

# Banking Globalization and Cross-border Capital Flows in Emerging Market Economies

Sheila Jiang   Douglas Xu

University of Florida

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# A Structural Change in Cross-border Credit to EMEs

## Inter-connected world economy:

- "We are living in a world with interconnected balance sheets." – Shin (2013)
- "Financial cycles and asset prices are globalized..." – Rey (2013)
- Substantial spillover – Kalemli-Ozcan (2019), Brauning and Ivashina (2017)

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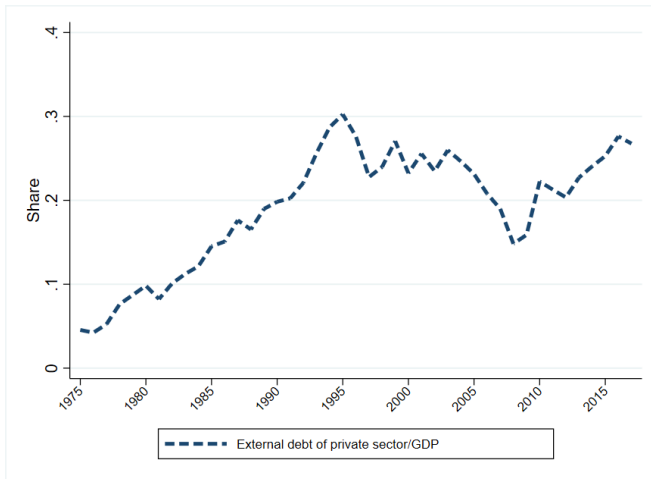
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**Yet**, volume-wise changes of cross-border credit flows are minimal in recent decades:

External Debt/GDP:

- less than 10% in 1970s;
- 30% in late 1980s and stayed there since then;

# Growing Share of Domestic-Bank-Channeled Foreign Credit



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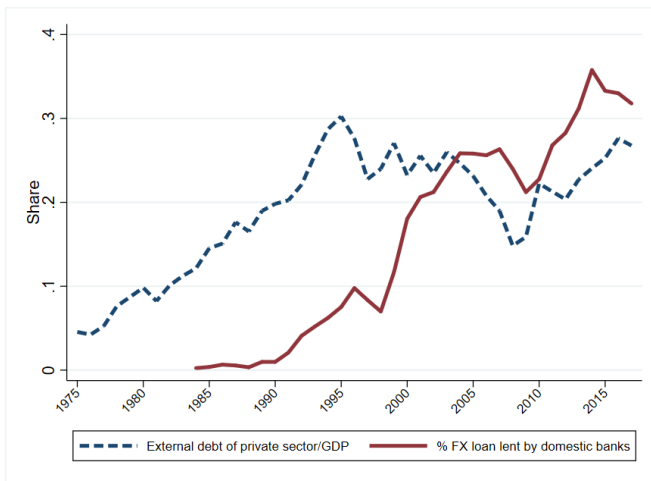
- less than 10% in 1970s;
- 30% in late 1980s and stayed there since then;

## A structural change in **lender composition** since 1990s:

Foreign currency lending:

- Before 1990: over **90%** by foreign banks;
- After 1990: around **35%** by domestic banks from EME.

# Growing Share of Domestic-Bank-Channeled Foreign Credit



## Questions

- What led to the emergence of domestic banks?
- What is the fundamental difference between domestic and foreign banks when signing cross-border loan contracts with firms?
- What are the real impacts of rise of domestic banks in the cross-border credit transmission?

# This Paper

- Structural changes in the U.S. financial market was one important driving force.
- The fundamental difference between domestic and foreign banks
  - Contracting space of collaterals
  - Key reason: weak legal infrastructure
- Rise of domestic banks in EMEs ⇒
  - reshaped industry structure
  - increased susceptibility to global financial condition

## Contribution:

- Novel channel through which global financial cycle are transmitted to EME
- Transformations in center economy's financial market have real impact



## Related Literature and Contribution

### Emerging Market Financial Cycle

Jiang, Krishnamurthy and Lustig (2018), Diamond, Hu and Rajan (2018), Kalemli-Ozcan, Liu and Shim (2018), Obstfeld and Taylor (2017), Bruno and Shin (2015, 2017), Gabaix and Maggiori (2015), Rey (2013), Cetorelli and Goldberg (2012), etc.

### Global Banking/Foreign and Domestic bank lending

Shen (2018), Avdjiev and Hale (2018), Cerutti et al (2018), Demirguc-Kunt et al (2017), Brauning and Ivashina (2017, 2018), Alfaro et al (2015), Ivashina, Scharfstein, and Stein (2015), Reinhart (2006), Dages, Goldberg and Kinney (2006), etc.

### Financial development, Collateralized lending and Real Economic outcomes

Benmelech, Kumar, and Rajan (2019), Lian and Ma (2018), Mian, Sufi and Verner (2017), Calomiris et al (2017), Aretz et al (2016), Morgan and Strahan (2003), Caballero and Krishnamurthy (2002, 2003), etc. Mian and Sufi (2014), Liberti and Mian (2010), Gormley (2010), Menkhoff et al (2006), Mian (2003, 2006), Han and Wei (2016), Baskaya et al (2018),

## Motivation

### What led to domestic banks' emergence

#### Differences in Lending technologies

Data and Empirical Specifications

Differences between domestic and foreign banks

#### Real Consequences

Aggregate real impact: Over-time & Cross-country

#### Conclusion

#### Appendix

# What enabled EME domestic banks to replace foreign banks

- Current account liberalization: Kose et al (2002), Kose et al (2010)
- Trade opening: Gopinath and Stein (2019), Beck (2002)
- Social transformation: Hawkins and Mihaljek (2020), Mihaljek (2006)

Why would we see all countries demonstrating the same patterns of replacement starting from the same time?

By Regions

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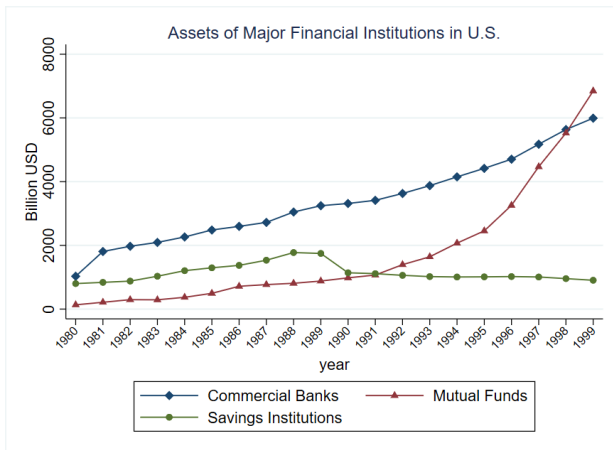
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By Regions

**This paper:**

**Expansion of U.S.'s shadow banking institutions enabled EME domestic banks to replace their foreign counterparts.**

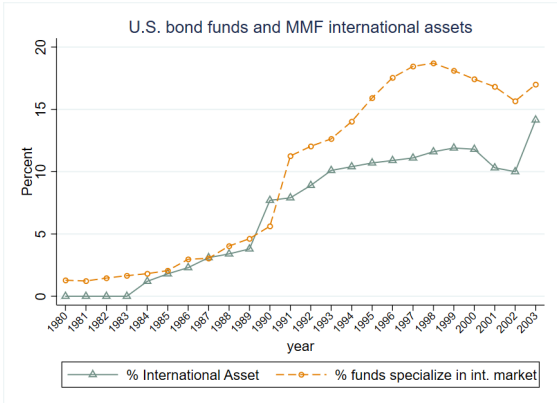
# Structural Changes in US Financial Market around 1990



Source of data: Mutual Funds Fact Book, Investment Company Institute.

