Globalisation: real and financial

Hyun Song Shin*

Bank for International Settlements

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# Impact of exchange rates on real economy

- Net exports channel of exchange rates
  - Global economy as a collection of islands
  - Exchange rates determine trade balance
  - Depreciation is expansionary

- Financial channel of exchange rates
  - Exchange rates influence risk-taking
  - Appreciation is expansionary

Cross-border US dollar-denominated credit, all sectors

By residence

USD trn


By nationality[1]

USD trn
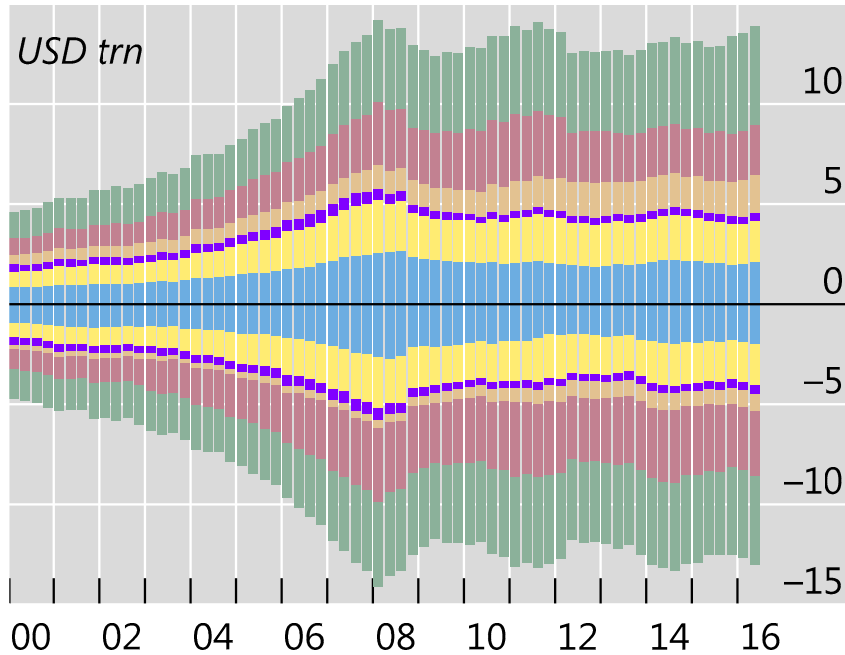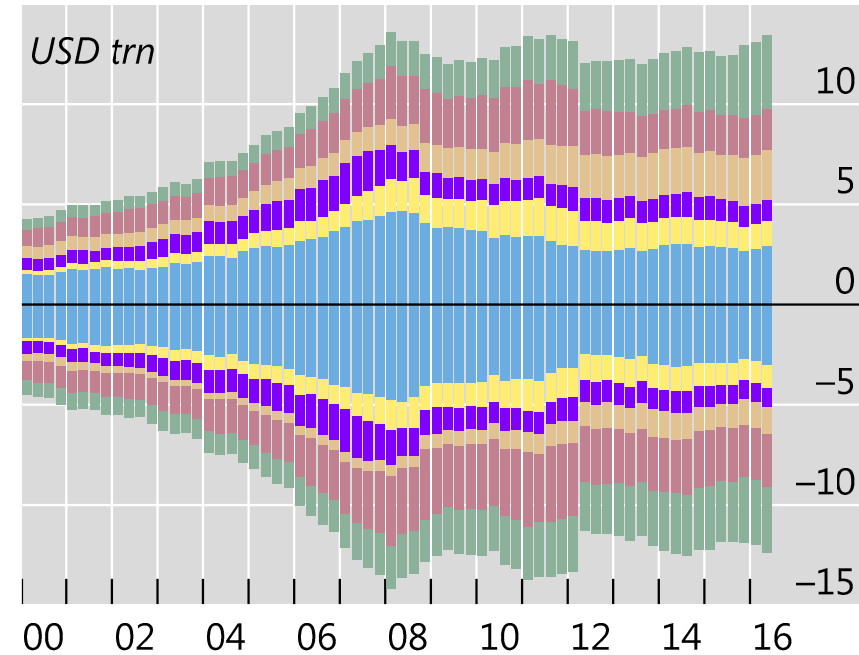
Claims (+) and liabilities (–) of:

