum_{k=0}^{2} TopBank_{\text{cst-k}}$	-1.165	0.366	-0.967	0.681	-2.729	0.947*	3.582	-0.910
$Waldtest : pvalue$	0.273	0.216	0.740	0.281	0.320	0.095	0.197	0.149
Observations	24,219	24,219	24,219	23,439	24,219	24,219	24,219	23,439
R^2	0.835	0.411	0.676	0.531	0.837	0.408	0.676	0.532
Sector-country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country-year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector-year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Average MDB	0.048	0.048	0.048	0.038	0.048	0.048	0.048	0.038
Average Top Bank	0.004	0.004	0.004	0.004	0.002	0.002	0.002	0.002
Average Dep. Var.	0.756	0.104	1.503	0.750	0.758	0.106	1.515	0.752

Top Banks

Panel C.	Mitsubishi				JP Morgan				HSBC			
	Number of loans	Size (%GDP)	Banks	Maturity	Number of loans	Size (%GDP)	Banks	Maturity	Number of loans	Size (%GDP)	Banks	Maturity
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
$\sum_{k=0}^{2} MDB_Support_{cst\text{-}k}$	0.430	0.104***	1.725***	1.071***	0.367	0.0576*	1.016**	0.999***	0.350	0.0870**	1.004**	0.944***
p value	0.212	0.00172	0.000	0.000	0.266	0.0667	0.0237	0.000	0.321	0.0152	0.0122	0.000
$\sum_{k=0}^{2} TopBank_{cst\text{-}k}$	-0.365	0.0928	1.909***	0.229	-0.0588	0.166*	1.575*	0.651**	-0.295	0.117*	1.381	0.768***
Waldtest : pvalue	0.489	0.183	0.004	0.231	0.924	0.053	0.086	0.038	0.482	0.074	0.105	0.003
Observations	24,219	24,219	24,219	23,439	24,219	24,219	24,219	23,439	24,219	24,219	24,219	23,439
R^2	0.825	0.397	0.631	0.522	0.832	0.390	0.651	0.529	0.834	0.388	0.652	0.520
Sector-country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country-year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector-year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Average MDB	0.048	0.048	0.048	0.038	0.048	0.048	0.048	0.038	0.048	0.048	0.048	0.038
Average Top Bank	0.040	0.040	0.040	0.041	0.022	0.022	0.022	0.023	0.043	0.043	0.043	0.044
Average Dep. Var.	0.681	0.084	1.200	0.708	0.723	0.096	1.375	0.742	0.680	0.088	1.252	0.713

Top Banks

Back

Panel D.	BNP				Bank of America				Credit Agricole			
	Number of loans (1)	Size (%GDP) (2)	Banks (3)	Maturity (4)	Number of loans (5)	Size (%GDP) (6)	Banks (7)	Maturity (8)	Number of loans (9)	Size (%GDP) (10)	Banks (11)	Maturity (12)
$\sum_{k=0}^{2} MDB_Support_{cst\text{-}k}$	0.437	0.0960**	1.398***	1.031***	0.444	0.103**	1.537***	1.138***	0.442	0.128***	1.522***	1.009***
p value	0.166	0.023	0.002	0.000	0.187	0.013	0.000	0.000	0.215	0.003	0.001	0.000
$\sum_{k=0}^{2} TopBank_{cst\text{-}k}$	0.039	0.153*	0.701	0.508**	-0.465	0.102	0.709	0.238	-0.169	0.074	0.281	-0.007
Waldtest : pvalue	0.843	0.073	0.182	0.028	0.312	0.297	0.580	0.409	0.654	0.194	0.601	0.982
Observations	24,219	24,219	24,219	23,439	24,219	24,219	24,219	23,439	24,219	24,219	24,219	23,439
R^2	0.830	0.427	0.652	0.526	0.833	0.394	0.647	0.529	0.832	0.394	0.676	0.527
Sector-country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country-year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector-year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Average MDB	0.048	0.048	0.048	0.038	0.048	0.048	0.048	0.038	0.048	0.048	0.048	0.038
Average Top Bank	0.041	0.041	0.041	0.042	0.020	0.020	0.020	0.021	0.020	0.020	0.020	0.020
Average Dep. Var.	0.689	0.084	1.243	0.694	0.722	0.098	1.375	0.743	0.732	0.097	1.415	0.727