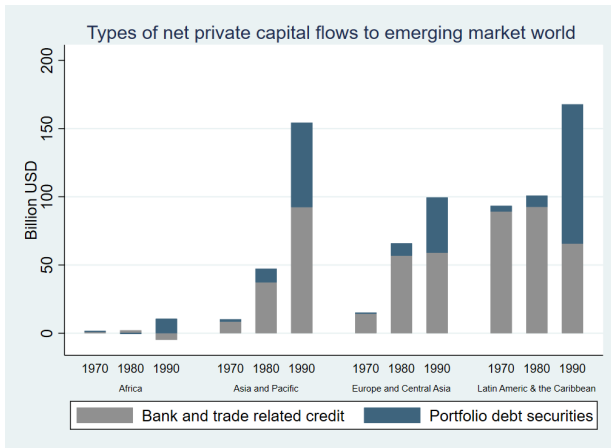
[Reason](#)

# Foreign Investment of Shadow Banking Institutions in U.S.



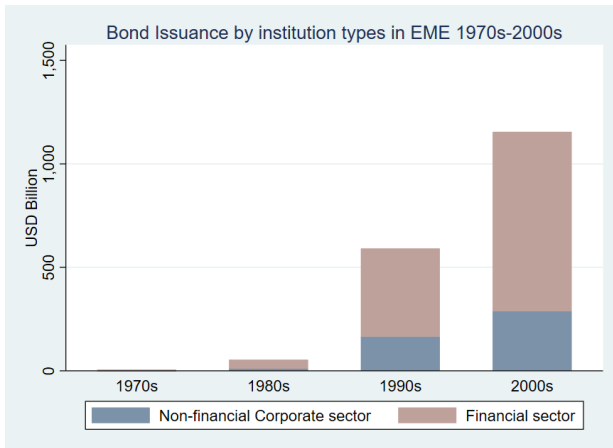
Source of data: Mutual Funds Fact Book, Investment Company Institute.

## Structure of private debt flows to EMEs



Source of Data: Worldbank.

# Foreign Currency Bond Issuance in EMEs

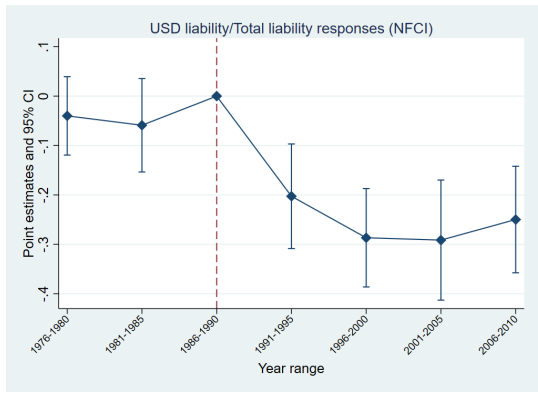


Source of Data: Thomson One Banker.



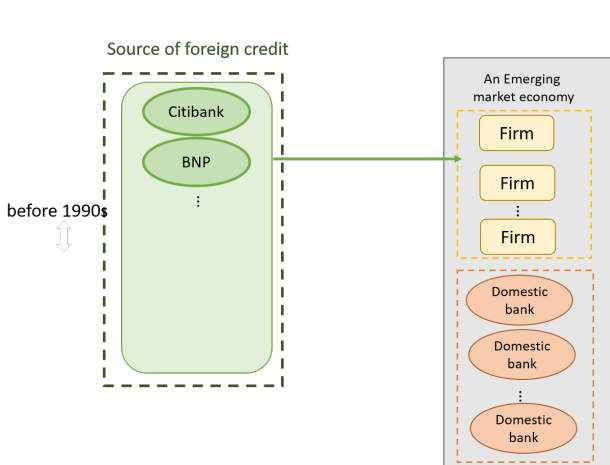
# EME Banks' USD Liability Issuance Responsiveness

$$\frac{\text{USD liability issuance}}{\text{Total issuance}}_{b,t,r} = \alpha_b + \mu_r + \sum_{r=76-80}^{r=06-10, r \neq 85-90} \beta_r D[t \in r] \times F_t^{U.S.} + \theta \mathbf{X} + \epsilon_{b,t,r}$$

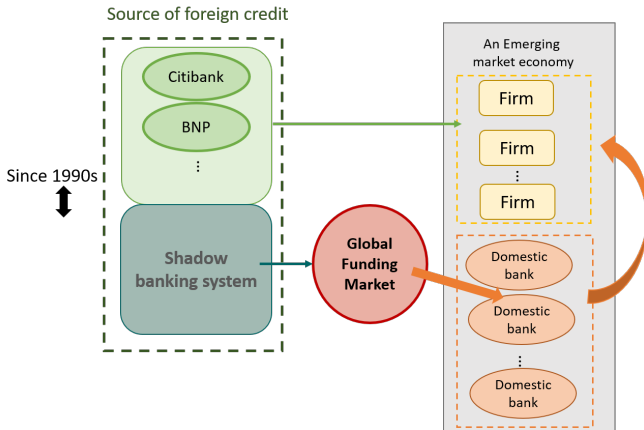


Notes: The regression includes 956 banks from 35 emerging market. [Go back.](#)

# Changes in How Credit Flows to EME's



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# Data

## Cross-border Loan contracts:

- LoanConnector
- 1984Q1-2017Q4
- EME covered: China, India, Malaysia, Indonesia, Thailand, Philippines, Taiwan, Korea, Argentina, Brazil, Chile, Colombia, Mexico, Peru, Czech Republic, Greece, Poland, Hungary, Turkey, Bulgaria, UAE, Saudi Arabia, Kuwait, Russia, South Africa, Israel, Iran, Qatar, Ukraine, Vietnam, Venezuela
- borrower and lender(s)<sup>1</sup>, loan amount, maturity, interest rate, currency, **collateral**<sup>2</sup>, purpose, syndication structure, details of syndication process.

Collection illustration

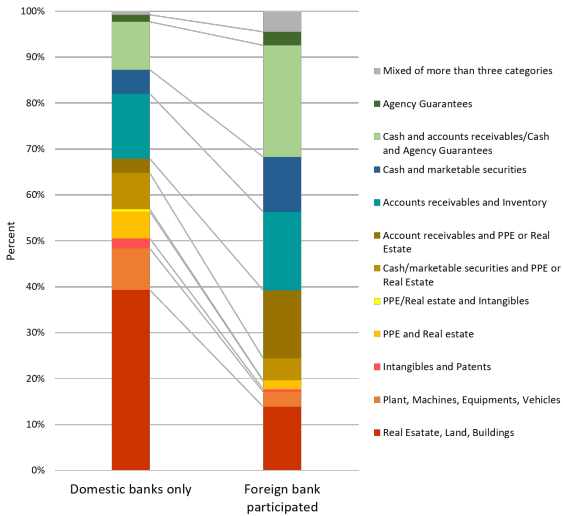
Data eligibility

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<sup>1</sup>Comprehensive information includes lenders' and borrowers' identifier, country of parent origin, borrower's industry, address.

<sup>2</sup>Manual collection from Datastream and LoanConnector.

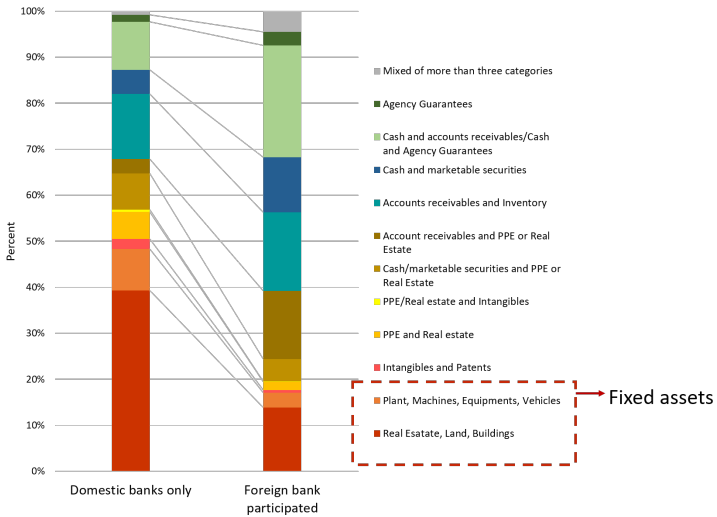
# Detailed Decomposition of Lending Bases in EMEs



Fixed assets



# Detailed Decomposition of Lending Bases in EMEs



# Effect of Foreign Bank Participation on Loan Collateral Structure:

**Goal of identification:** Is foreign banks' presence causally linked with differences in lending bases outcomes?

Challenge:

- foreign banks may systemically join loans of borrowers from sectors that overwhelmingly rely on specific types of assets to get credit
- for a given borrower, at different times, changes in asset tangibility/transparency might push it towards different lenders



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- restrict to sub-sample of deals with **multiple tranches** secured by potentially different assets, and see whether difference in foreign bank participation explain the differences in lending base outcomes. Case Other feature.