- Euro area
- United Kingdom
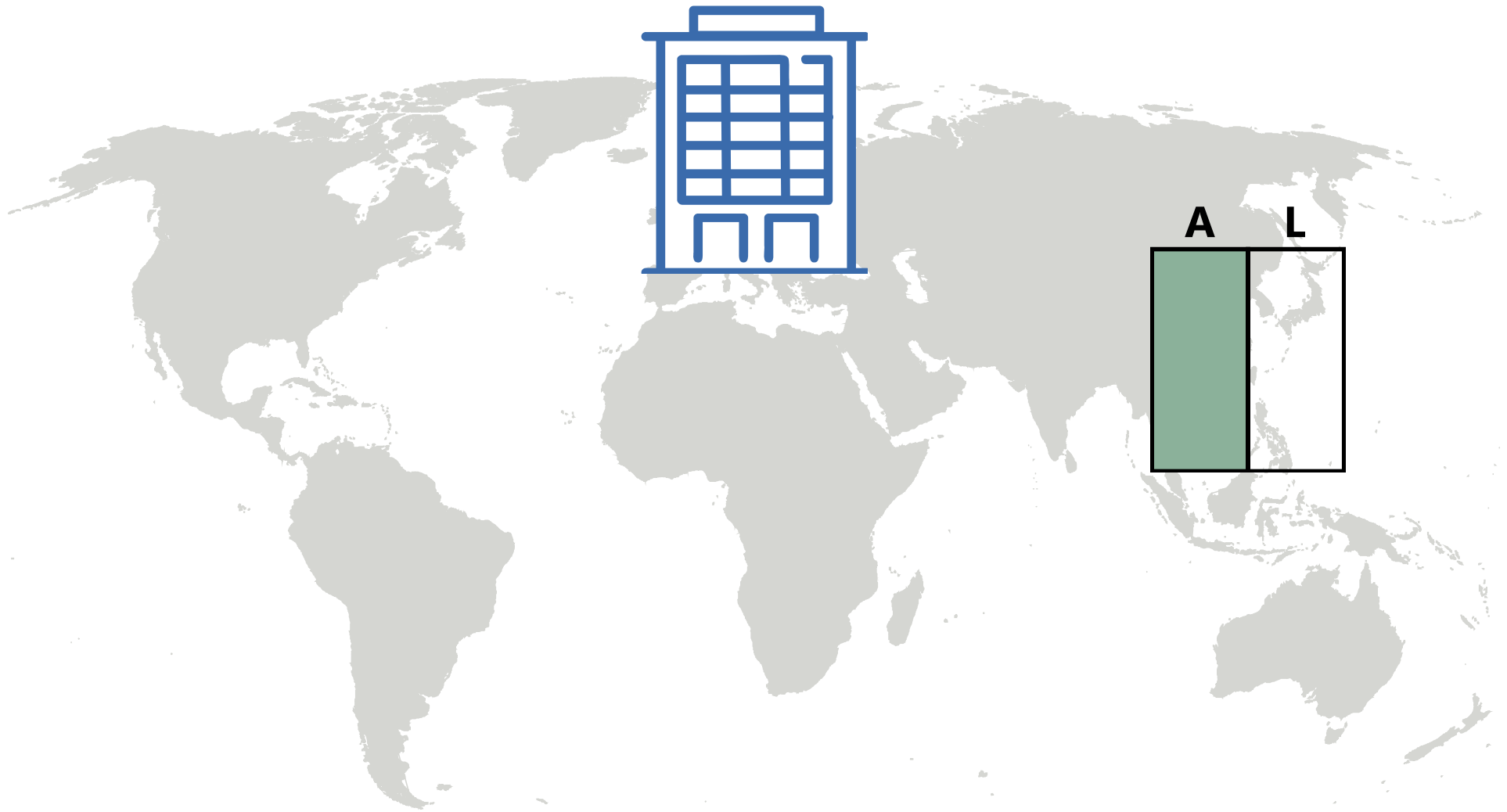- Switzerland
