

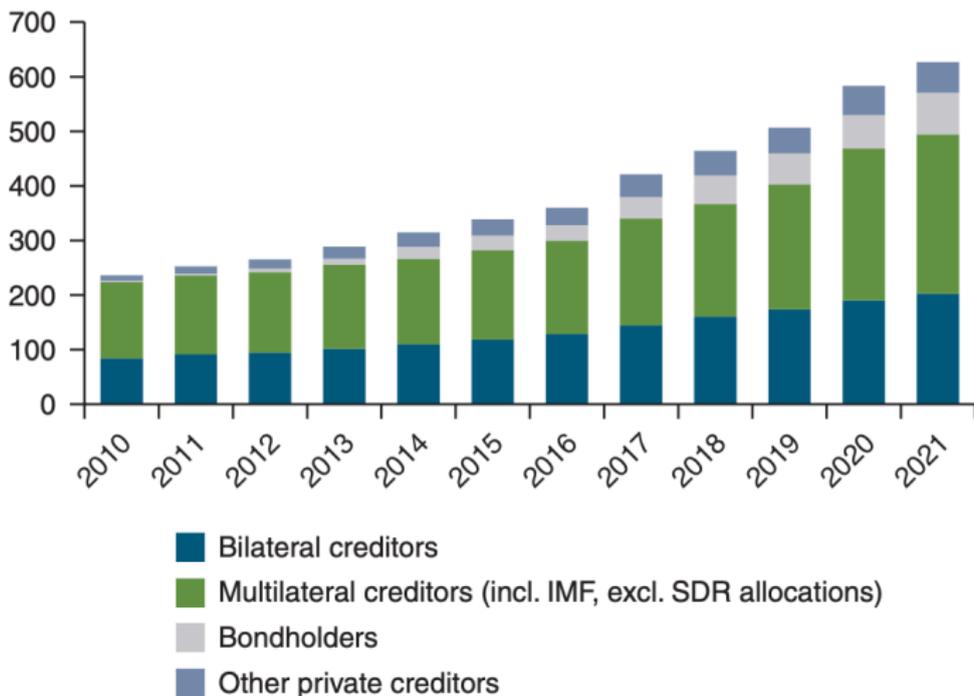
Terms and Conditions:
The Pricing and Politics of Bilateral Sovereign Lending

Alexandra O. Zeitz & Layna Mosley

IPES 2023
October 27, 2023

Motivation: Growth in bilateral lending

US\$ (billion)



Source: World Bank International Debt Report 2022

Growing literature focuses on who lends . . .

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Rise of China as lender

Dreher et al. 2022; Gelpern et al. 2021; Horn et al. 2021

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Loans going to borrowers of strategic interest

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It's not just China, and we don't know much about the **terms** of loans

Explaining the terms of bilateral lending

Bilateral loans vary in their **terms**

- Interest rate
- Maturity
- Grace period

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What explains variation in the terms of bilateral loans?

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What explains variation in the terms of bilateral loans?