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**Regression Specification:**

$$C_{i,d,tr} = \alpha_i + \mu_d + \beta(\text{Foreign bank share}_{i,d,tr}) + \gamma\mathbf{X} + FE's$$

- $C_{i,d,tr}$  is the lending base outcome of firm  $i$ 's borrowing deal  $d$  tranche  $tr$
- $(\text{Foreign bank share}_{i,d,tr})$  is foreign bank's share in deal  $d$  tranche  $tr$  of firm  $i$

# Fixed Assets and Foreign Bank Participation

	1[Fixed assets collateral]						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Foreign bank share	-2.413*** (0.501)	-2.443*** (0.516)	-2.793*** (0.503)	-2.744*** (0.527)	-2.685*** (0.412)	-2.527*** (0.488)	-2.811*** (0.407)
Ln[Loan amount]			0.122* (0.0501)	0.132* (0.0487)	0.131* (0.0628)	0.119* (0.0500)	0.123* (0.0503)
Maturity			-0.0211 (0.0172)	-0.0231 (0.0192)	-0.0281 (0.0540)	-0.0259 (0.0176)	-0.0241 (0.0182)
1[LBO]			-0.264 (0.266)	-0.253 (0.276)	-0.262 (0.281)	-0.278 (0.265)	-0.282 (0.268)
1[Trade finance]			-0.0376 (0.162)	-0.0386 (0.144)	-0.0424 (0.157)	-0.0597 (0.145)	-0.0386 (0.156)
1[Term loan]			0.0831 (0.114)	0.0923 (0.135)	-0.0799 (0.153)	0.0675 (0.124)	0.0752 (0.122)
Resolving Insolvency Score				0.127** (0.453)			
GDP growth					-7.311 (4.223)		
REER					-0.0493 (0.0350)		
Domestic credit/GDP					9.697 (5.322)		
1[Multinational Entrepreneur]						0.168 (0.145)	
1[Foreign ownership/J.V.]							0.421** (0.142)
Observations	11788	11788	11788	10652	10652	10652	10652
Adjusted R <sup>2</sup>	0.337	0.485	0.541	0.524	0.408	0.547	0.542
Lead bank country FE	Y	Y	Y	Y	Y	Y	Y
Industry-Year FE	N	Y	Y	Y	Y	Y	Y
Deal FE	Y	Y	Y	Y	Y	Y	Y

# Covenant Inclusion and Foreign Bank participation

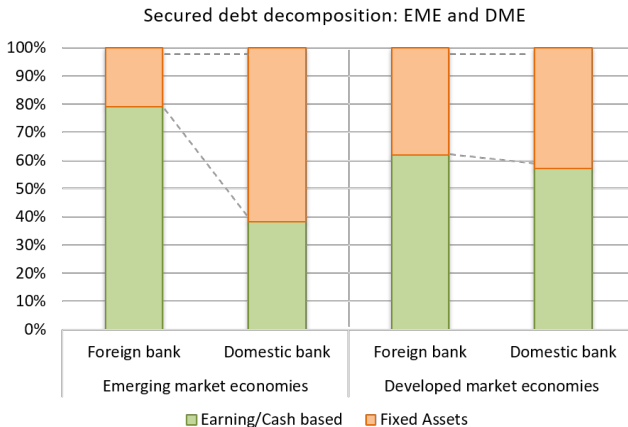
	1[Covenant Inclusion]						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Foreign bank share	1.872** (0.587)	1.763*** (0.502)	1.902*** (0.543)	1.776*** (0.489)	1.553** (0.515)	1.287*** (0.349)	1.366*** (0.355)
Ln[Loan amount]			0.166** (0.0546)	0.124** (0.0418)	0.177** (0.0581)	0.165** (0.0576)	0.182** (0.0583)
Maturity			-0.0233 (0.0176)	-0.0302* (0.0147)	-0.0334 (0.0203)	-0.0298* (0.0143)	-0.0276* (0.0135)
1[LBO]			-0.0872 (0.0622)	-0.0762 (0.0679)	-0.0988 (0.0853)	-0.0923 (0.0872)	-0.121 (0.0877)
1[Trade finance]			0.0337* (0.0166)	0.0421* (0.0203)	0.0403 (0.0282)	0.0377* (0.0172)	0.0382* (0.0167)
1[Term loan]			-0.0423 (0.0366)	-0.0394 (0.0309)	-0.0388 (0.0315)	-0.0323 (0.0432)	-0.0562* (0.0244)
Resolving Insolvency Score				0.0203* (0.00663)			
GDP growth					2.772 (1.993)		
REER					0.0452* (0.0203)		
Domestic credit/GDP					3.109 (2.093)		
1[Multinational Entrepreneur]						0.0766** (0.0365)	
1[Foreign ownership/J.V.]							0.123** (0.0257)
Observations	22782	22782	22782	18762	18762	18762	18762
Adjusted R <sup>2</sup>	0.209	0.302	0.339	0.402	0.488	0.426	0.438
Lead bank country FE	Y	Y	Y	Y	Y	Y	Y
Industry-Year FE	N	Y	Y	Y	Y	Y	Y
Deal FE	Y	Y	Y	Y	Y	Y	Y

## How can this Difference be Explained?

- Lender identity and legal infrastructure:
  - Lender identity (foreign v.s. domestic) matters for **tangibility-based lending**, not quite so for transparency-based;
  - The **difference** associated with lender identity gets **magnified** under environments with weak legal infrastructure pertaining easiness of seizing collateral.
- Differences in lending technologies of foreign and domestic banks in lending to EME borrowers:
  - Overall weak legal infrastructure in emerging markets;
  - Extra difficulties for foreign lenders in monitoring and seizing hard assets.

[Court.](#)[More.](#)[Anecdotal.](#)

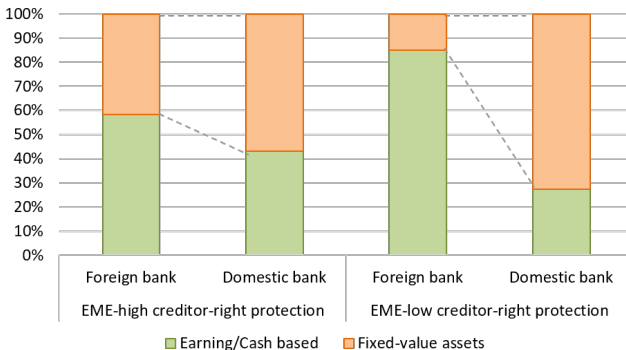
# Lender Identity Difference and Institutional Infrastructure



Developed Market Economies include United States, United Kingdom, Canada, Germany, Netherlands and Switzerland. [More.](#)

# Foreign bank participation difference within EME group:

Secured debt decomposition: strong creditor right EME and weak creditor right EME



EME's with high scores of insolvency resolving score include South Africa, Malaysia and Czech Republic, and Low scores of insolvency resolving EME's include Peru, Colombia and Mexico.

[Go back.](#)

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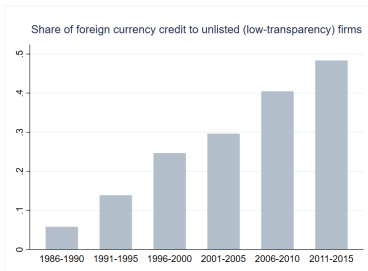
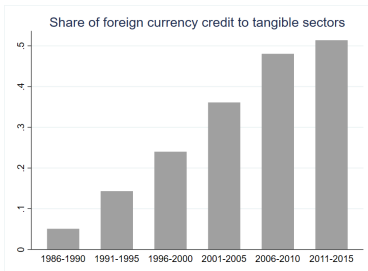
### Appendix



# Over-time Trend: Allocation of Cross-border Credit

## Rise of domestic banks

- High tangibility sectors;
- Low transparency firms (unlisted).