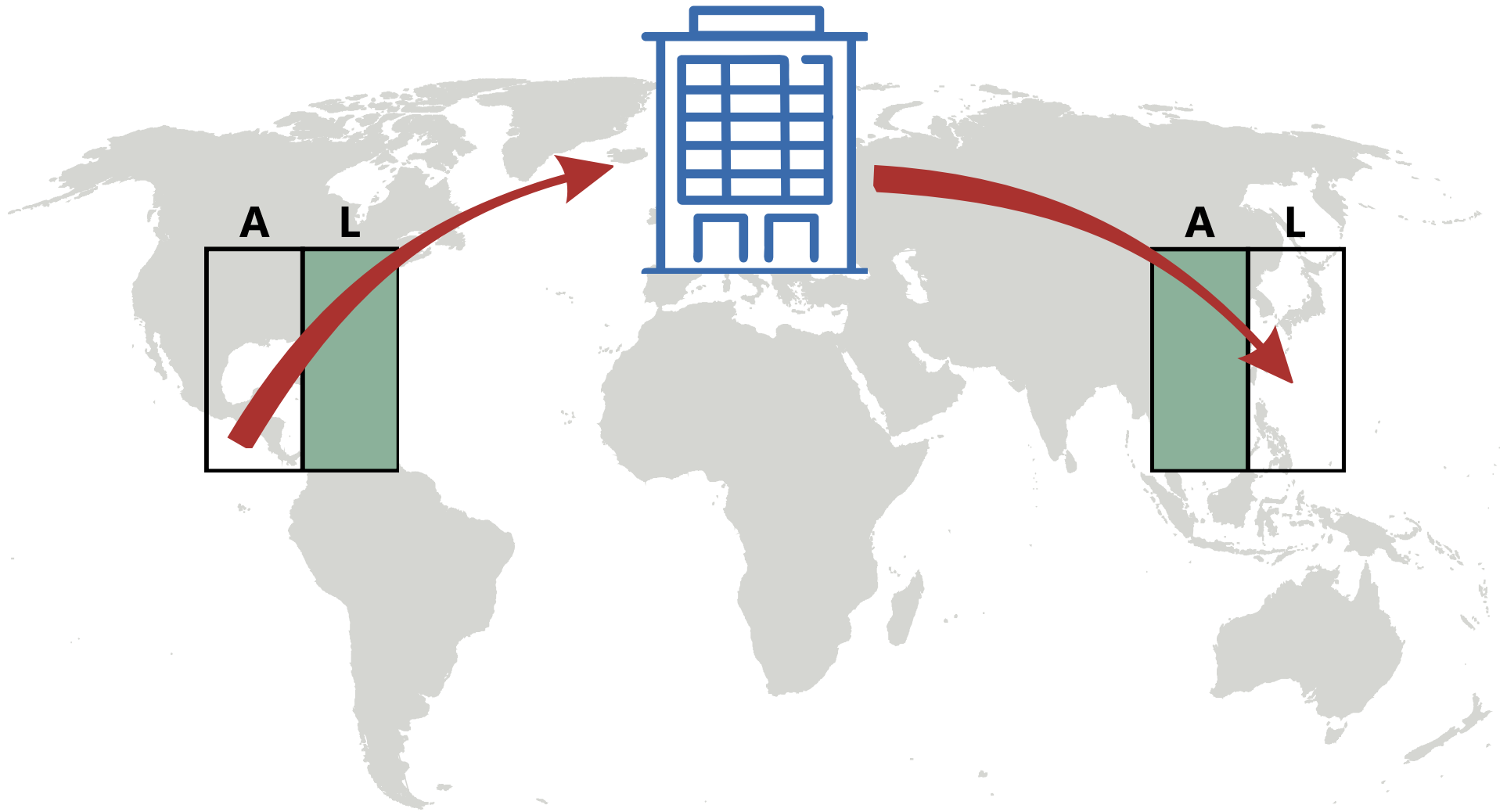- Japan
- United States
- Other