Bond Issuance

Back

	Number of Bonds				Bond Size (% GDP)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$MDB_{cs,t}$	-0.0768	-0.0772	0.1422	-0.0498	0.0082	0.0080	0.0201	0.0112
	(0.257)	(0.257)	(0.282)	(0.213)	(0.010)	(0.010)	(0.017)	(0.012)
$MDB_{cs,t-1}$	0.1208	0.1187	0.2141	0.0681	0.0096	0.0085	0.0226**	0.0086
	(0.227)	(0.230)	(0.230)	(0.249)	(0.007)	(0.006)	(0.009)	(0.007)
$MDB_{cs,t-2}$	-0.4152	-0.4171	-0.7618	-0.5706	0.0049	0.0038	0.0062	0.0090
	(0.473)	(0.475)	(0.755)	(0.635)	(0.008)	(0.008)	(0.013)	(0.009)
Top 10 Banks		0.0195				0.0107		
		(0.095)				(0.008)		
Chinese lending			0.1453				0.0053	
			(0.230)				(0.007)	
OECD ODA				0.0160				0.0035
				(0.073)				(0.004)
Dep. $Var._{cs,t-1}$	0.8966***	0.8966***	0.8046***	0.8958***	0.5562***	0.5550***	0.5109***	0.5582***
	(0.057)	(0.057)	(0.092)	(0.061)	(0.061)	(0.061)	(0.078)	(0.065)
$\sum_{k=0}^{2} MDB\_Support_{cs,t-k}$	-0.371	-0.376	-0.406	-0.552	0.0227	0.0203	0.0489	0.0289
Wald test : p value	0.584	0.585	0.672	0.451	0.237	0.279	0.134	0.221
Observations	13,869	13,869	6,318	11,718	13,869	13,869	6,318	11,718
R^2	0.904	0.904	0.905	0.898	0.693	0.693	0.743	0.690
Sector-country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector-year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country-year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Average MDB	0.071	0.071	0.095	0.062	0.071	0.071	0.095	0.062
Average Dep. Var.	1.331	1.331	1.934	1.080	0.040	0.040	0.054	0.037

The Role of Country Risk

Back

	W/o Investment Grade Rating				With Investment Grade Rating			
	Number of Loans	Size (%GDP)	Banks	Maturity	Number of Loans	Size (%GDP)	Banks	Maturity
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$MDB_{cs,t}$	0.0856	0.0254	0.5810**	0.7156***	0.8639*	0.1186	-0.3777	0.4230*
	(0.131)	(0.019)	(0.225)	(0.160)	(0.448)	(0.080)	(0.466)	(0.243)
$MDB_{cs,t-1}$	-0.0147	-0.0288	0.2953	0.1920	0.2970	0.0837	1.1019**	0.1183
	(0.124)	(0.020)	(0.213)	(0.159)	(0.237)	(0.058)	(0.542)	(0.195)
$MDB_{cs,t-2}$	-0.0913	0.0480**	0.5182*	0.3608***	-0.0303	0.0338	0.5179	0.2023
	(0.153)	(0.020)	(0.281)	(0.110)	(0.223)	(0.038)	(0.476)	(0.185)
Dep. $Var._{cs,t-1}$	0.8398***	0.2004**	0.1806***	0.0439*	0.7008***	0.2290***	0.1425***	0.0420
	(0.140)	(0.091)	(0.038)	(0.024)	(0.088)	(0.052)	(0.039)	(0.031)
$\sum_{k=0}^{2} MDB\_Support_{cs,t-k}$	-0.0205	0.0447	1.395**	1.268***	1.131**	0.236	1.242	0.744**
Wald test : p value	0.948	0.156	0.012	0.000	0.011	0.102	0.294	0.016
Observations	19,881	19,881	19,881	19,266	4,284	4,284	4,284	4,124
R^2	0.751	0.395	0.707	0.473	0.898	0.495	0.665	0.587
Sector-country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector-year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country-year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Average MDB	0.042	0.042	0.042	0.041	0.080	0.080	0.080	0.074
Average Dep. Var.	0.404	0.074	0.902	0.473	2.417	0.250	4.424	2.057

The Role of Macroeconomic Conditions

Back

	Low Income Countries				Low Growth Country-years			
	Number of Loans	Size (%GDP)	Banks	Maturity	Number of Loans	Size (%GDP)	Banks	Maturity
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$MDB_{cs,t}$	0.2135	0.0092	0.5958	1.0947***	0.1353	0.0706***	0.1644	0.5961***
	(0.137)	(0.037)	(0.367)	(0.384)	(0.276)	(0.027)	(0.274)	(0.185)
$MDB_{cs,t-1}$	-0.0238	-0.0651*	0.2046	0.1009	-0.2444	-0.0162	0.2699	0.3470*
	(0.053)	(0.033)	(0.256)	(0.242)	(0.256)	(0.028)	(0.220)	(0.182)
$MDB_{cs,t-2}$	0.2174**	0.0458	0.7552***	0.4365**	-0.2547	0.0538**	0.0176	0.3436**
	(0.094)	(0.045)	(0.273)	(0.201)	(0.166)	(0.027)	(0.323)	(0.151)
Dep. $Var._{cs,t-1}$	0.2156	0.3078**	0.0665	0.0424	0.8613***	0.2015***	0.2152***	0.0664***
	(0.162)	(0.122)	(0.044)	(0.050)	(0.198)	(0.051)	(0.027)	(0.023)
$\sum_{k=0}^{2} MDB\_Support_{cs,t-k}$	0.407	-0.010	1.556**	1.632***	-0.364	0.108***	0.452	1.287***
Wald test : p value	0.074	0.857	0.021	0.003	0.401	0.007	0.447	0.000
Observations	7,749	7,749	7,749	7,569	11,709	11,709	11,709	11,323
R^2	0.711	0.468	0.591	0.468	0.745	0.480	0.635	0.535
Sector-country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector-year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country-year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Average MDB	0.021	0.021	0.021	0.013	0.045	0.045	0.045	0.035
Average Number of Loans	0.125	0.052	0.363	0.240	0.627	0.100	1.343	0.720