## Over-time Trend: Increased Susceptibility

	$\Delta \ln(\text{Manu})$		$\Delta \ln(\text{Ind})$		$\Delta \ln(\text{GDP})$	
	(1)	(2)	(3)	(4)	(5)	(6)
1[Post]	-0.0085 (0.0137)	-0.0313** (0.0096)	-0.0021 (0.0120)	-0.0373*** (0.0078)	0.0027 (0.0077)	-0.0146** (0.0053)
NFCI $\times$ 1[Post]	-0.0424** (0.0132)	-0.0231* (0.0099)	-0.0317* (0.0130)	-0.0139 (0.0080)	-0.0189* (0.0083)	-0.0101 (0.0057)
NFCI	0.0047 (0.0067)	-0.0001 (0.0039)	0.0071 (0.0061)	-0.0031 (0.0034)	0.0045 (0.0039)	-0.0013 (0.0022)
Ext debt/GNI	-0.0002 (0.0002)	-0.0006*** (0.0001)	-0.0001 (0.0002)	-0.0009*** (0.0001)	-0.0002* (0.0001)	-0.0007*** (0.0001)
Export/GDP	0.0011 (0.0008)	-0.0001 (0.0004)	0.0007 (0.0006)	0.0009 (0.0005)	0.0007 (0.0004)	0.0000 (0.0002)
FDI/GDP	0.0001 (0.0024)	0.0027 (0.0030)	0.0031* (0.0016)	0.0068** (0.0023)	0.0029** (0.0010)	0.0030 (0.0016)
Country FE	✓	✓	✓	✓	✓	✓
Controls	✓	✓	✓	✓	✓	✓
Observations	298	407	380	431	380	466
AdjR <sup>2</sup>	0.17	0.17	0.15	0.28	0.17	0.31
$D_{\text{pre1995}}$	High	Low	High	Low	High	Low
p-value( $\beta^{\text{High}} = \beta^{\text{Low}}$ )	0.282		0.309		0.432	

# Cross-country evidence: Increased Susceptibility (2SLS)

	Manu growth		Industrial growth		GDP growth	
	(1)	(2)	(3)	(4)	(5)	(6)
$1[\widehat{\text{High D}}]$	-0.0805*** (0.0214)	-0.0649** (0.0243)	-0.1300*** (0.0329)	-0.1176** (0.0394)	-0.0957*** (0.0224)	-0.0462** (0.0176)
$1[\widehat{\text{High D}}] \times 1[\text{Post}]$	0.0483 (0.0301)	0.0490 (0.0328)	0.0901* (0.0418)	0.0918 (0.0485)	0.0744* (0.0302)	0.0247 (0.0253)
$1[\widehat{\text{High D}}] \times 1[\text{Post}] \times \text{NFCI}$	-0.0505** (0.0156)	-0.0375** (0.0139)	-0.0391* (0.0184)	-0.0314* (0.0127)	-0.0313* (0.0122)	-0.0244** (0.0087)
$1[\widehat{\text{High D}}] \times \text{NFCI}$	-0.0093 (0.0167)	-0.0126 (0.0186)	0.0099 (0.0268)	0.0062 (0.0344)	0.0084 (0.0176)	0.0056 (0.0135)
$1[\text{Post 1995}]$	-0.0571*** (0.0163)	-0.0688** (0.0256)	-0.0941*** (0.0257)	-0.1143** (0.0415)	-0.0533*** (0.0159)	-0.0392 (0.0202)
NFCI	0.0031 (0.0100)	0.0086 (0.0137)	-0.0091 (0.0190)	-0.0075 (0.0296)	-0.0012 (0.0102)	-0.0050 (0.0102)
FDI/GDP		0.0017 (0.0025)		0.0056* (0.0022)		0.0048** (0.0015)
Export/GDP		0.0006 (0.0003)		0.0005 (0.0003)		0.0002 (0.0002)
External debt/GNI		-0.0007*** (0.0001)		-0.0009*** (0.0001)		-0.0008*** (0.0001)
Controls	-	✓	-	✓	-	✓
F-state	30.935	27.227	11.725	9.907	17.665	22.560
Observations	1,050	527	1,093	553	1,180	588
R <sup>2</sup>	-0.16	0.02	-0.37	-0.06	-0.46	0.13

## Conclusion

- Domestic banks are **replacing** foreign banks in transmitting credit to EMEs.
- Structural changes in the **U.S. money market** are likely to be the cause.
- Domestic banks, compared with foreign banks, have a much more **broader contracting space/ flexibility** in terms of lending against **hard assets** as collateral: emerging markets' weak legal infrastructure is a key determinant.
- Real consequences:
  - reshaped industry;
  - increased susceptibility to external financial conditions.



**Thank you!**

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Go back.

Thomson Reuters LPC  
LoanConnector**Borrower: Adlink Technology (China) Co Ltd (39090)**

Perm ID	N/A		
Deal Active Date	02-Mar-2010		
Deal Id	41479		
Deal Amount (m)	US\$ 6.334102m (USD 6.334102m)		
Website	http://www.adlink.com.tw/		
Region	Asia Pacific		
Location	China		
Parent	Adlink Technology Inc		
Ultimate Parent	Adlink Technology Inc		
Broad Industry Group	Corporates		
Major Industry Group	Technology		
SIC	5045: Computers, peripherals & software		
Deal Phase	Closed		
Active	No		
Deal Purpose	General Purpose		
Refinancing	No		
Debt Input Date	04-Aug-2009		
Tiered Upfront Fee	Yes		
Tranche 1	USD 1.5m Term Loan 02-Mar-2010 ~ 02-Mar-2013 AIS: 150 bps / NA		
Tranche 2	CNY 33m (USD 4.834102m) Term Loan		
Basis Point Issue	840-6		
Financial Covenants	Net Worth	30000000	
	Max. Debt to Tangible Net Worth Ratio	3:1	
	Financial Ratios Comments	On the borrower: Financial debt-to-net worth ratio maximum 3 times; net worth minimum Rmb30m. On the guarantor: Current ratio minimum 1 times; financial debt-to-net worth ratio maximum 1.5 times; interest coverage ratio minimum 2 times.	
General Covenants	Prepayment	Material Restriction	No
	Institution Type	Corporation	

<b>Tranche 1 of 2 Term Loan</b>			
Tranche Id	97215		
Tranche Amount (m)	USD 1.5m		
Tranche Active	No		
Tranche Active Date	02-Mar-2010		
League Table Credit	Yes		
League Table Tranche Date	02-Mar-2010		
Amend & Extend Flag	No		
Tranche Amended	No		
Secured	Yes		
Collateral/Security Type	Real Estate		
Sponsored	No		
Multi-Currency Tranche	No		
Market of Syndication	Asia Pacific		
Country of Syndication	China		
Primary Purpose	General Purpose		
Guarantor	Adlink Technology Inc		
Tranche Maturity Date	02-Mar-2013		
Tenor/Maturity	36 months		
Average Life	2.125 years		
Availability	3-year from first drawdown		
Grace Period	15 months		
Security	secured by land and 3 buildings		
Seniority Type	Senior		
Distribution Method	Syndication		
Repayment Information	Repayment Type	Equal Installments	
	Number of Repayments	8	
	Frequency	Quarterly	
Base/Reference Rate	LIBOR + 150		
Spread/Margin	LIBOR: 150		
Spread Comment	over 3-month Libor		
Upfront Fees	<b>Fee Type</b>	<b>Fee</b>	<b>Commitment</b>
	Lead arrangement fee	100 bps	
	Commitment Fee	25 bps	
Fees	Upfront Fee	100 bps	
	Tiered Upfront Fee	100.00	
	Other Fees	Upfront Regular Fee: 100 bps Commitment Regular Fee: 25 bps	
AIS Drawn	All-In/Yield	197.06 bps	
	150 bps		
Options	Competitive Bid	No	
	Banker's Acceptance	No	
Lender Titles/Roles	Lead arranger	Shanghai Commercial & Savings Bank (Bookrunner, Facility agent, Mandated arranger)	
	Mandated Lead arranger	Bank of Shanghai	
		Shanghai Commercial Bank Ltd	

# Appendix

Go back.