[1] The break in series between Q1 and Q2 2012 is due to the Q2 2012 introduction of a more comprehensive reporting of cross-border positions. For more details, see www.bis.org/publ/qtrpdf/r_qt1212v.htm.
Source: BIS locational banking statistics, Tables A5 (by residence) and A7 (by nationality).
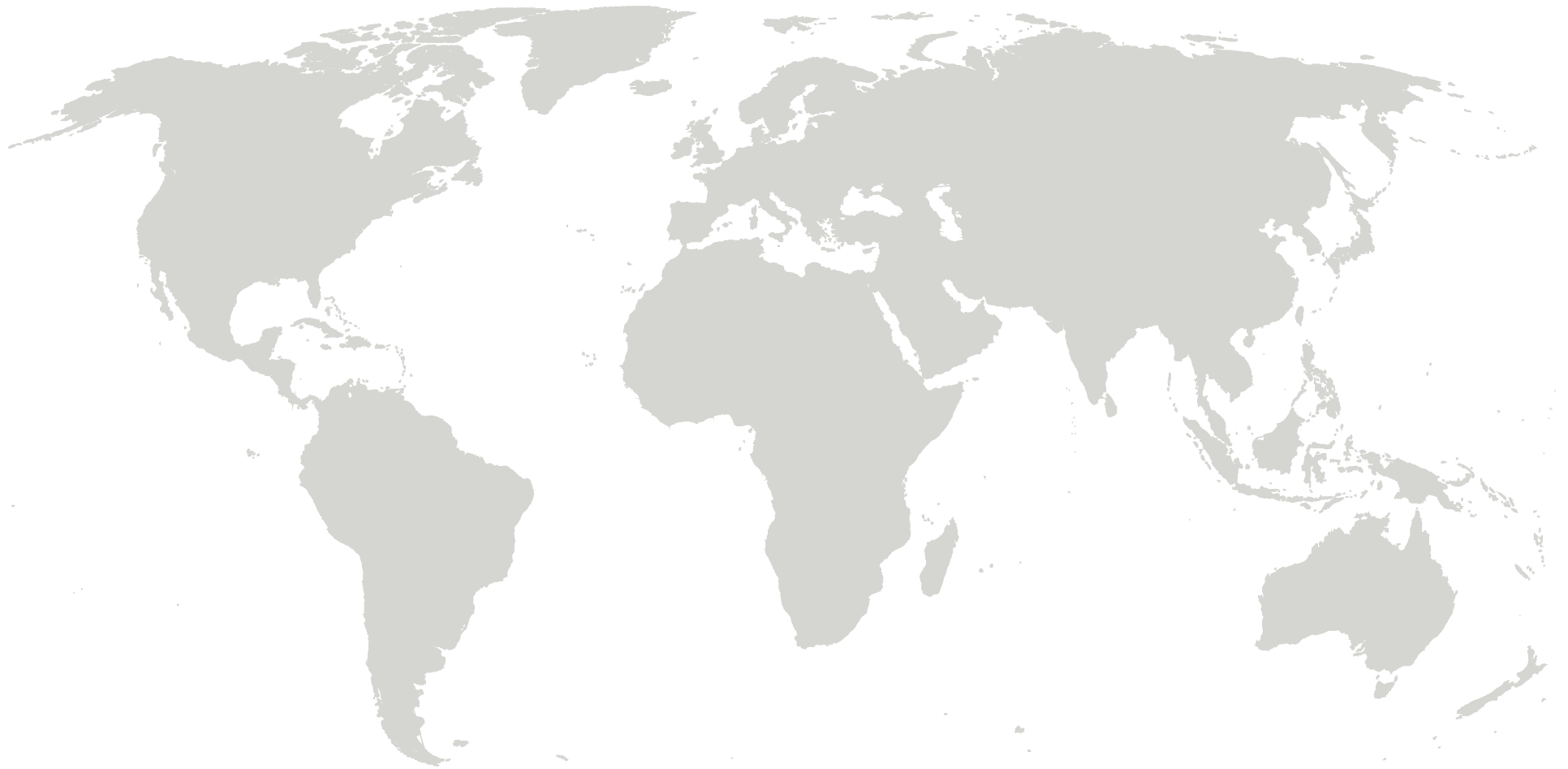