⇒ Development norms

Explaining the terms of bilateral lending

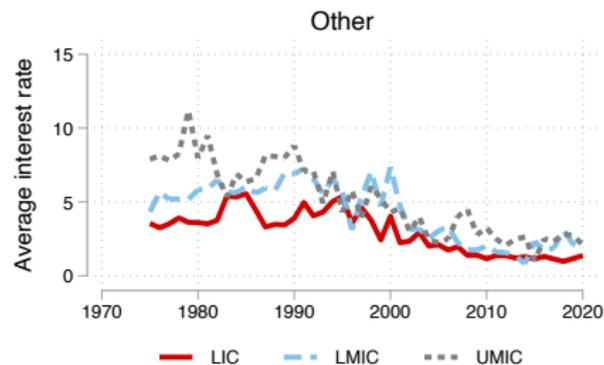
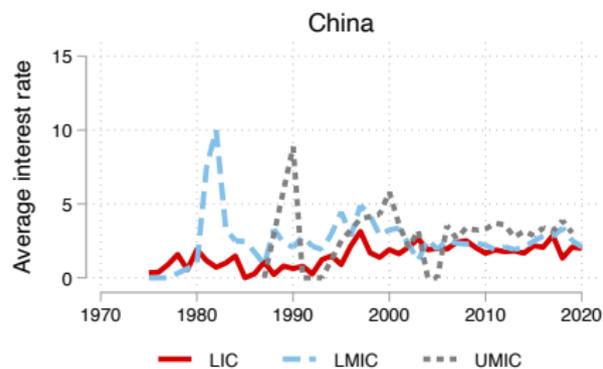
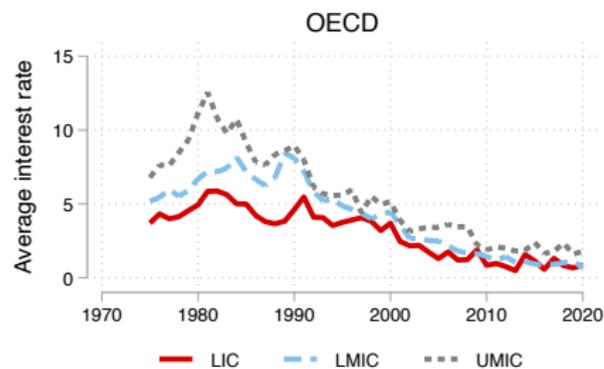
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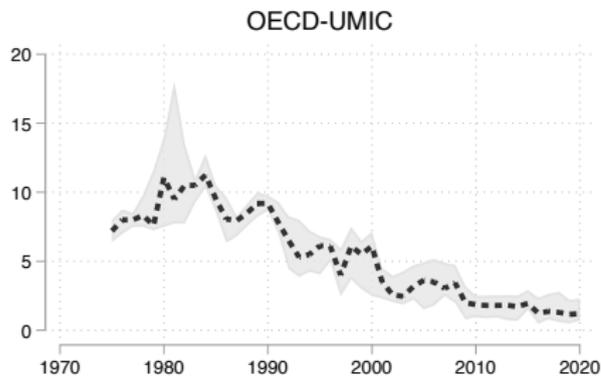
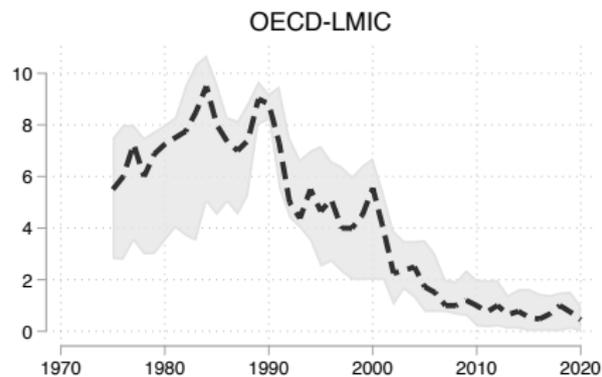
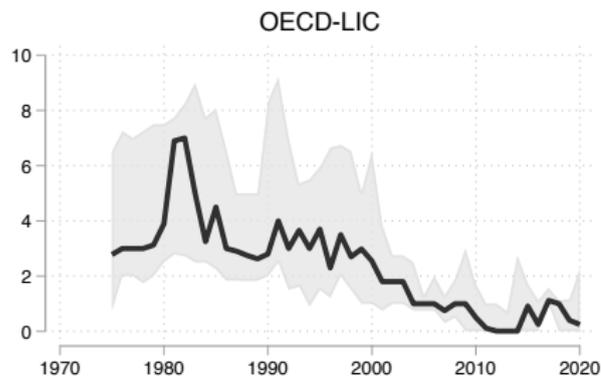
What explains variation in the terms of bilateral loans?

⇒ Development norms, and lender **strategic interest**

Variation in terms: Interest rates



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Explaining variation in terms

Loans and loan terms reflect borrower demands and lender supply.