Thomson Reuters LPC  
LoanConnector

Borrower: Adlink Technology (China) Co Ltd (39090)		Tranche 3 of 2 Term Loan	
Perm ID	N/A	Tranche ID	97235
Deal Active Date	02-Mar-2010	Tranche Amount (m)	USD 1.5m
Deal Id	41479	Tranche Active	No
Deal Amount (m)	US\$ 6.334102m (USD 6.334102m)	Tranche Active Date	02-Mar-2010
Website	http://www.adlink.com.tw/	League Table Credit	Yes
Region	Asia Pacific	League Table Tranche Date	02-Mar-2010
Location	China	Amend & Extend Flag	No
Parent	Adlink Technology Inc	Tranche Amended	No
Ultimate Parent	Adlink Technology Inc	Secured	Yes
Broad Industry Group	Corporates	Collateral/Security Type	Real Estate
Major Industry Group	Technology	Sponsored	No
SIC	5045: Computers, peripherals & software	Multi-Currency Tranche	No
Deal Phase	Closed	Market of Syndication	Asia Pacific
Active	No	Country of Syndication	China
Deal Purpose	General Purpose	Primary Purpose	General Purpose
Refinancing	No	Guarantor	Adlink Technology Inc
Deal Acct Date	02-Aug-2009	Tranche Maturity Date	02-Mar-2013
Tiered Upfront Fee	Yes	Tenor/Maturity	36 months
Tranche 1	USD 1.5m Term Loan 02-Mar-2010 ~ 02-Mar-2013 AIS: 150 bps / NA	Availability	2,125 years
Tranche 2	CNY 33m (USD 4.834102m) Term Loan	Grace Period	15 months
Basis Point Issue	840-6 Net Worth 30000000 Max. Debt to Tangible Net Worth Ratio 3:1	Security	secured by land and 3 buildings
Financial Covenants	Financial Ratios Comments On the borrower: Financial debt-to-net worth ratio maximum 3 times; net worth minimum Rmb30m. On the guarantor: Current ratio minimum 1 times; financial debt-to-net worth ratio maximum 1.5 times; interest coverage ratio minimum 2 times.	Seniority Type	Senior
		Distribution Method	Syndication
		Repayment Information	Equal Installments
		Type	8
		Number of Payments	Quarterly
		Frequency	LIBOR + 150
		Base/Reference Rate	over 3-month Libor
		Spread/Margin	
		Spread Comment	
		Upfront Fees	Fee Type Fee Commitment
		Lead arrangement fee	100 bps
		Commitment Fee	25 bps
		Upfront Fee	100 bps
		Tiered Upfront Fee	100.00
		Other Fees	Tiered Upfront Fees: Lead arrangement fee
		All-In/Yield	Upfront Regular Fee: 100 bps
		150 bps	Commitment Regular Fee: 25 bps
		Competitive Bid	197.06 bps
		Bankers' Acceptance	No
		Lead arranger	Shanghai Commercial & Savings Bank
		Mandated Lead arranger	(Bookrunner, Facility agent, Mandated arranger) Bank of Shanghai
			Shanghai Commercial Bank Ltd

Availability	1 year from first drawdown
Grace Period	15 months
Security	secured by land and 3 buildings
Seniority Type	Senior



# Appendix

Go back.

Thomson Reuters LPC  
LoanConnector

<b>Borrower: Mandarin Oriental Bali (00152)</b>		
Perm ID	5002924442	
Deal Active Date	25-Feb-2008	
Deal ID	161527	
Deal Amount (m)	USD 108m	
Additional Borrowers	Club International Bali	
Region	Asia Pacific	
Location	Indonesia	
Ultimate Parent	Mandarin Oriental Bali	
Broad Industry Group	Corporates	
Major Industry Group	Hotel & Gaming	
SIC	7011: hotels and motels	
NALC	72111: Hotels (exc Casino Hotels) & Motels	
Deal Phase	Pre-Mandate	
Active	No	
Deal Purpose	Real estate loan	
Refinancing	No	
Deal Input Date	29-Feb-2008	
Tiered Upfront Fee	No	
Tranche 1	USD 75m Other Loan	
Tranche 2	USD 33m Other Loan	
Basic Point Issue	75%-	
General Covenants	Prepayment	Material Restriction No
Institution Type	Corporation	
<b>Tranche 1 of 2 Other Loan</b>		
Tranche ID	204717	
Tranche Amount (m)	USD 75m	
Tranche Active	No	
Tranche Active Date	25-Feb-2008	
League Table Credit	No	
League Table Tranche Date	25-Feb-2008	
New Money	USD 75m	
Amend & Extend Flag	No	
Tranche Amended	No	
Secured	Yes	
<b>Collateral/Security Type</b>	<b>Real Estate</b>	
Sponsored	No	
Multi-Currency Tranche	No	
Market of Syndication	Asia Pacific	
Country of Syndication	Indonesia	
Primary Purpose	Real estate loan	
Special Comments	The loan is for both projects in Vanua Asoa, which has over USD40.2m of cash equity behind the financing	
Tenor/Maturity	36 months	
<b>Security</b>	<b>The facility will be secured by Mandarin Oriental Bali Resort</b>	
Seniority Type	Senior	
Distribution Method	Syndication	
Options	Competitive Bid	
Lender Titles/Roles	Banker's Acceptance	Wach
	Mandated	arranger
<b>Tranche 2 of 2 Other Loan</b>		
Tranche ID	203005	
Tranche Amount (m)	USD 33m	

Tenor/Maturity	36 months
Security	The facility will be secured by Mandarin Oriental Bali Resort
Seniority Type	Senior

# Appendix

## Example case:

### One deal with two tranches

June 14 2014, Shanghai Laiyi Real Estate Development Co Ltd borrowed a **double-tranche** deal (total \$250, half each tranche):

- Tranche one was composed of domestic banks only
- Tranche two was composed of foreign banks only

The domestic-bank tranche was secured by "Real Estate".

The foreign-bank tranche was secured by "Cash and marketable securities".

[Go back](#)

## Anecdotal Evidences: foreign lenders have extra difficulty

- "Ghost Collateral" case in China: Hanning Iron and Steel Co. and Decheng Mining Ltd.
  - Fraudulent and missing collateral: same set of assets used to pledge multiple loans
  - The former has lender being domestic bank(ICBC), the latter case lender being foreign banks (Standard Charter and Mitsubishi)
  - Timely on-site inspections enabled domestic bank to recover losses, 75% of the promised collateral was recovered with mediation; in the foreign lender case, lenders didn't discover the fraudulence until default, the collateral was gone the debt was never repaid.



## Appendix

Going back.

### Bank loans is the most important form of external liabilities:

- According to IFS data, bank lending constitutes over 50% of external liabilities
- portfolio bond (15%), portfolio (5%)
- Cross-border bank claims increased faster in EME (\$2 trillion to \$7 trillion from 05-16) than in developed countries (\$25 trillion to \$16 trillion from 2005 to 2016) in recent years.

### Syndicated loan being the major form of cross-border lending:

- syndicated loans constitutes around 64.9% of cross-border loans to non-financial corporate sector;
- Domestic global bank<sup>3</sup> and foreign global both very active.