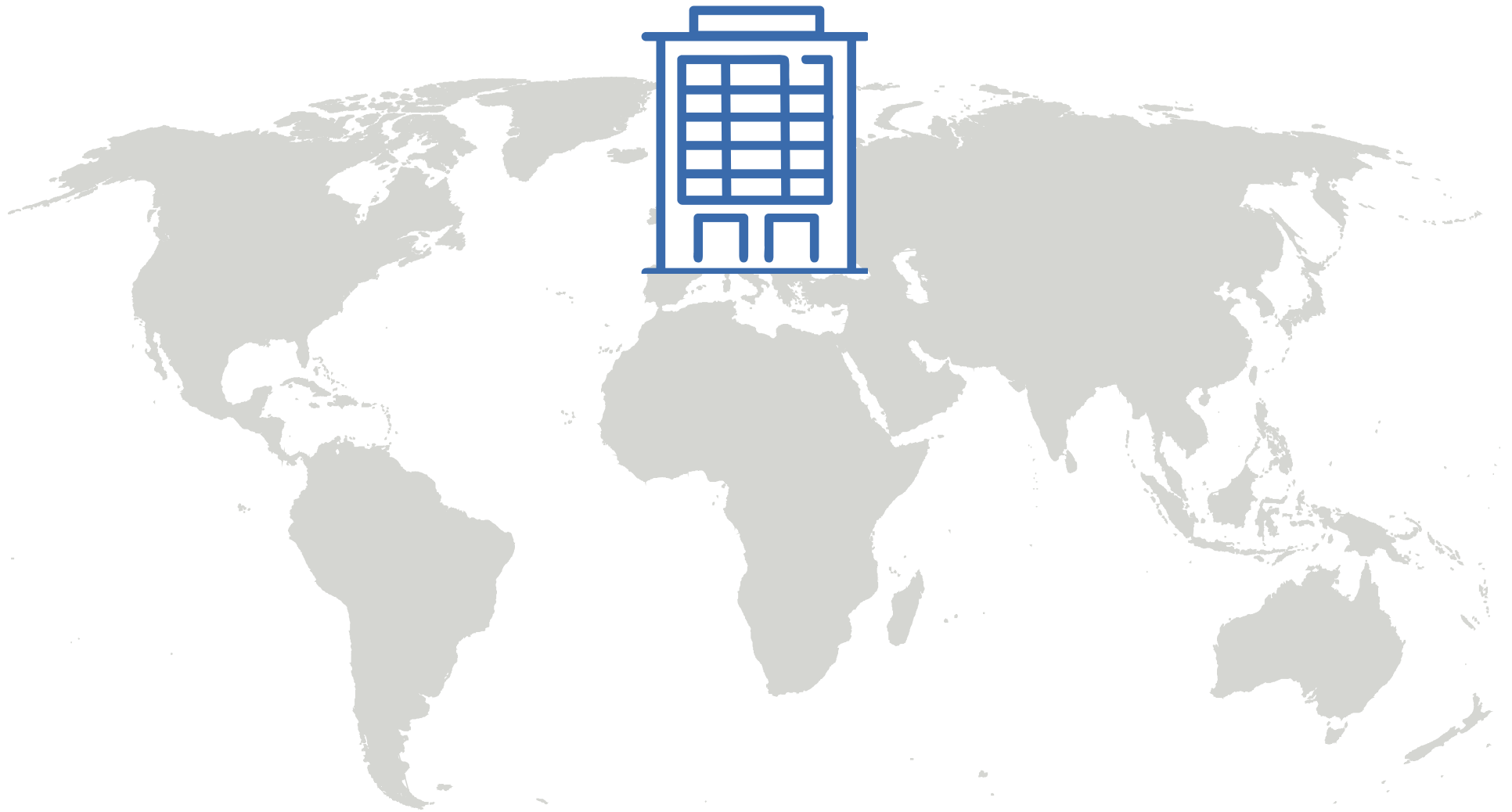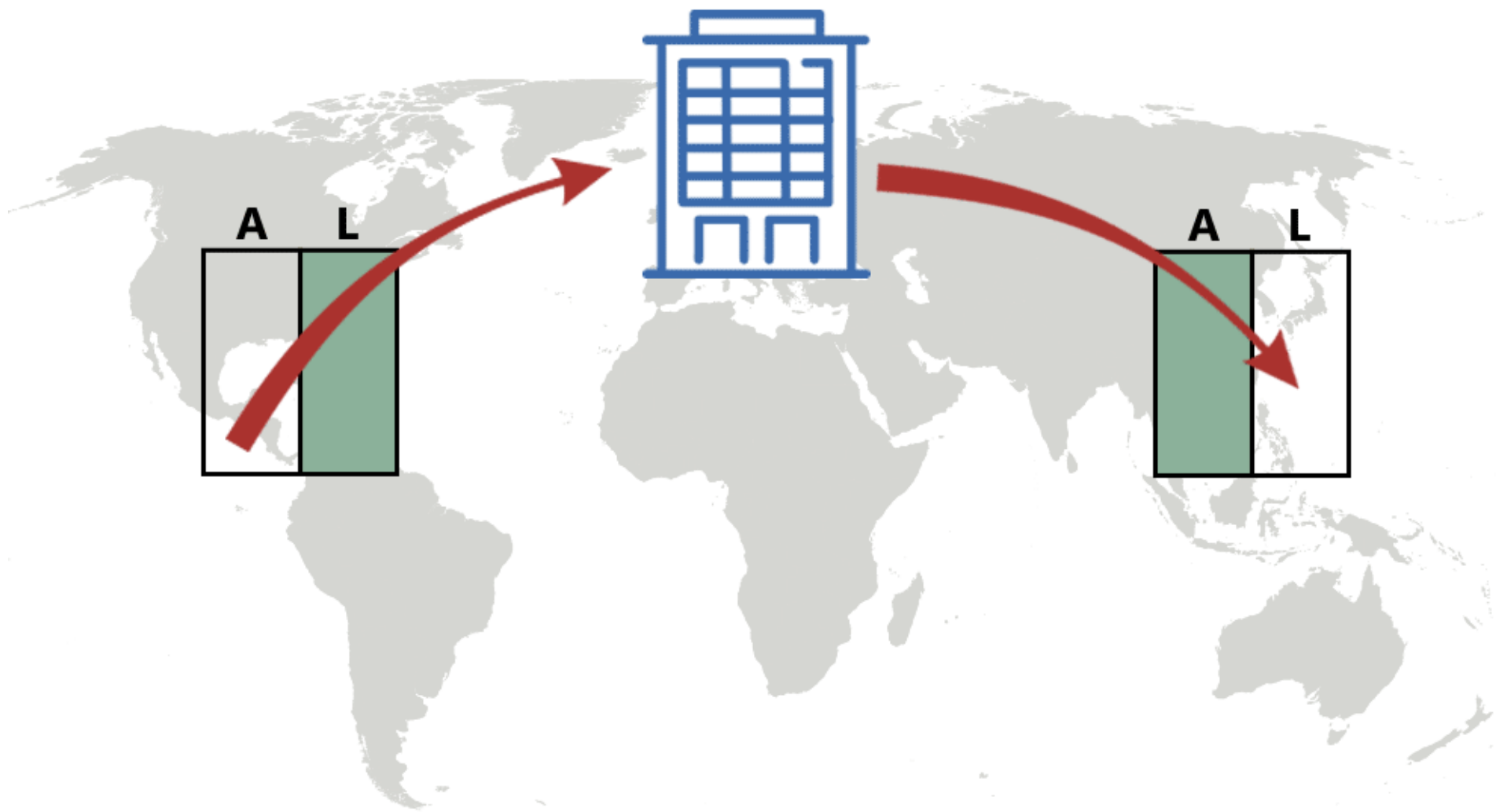
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Deglobalisation? Locational vs consolidated perspectives