We consider three supply side determinants of loan terms:

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H3: Commercial partners receive more generous terms

H4: Geopolitically aligned borrowers receive more generous terms

World Bank Debtor Reporting System, 1990-2020

127 debtors

10,632 export credits

17,229 other bilateral loans

Interest rate, maturity, and grace period

Calculate **concessional** as grant element at loan-year level (dyadic)

United States Foreign Credit Reporting System, 1990-2020

111 debtors

1,781 loans

Four main agencies: US ExIm, DoD, USAID, USDA

Only interest rate and maturity, no grace period data

Estimate separate models for each at loan-year level

Testing the argument

Market considerations

Development aims

Strategic interest motivations

Testing the argument

Market considerations

GDP per capita +

Development aims

Strategic interest motivations

Testing the argument

Market considerations

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GDP per capita –

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Federal funds rate –

Public debt (% of GDP) –

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Testing the argument

Market considerations

GDP per capita +

Democracy +

Federal funds rate –

Public debt (% of GDP) –

Strategic interest motivations

Exports from lender +

FDI stocks from lender +

Ideological distance –

Development aims

GDP per capita –

Democracy +

Testing the argument

Market considerations

- GDP per capita +
- Democracy +
- Federal funds rate –
- Public debt (% of GDP) –

Strategic interest motivations

- Exports from lender +
- FDI stocks from lender +
- Ideological distance –

Development aims

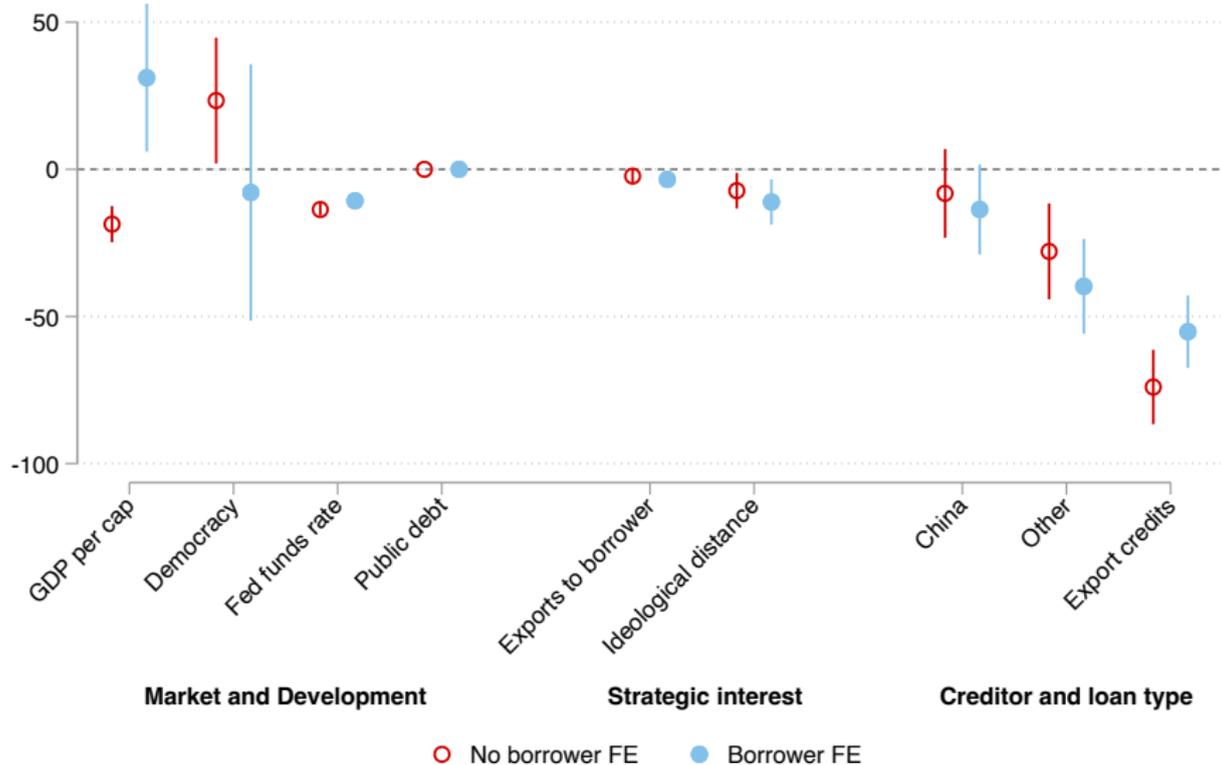
- GDP per capita –
- Democracy +

Dummies for:

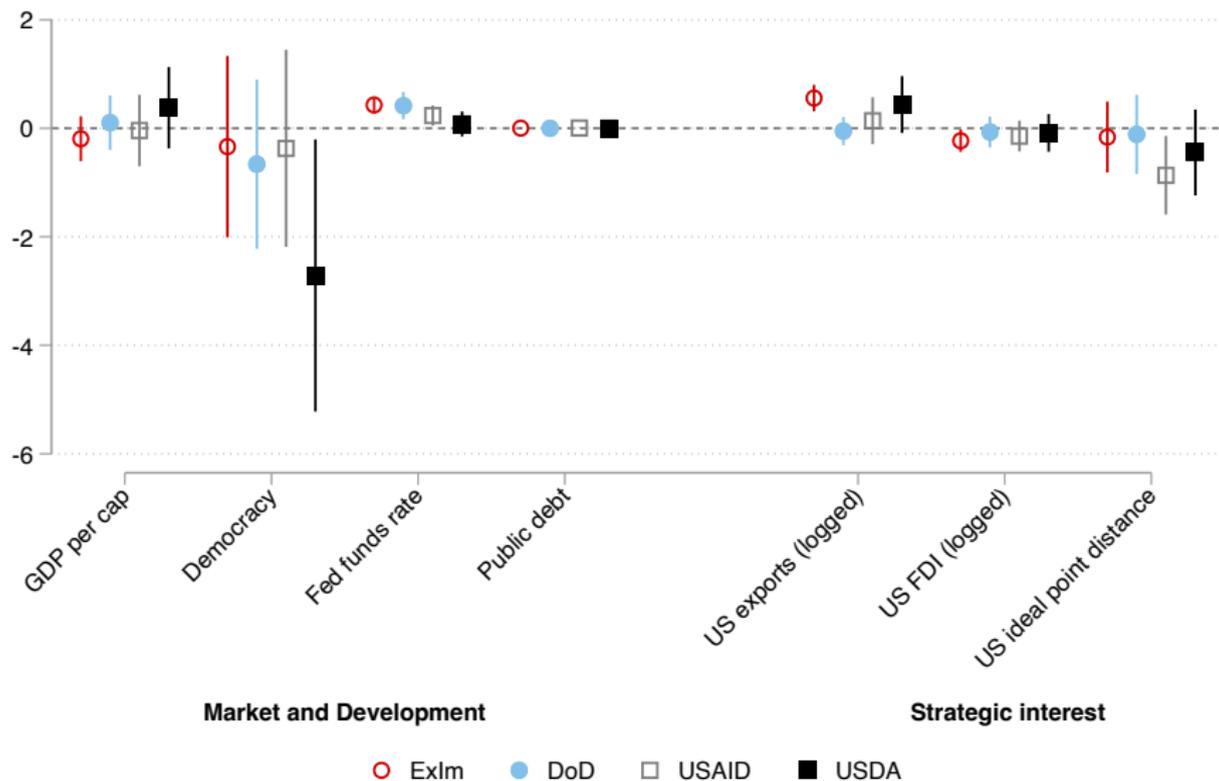
- Creditor (OECD, China, other)
- Loan type

$$Concessionality_{ijt} = \beta_1 \mathbf{x}_{it} + \beta_2 \mathbf{x}_{ijt} + \beta_3 FedRate_t + \beta_4 CreditorType_j + \alpha_i + \epsilon_{ijt}$$

Results - Global - Concessionality of loans



Results - US - Interest rates



Conclusion and next steps

- Use granular data to examine terms of bilateral lending
- Find variation unexplained by development need or creditworthiness
- Find evidence consistent with strategic interest