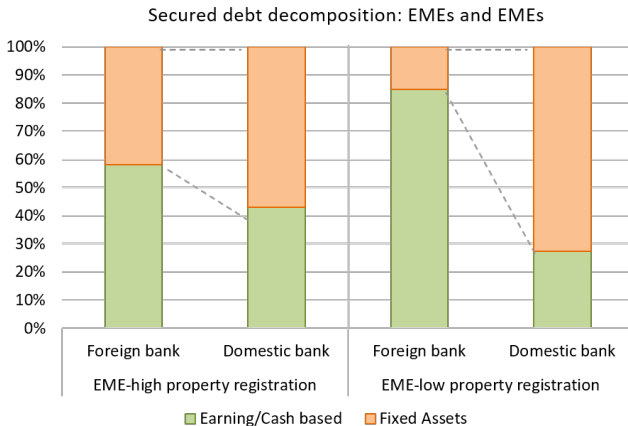
### The most cyclical form of credit:

- 4 percentage point decrease in Federal fund rate lead to increase in loan volume by 32% (Brauning and Ivashina (2017))
- syndicated lending explain a 50% variation in cross-border bank claims (Cerutti et al (2015))

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<sup>3</sup>For instance, market share of global banks from China and Brazil were 0 before 2000 but grew to 26.2% and 7.5% respectively in 2010.

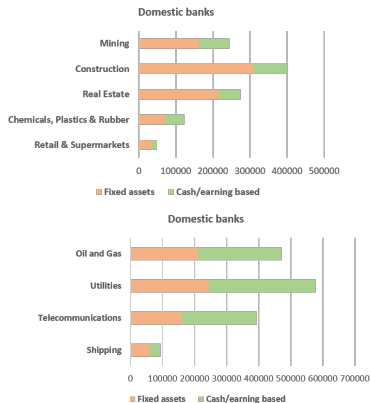
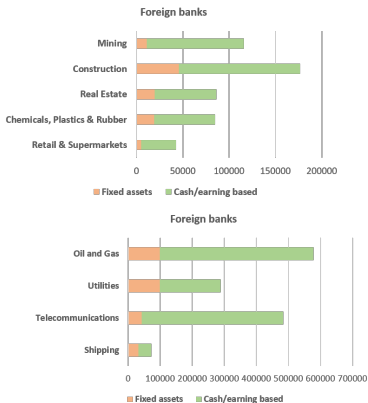
# Foreign bank participation difference within EME group:



EME's with high scores of registering property include South Africa, Malaysia and Czech Republic, and Low scores of registering property EME's include Peru, Colombia and Mexico. [Go back.](#)



# Foreign and Domestic Bank Lending Bases Across Industries



## Reasons of shadow banking system expansion

Fundamental sources of shadow bank expansion:

- Demographic changes: life expectancy, growing of size of high-literacy workers;
- → demand for saving machines (Ordonez and Piguillem (2018)).<sup>4</sup>

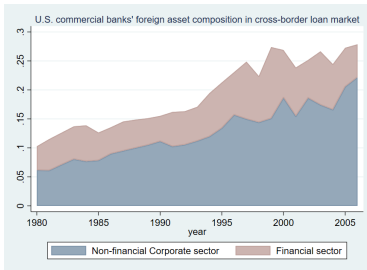
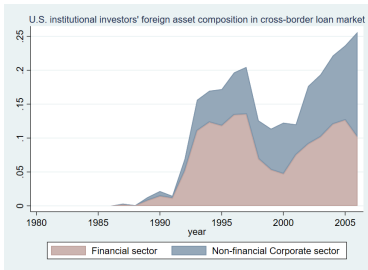
Triggers of shadow banks' growth: collapse of savings and institutions.

[Go back.](#)

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<sup>4</sup>According to Mutual Fund Fact Book, 1984 to 1998, percent of U.S. households owning mutual funds rose from 11.2% to 44.0%.

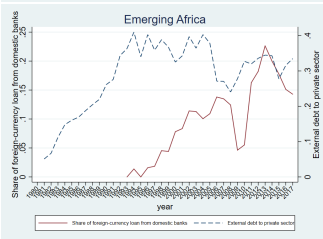
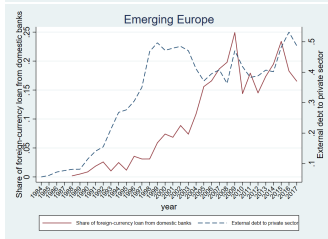
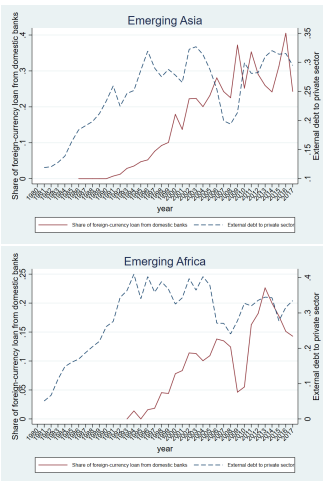
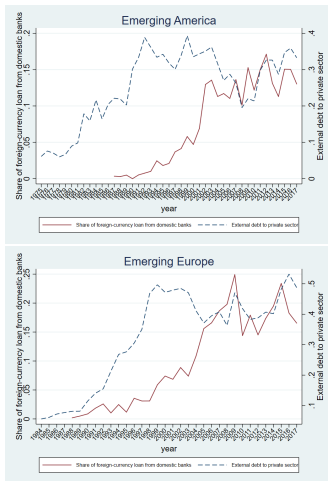
# U.S. funds' and commercial banks' Foreign Assets



Source: Authors' calculation based on Dealscan, LoanConnector and Thomson One Banker. [Go back.](#)



# Across regions



## Domestic currency borrowing and Foreign currency borrowing and bank locations

*At each point in time*, firms' RMB borrowing are from local domestic banks and their USD borrowing from foreign banks are from outside the city.

For the 2916 non-financial firms listed in China (with average bank relationship year more than 3 years in sample), investigate their RMB lending relationships:

- For the average of 5.89 RMB credit bank relationships, on average 4.56 are from the same city of the firm's location city;
- For each firm in a given year, 87.2% of the total RMB borrowing are from banks in the same city of the firm's location.
- For the 1073 companies' USD borrowing (excluding firms in Shanghai, Beijing, Guangzhou and Shenzhen), conditional on the lending bank is a domestic bank (BOC for the most of the time), 80.4% is the BOC branch in the same city as the borrowing firm. 622 companies borrowed from foreign banks outside their own city location.



## Fragmented Inter-bank Market in China in the 2000s

- Inter-bank bond market, established in 1997
  - Limited entrance of financial institutions, limited type of assets, low liquidity
  - short-term commercial papers emerged in 2006; medium-term notes launched in 2008
- Commercial bank OTC market **very small**,
  - only for trading of Treasury bonds and local government bonds
  - Annual average total trading volume of inter-bank bond in the 2002-2007 episode was 0.9 billion RMB, which was only 2% of banks' total new loans volume.

# Asset based lending, cash flow based lending and secured debt

## Asset based lending:

- liquidation value of a specific assets
- land, machine, factory buildings, etc.

## Cash flow based lending:

- value of cash flow in going-concern
- could be secured or unsecured: "lien on cash flows", "account receivables", unsecured loans, bond, etc.

## Secured and unsecured:

- **secured=seniority** in liquidation
- remaining cash value of the firm after pledged assets get liquidated

## How are cross-border insolvency cases resolved

### **For a purely domestic company:**

- Creditors respect the court orders under the firms' domestic jurisdiction.

### **For a firm with assets and operations in other countries:**

- "Territoriality";
- "Universalism" (UNCITRAL Model Law on Cross-border Insolvency or "Model Law");
- Hybrid of the two.

**International court of bankruptcy:** [not existent](#). (Tung (2001), Hilgers (2003), Seavey (2006)) [Go back.](#)

# Matching between Lenders and Credit Recipients

$$\text{Ln}\left(\frac{P(\text{High tangibility/Low-transparency})}{1 - P(\text{High tangibility/Low-transparency})}\right)_{i,c,t} = \alpha_j + \theta_{c,t} + \beta(\text{Domestic bank share}) + \gamma X + \epsilon_{i,c,t}$$

	High-tangibility	Low-transparency
	(1)	(2)
Domestic bank share	3.127*** (0.823)	2.153*** (0.533)
Observations	77596	77596
Firm FE	Yes	Yes
Country-time FE	Yes	Yes
Controls	Yes	Yes
Cluster(year)	34	34

A borrower is from a high-tangibility industry if the average tangibility (defined by PPE/total assets) of borrower's two-digit SIC industry is above the 75th percentile of all the two-digit industries in its economy. A borrower is classified as low-transparency firm if it is a private firm. A 10% percent increase in domestic bank share leads to increase in the probability of the credit going to high-tangibility firm/ low-transparency firm by around 30%/20%.