Locational cross-border bank claims

Percentage of world GDP

Legend: Banks, Non-banks, Inter-office, Unallocated
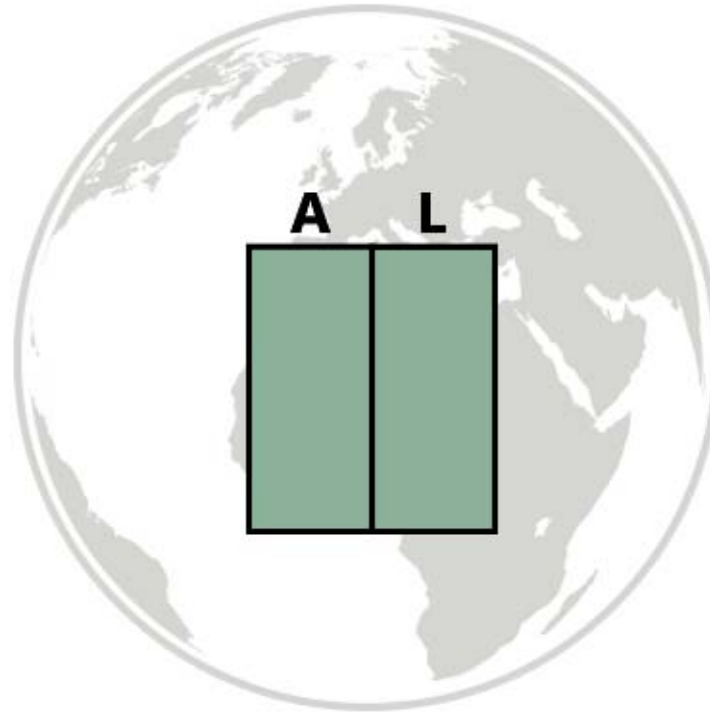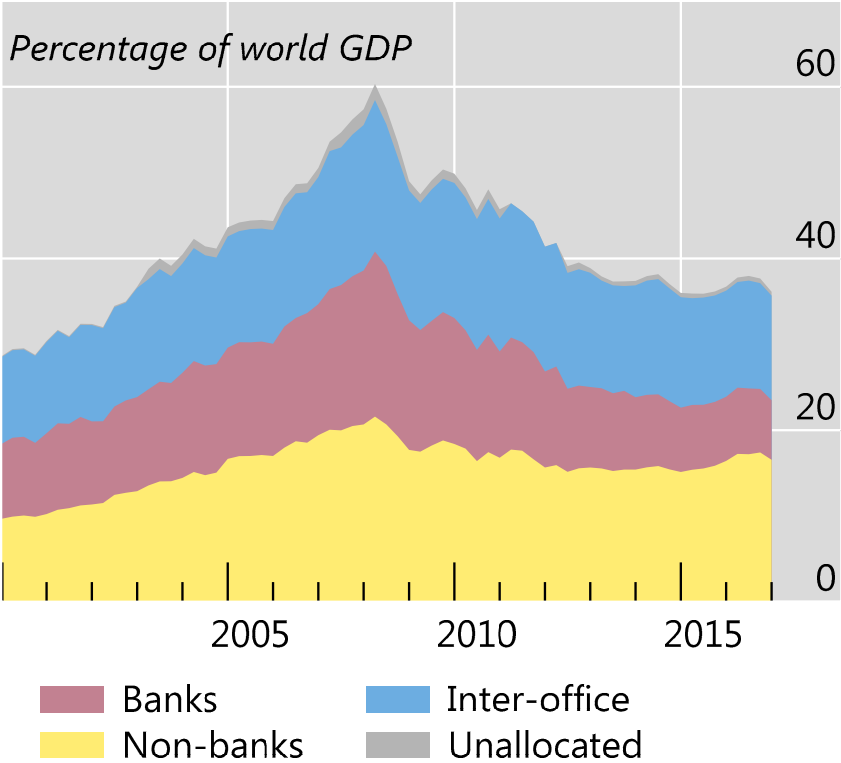
Source: 87th BIS Annual Report.