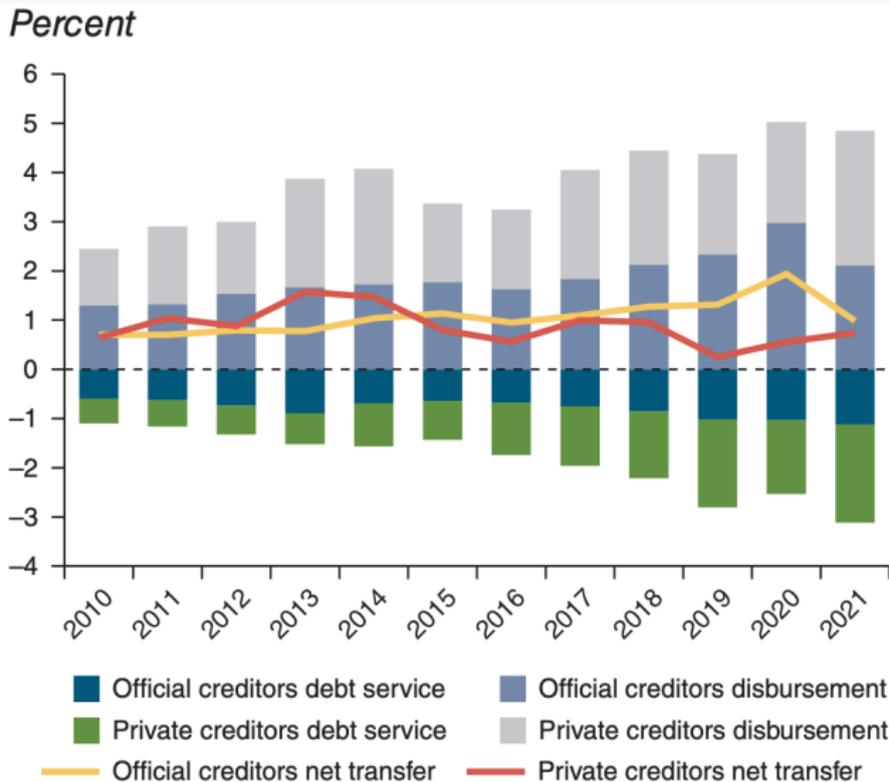
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- Bureaucratic politics of lending agencies?
- Pricing determinants conditional on global liquidity?

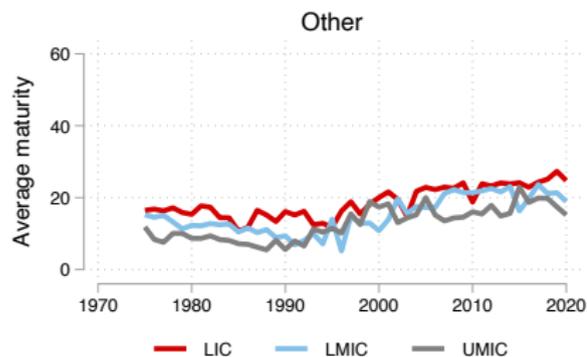
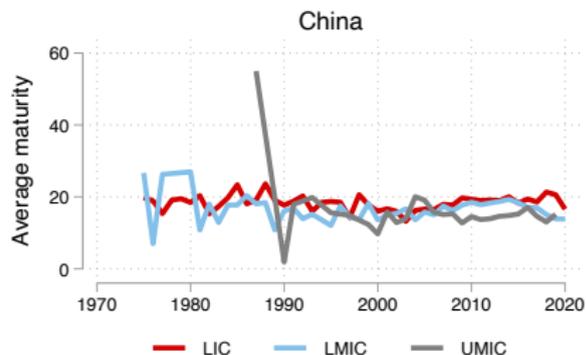
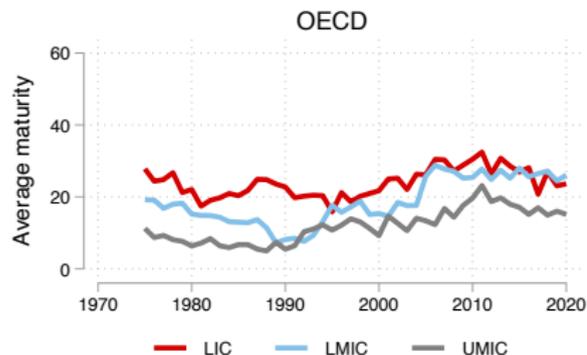
Appendix