# Cross-country Variation: Reshaping of Industrial Structure

$$Y_{i,t} = \alpha + \beta_1 1[\text{Post 1995}] + \beta_2 NFCI_t + \gamma D_i \times 1[\text{Post 1995}] \times NFCI_t + \phi \mathbf{X} + \epsilon_{i,t}$$

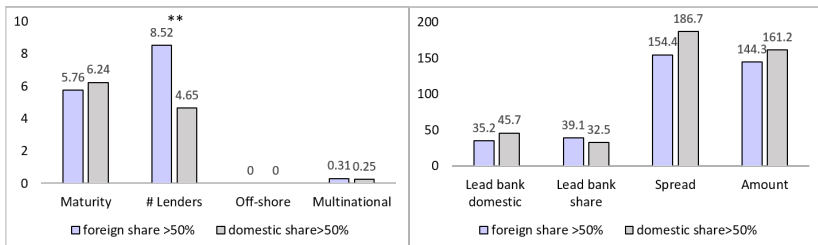
- $Y_{i,t}$  is the tangible industry value-added growth of economy  $i$  in year  $t$ ;
- Instrument  $D_i^{\text{post 1995}}$  using  $D_i^{1990-1995}$

# Cross-country evidence: Increased Susceptibility

	Manu growth		Industrial growth		GDP growth	
	(1)	(2)	(3)	(4)	(5)	(6)
$1[\widehat{\text{High D}}]$	-0.0805*** (0.0214)	-0.0649** (0.0243)	-0.1300*** (0.0329)	-0.1176** (0.0394)	-0.0957*** (0.0224)	-0.0462** (0.0176)
$1[\widehat{\text{High D}}] \times 1[\text{Post}]$	0.0483 (0.0301)	0.0490 (0.0328)	0.0901* (0.0418)	0.0918 (0.0485)	0.0744* (0.0302)	0.0247 (0.0253)
$1[\widehat{\text{High D}}] \times 1[\text{Post}] \times \text{NFCI}$	-0.0505** (0.0156)	-0.0375** (0.0139)	-0.0391* (0.0184)	-0.0314* (0.0127)	-0.0313* (0.0122)	-0.0244** (0.0087)
$1[\widehat{\text{High D}}] \times \text{NFCI}$	-0.0093 (0.0167)	-0.0126 (0.0186)	0.0099 (0.0268)	0.0062 (0.0344)	0.0084 (0.0176)	0.0056 (0.0135)
$1[\text{Post 1995}]$	-0.0571*** (0.0163)	-0.0688** (0.0256)	-0.0941*** (0.0257)	-0.1143** (0.0415)	-0.0533*** (0.0159)	-0.0392 (0.0202)
NFCI	0.0031 (0.0100)	0.0086 (0.0137)	-0.0091 (0.0190)	-0.0075 (0.0296)	-0.0012 (0.0102)	-0.0050 (0.0102)
FDI/GDP		0.0017 (0.0025)		0.0056* (0.0022)		0.0048** (0.0015)
Export/GDP		0.0006 (0.0003)		0.0005 (0.0003)		0.0002 (0.0002)
External debt/GNI		-0.0007*** (0.0001)		-0.0009*** (0.0001)		-0.0008*** (0.0001)
Controls	-	✓	-	✓	-	✓
F-state	30.935	27.227	11.725	9.907	17.665	22.560
Observations	1,050	527	1,093	553	1,180	588
R <sup>2</sup>	-0.16	0.02	-0.37	-0.06	-0.46	0.13



## Other characteristics

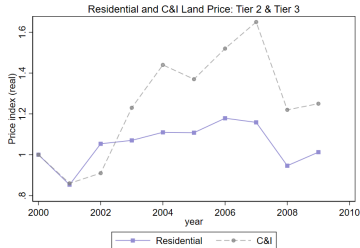
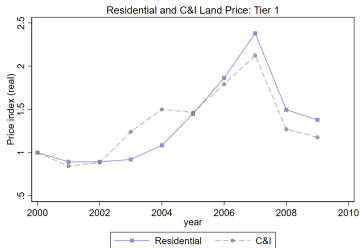


Deal's Currency	No.	%
Domestic currency	2901	24.5
Euro	940	8.0
USD	7893	67.0
Yen	54	0.5
# Firms	4490	

[Go back.](#)

# Robustness of land prices dynamics to real estate sector boom bust

	High	Low	Diff	Std.
Land resource	13257.41	14951.04	1693.63	1574.28
Constructive land growth	0.061	0.052	-0.009	0.011
Arable land/pc	1.14	1.28	0.14	0.13



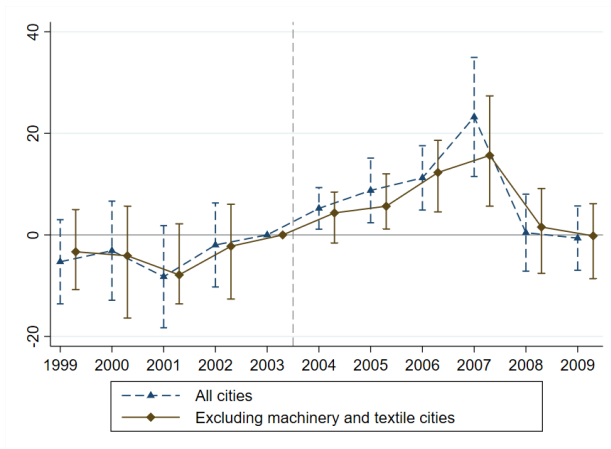
- 27 out of 70 of China's largest real estate and land development companies started issuing USD debt from 2004, as managers consider borrowing in USD to be "beautiful in price".

## Local J.V. substituting from foreign funded banks to domestic local banks

Research by PBOC on 580 joint-ventures in Lianyungang in 2003 (a second tier city in China) (Dong (2004)):

**"In 2003, the local J.V.'s borrowing from foreign banks decreased by 32.4% compared with the end of last year, while their borrowing from local domestic banks increased by more than 15.2%. One of the main reasons is that foreign banks only accept agency guarantee and promissory notes from the foreign partners' overseas branches, and are not interested in domestic collateral such as plants, properties and machines. Domestic banks took over by offering greater flexibility on collateral."**

# Robustness to Exporting Sector Behavior



Berger and Martin (2011) [Go back.](#)

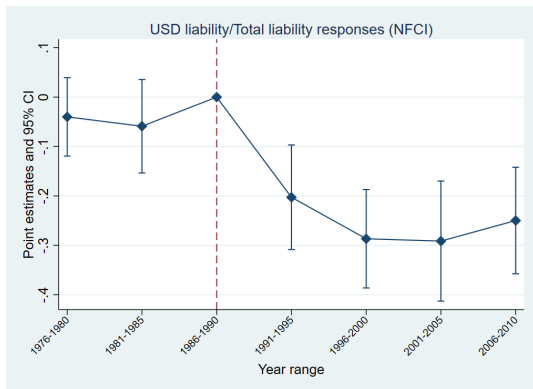
	Mean(High)	Mean(Low)	Diff.	Std. Error
Population	419.33	409.33	-10.00	36.41
Unemployment rate	0.06	0.06	0.00	0.01
Agriculture labor share	0.04	0.06	0.02	0.01
Manufacturing labor share	0.28	0.24	-0.03	0.02
Construction labor share	0.07	0.06	-0.01*	0.01
Real estate labor share	0.01	0.01	0.00	0.00
Financial labor share	0.03	0.03	-0.00	0.00
Commercial labor share	0.08	0.08	0.00	0.00
Agriculture value to GDP	17.92	22.07	4.15*	2.04
Industrial value to GDP	44.96	42.25	-0.70	1.38
Service value to GDP	37.12	35.68	-1.45	0.93
No. Industrial firms	632.44	670.57	38.13	47.93
Value added domestic firm	0.64	0.56	-0.07*	0.04
Value added foreign firm	0.08	0.04	-0.04	0.03
Fixed investment/GDP	0.27	0.26	-0.01	0.03
FDI/GDP	0.02	0.02	-0.01	0.01
No. FDI contracts	137.43	56.26	-81.17***	31.25
Transport capacity	5965.99	5160.05	-805.93	801.24

Go back.



# EME Banks' USD Liability Issuance Responsiveness

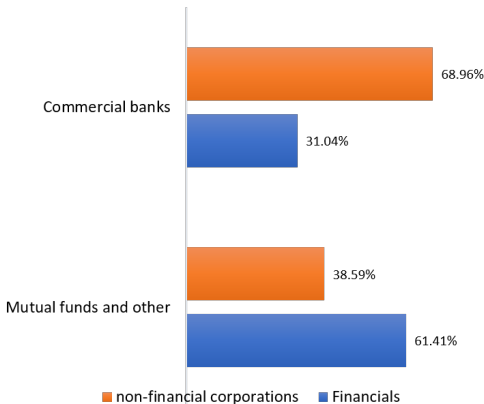
$$\frac{\text{USD liability issuance}}{\text{Total issuance}}_{b,t,r} = \alpha_b + \mu_r + \sum_{r=76-80}^{r=06-10, r \neq 85-90} \beta_r D[t \in r] \times F_t^{U.S.} + \theta \mathbf{X} + \epsilon_{b,t,r}$$



Notes: The regression includes 956 banks from 35 emerging market.

[Go back.](#)

# Shadow Banks Invest Differently Compared with Commercial Banks in Foreign market



Notes: Average share of lending (1990-2005) to international borrowers in different sector, U.S. commercial banks and U.S. institutional lenders. Calculation is based on Dealscan syndicated loans. [Aggregate.](#) [Over time.](#)



## Use of Terms

- "**Foreign credit**": proxied by foreign currency (FX) bank loans;
- "**Domestic (global) bank**": a bank whose nationality is an EME and headquartered in an EME home country but could borrow through loans or bond issuance from foreign investors;
  - Citibank in South Korea is a foreign bank to South Korea;
  - Woori bank a domestic (global) bank.
- "**Domestic-channeled foreign credit**": foreign currency loans lent by domestic banks to a firm located in the domestic economy.



## Response to changes in U.S. monetary policy condition:

$$\ln\left(\sum_i A_{b,j,(i),t}\right) = \alpha + \beta U.S. Interest Rate + \mu_{b,t} + \gamma_j + \epsilon_{b,j,t}$$

	Foreign Global Banks		Domestic Global Banks		Domestic Banks	
	(1)	(2)	(3)	(4)	(5)	(6)
U.S. Interest Rate	-1.022*** (0.0582)	-1.574*** (0.0948)	-1.133*** (0.0659)	-1.532*** (0.0380)	-0.0328 (0.0235)	-0.0921 (0.0681)
U.S. Term Yield		-1.111*** (0.150)		-1.106*** (0.0594)		-1.102 (0.684)
Observations	24265	24265	21169	21169	6959	6959
R <sup>2</sup>	0.311	0.383	0.319	0.429	0.301	0.387
Bank country macro controls	Y	Y	Y	Y	Y	Y
Borrower country FE	Y	Y	Y	Y	Y	Y
Lender-Quarter FE	Y	Y	Y	Y	Y	Y

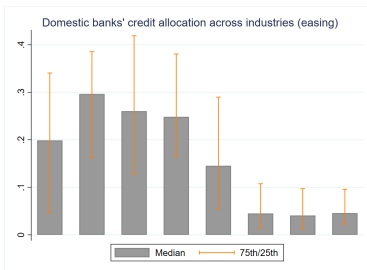
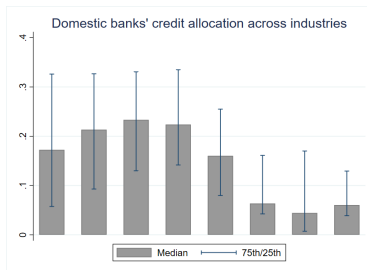
Standard errors in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

The dependent variable is the logarithm of the dollar loan amount originated by a bank  $b$  to a firm  $i$  in EME country  $j$  in a year-quarter  $t$ . U.S. Interest Rate is the federal funds rate (in percent). U.S. Term Spread is the difference between the 10-year U.S. Treasury yield and the federal funds rate (in percentage points). Bank country controls include Real GDP growth and Inflation Rate. The ZLB period, starting from 2008 Q4 is replaced by Wu and Xia (2016) "Shadow rates." Domestic Global Banks are identified as global banks as opposed to local banks if they participated in wholesale inter-bank borrowing or if they ever lent overseas.

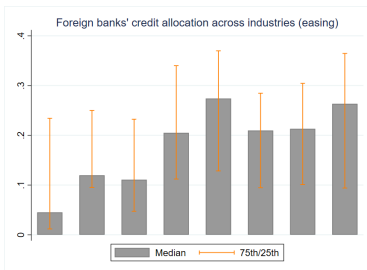
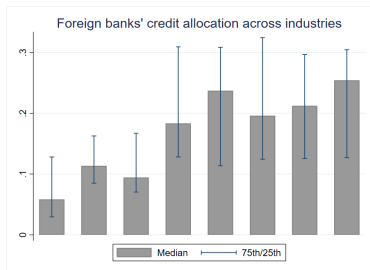
T-test for coefficient difference between col (3) and (5) is 2.78, and between (3) and (1) is 0.92.

# Portfolio allocation across industries over cycle



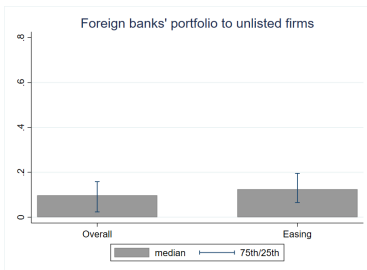
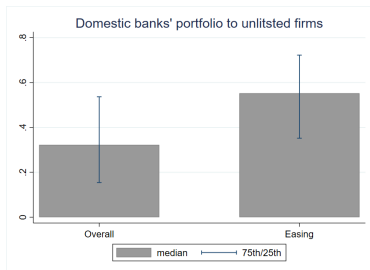
Go back.

# Portfolio allocation across industries over cycle



Go back.

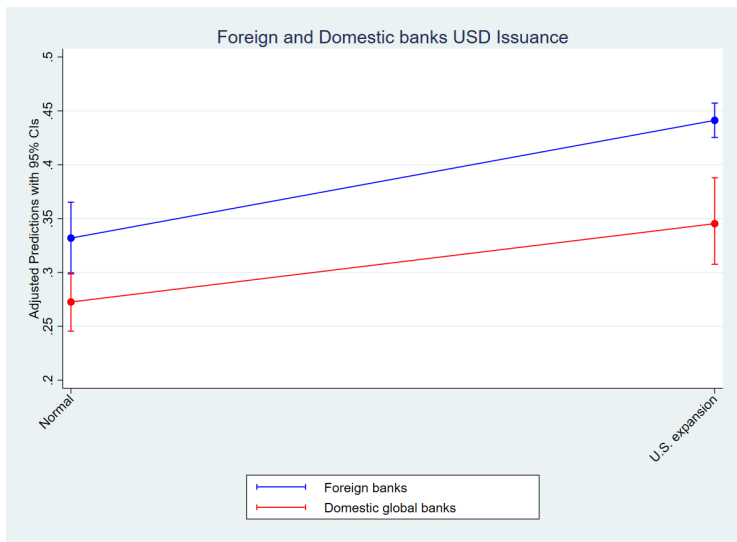
# Portfolio allocation in private firms



Go back.



# Response to changes in U.S. monetary policy condition:



Predictions based on Multinomial logit regressions:

$$\text{Ln} \frac{P(\text{U.S. Dollar/Other Currency})}{P(\text{Local currency})} =$$