Motivation: Interest payments on outstanding debt

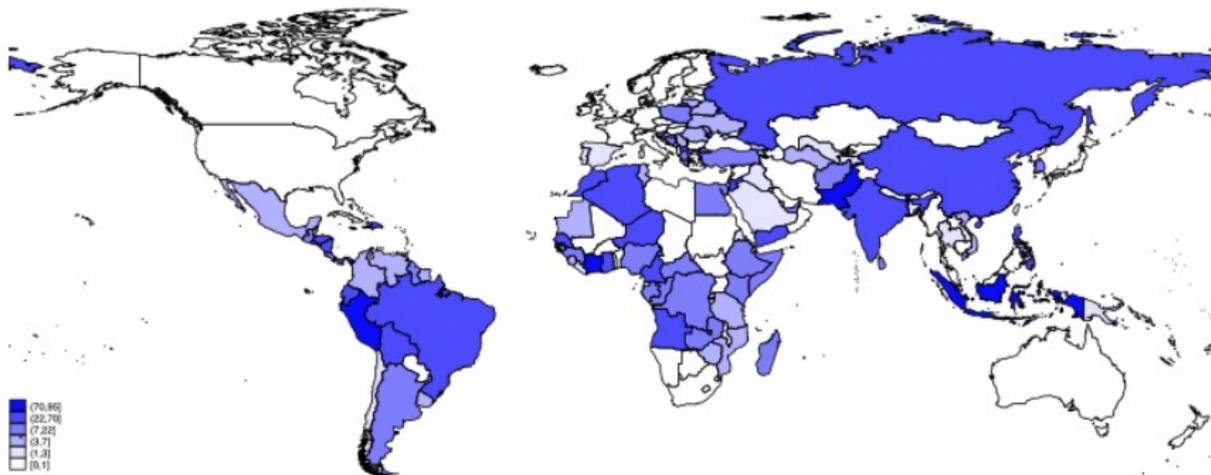


Source: World Bank International Debt Report 2022

Global data - Variation in maturity



Bilateral loan data - US



US data - Variation in interest rates

Creditor agency	Borrower income category				Total
	LIC	LMIC	UMIC	HIC	
ExIm	5.53	5.61	4.88	4.33	5.44
	2.03	2.00	2.60	1.84	2.11
	307	223	78	22	630
Treasury	.	6.32	.	.	6.32
	.	1.27	.	.	1.27
	0	17	0	0	17
US IDF	3.67	3.34	3.00	4.65	3.64
	1.04	0.70	0.00	0.17	0.95
	23	7	4	4	38
DOD	6.06	6.67	8.33	6.77	6.51
	1.70	1.24	9.42	0.61	3.34
	116	76	22	3	217
USAID	3.50	3.62	2.48	5.52	3.50
	2.00	2.23	2.10	1.66	2.16
	174	296	42	4	516
USDA	3.10	3.86	2.85	.	3.54
	1.73	1.93	1.25	.	1.87
	130	210	15	0	355
Total	4.66	4.55	4.49	4.74	4.60
	2.23	2.27	4.43	1.76	2.52
	750	829	161	33	1773

Calculating concessionality

$$\left(1 - \frac{\left(\frac{r}{n}\right)}{d}\right) * \left[1 - \left(\frac{\frac{1}{(1+d)^{n*g}} - \frac{1}{(1+d)^{n*m}}}{d*(n*m - n*g)}\right)\right], \text{ where } d = (1 + D)^{\frac{1}{n}} - 1$$

r interest rate

m maturity in years

g grace period in years

n number of repayments per year, assumed to be two

D discount rate, set at 5.00%.