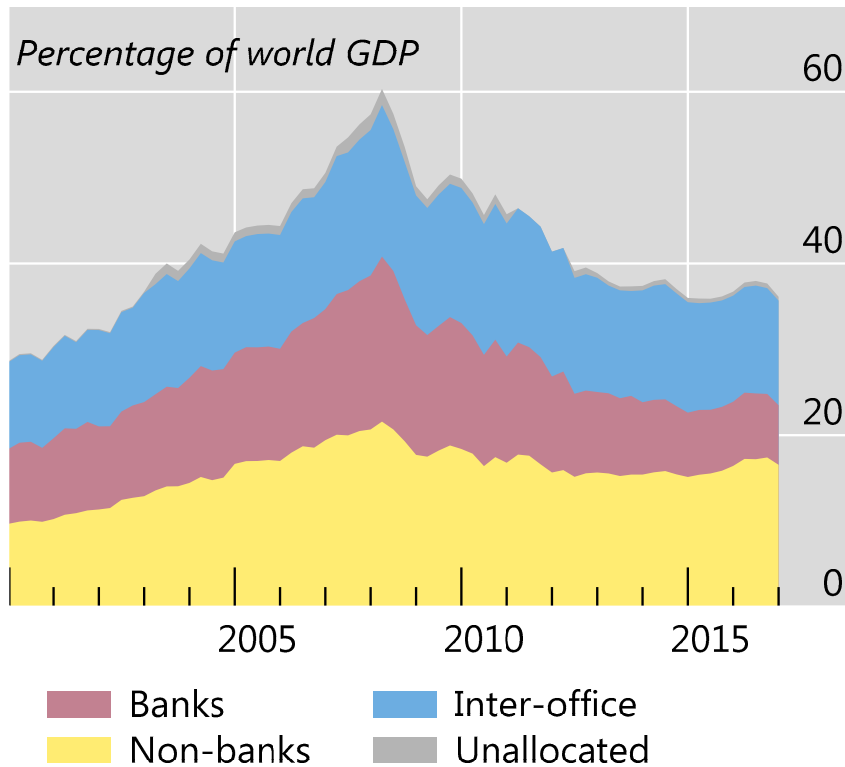# Deglobalisation? Locational vs consolidated perspectives

Locational cross-border bank claims

Percentage of world GDP

- Banks
- Non-banks
- Inter-office
- Unallocated

Foreign claims by banking system

Percentage of world GDP

- Euro area banks
- Other European banks
- Japanese banks
- US banks
- Other banks
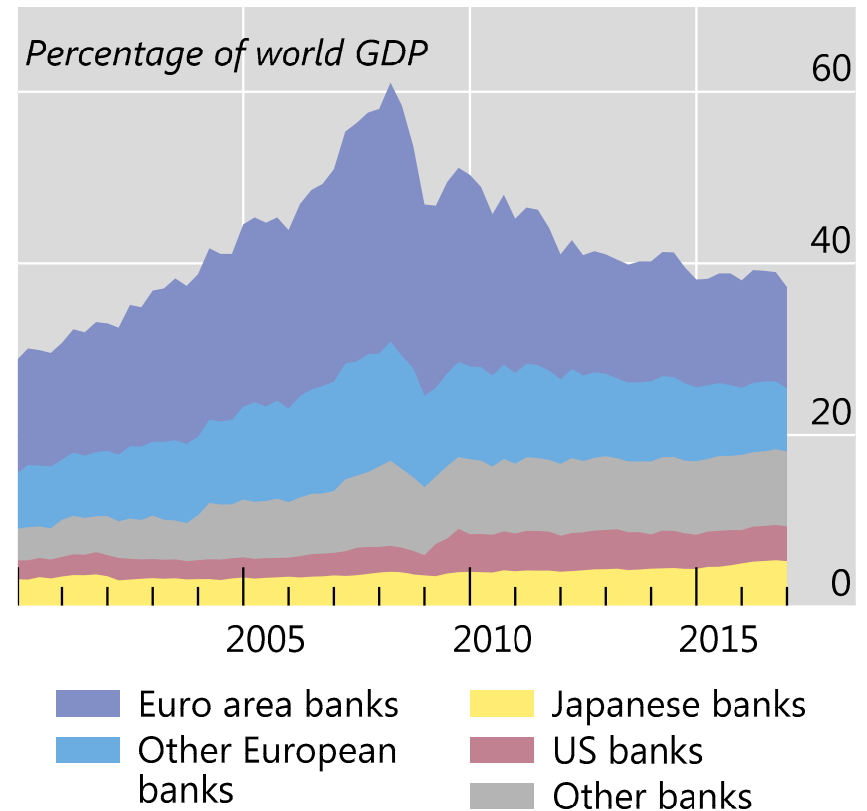
Source: 87th BIS Annual Report.

Real economy impact of exchange rates

- "Islands" view
    - Global economy as a collection of islands
    - Exchange rates determine trade balance
    - Depreciation is expansionary

- Financial channel of exchange rates
    - Global economy is matrix of financial claims
    - Matrix does not respect geography
    - Exchange rates influence risk-taking
    - Appreciation can be expansionary
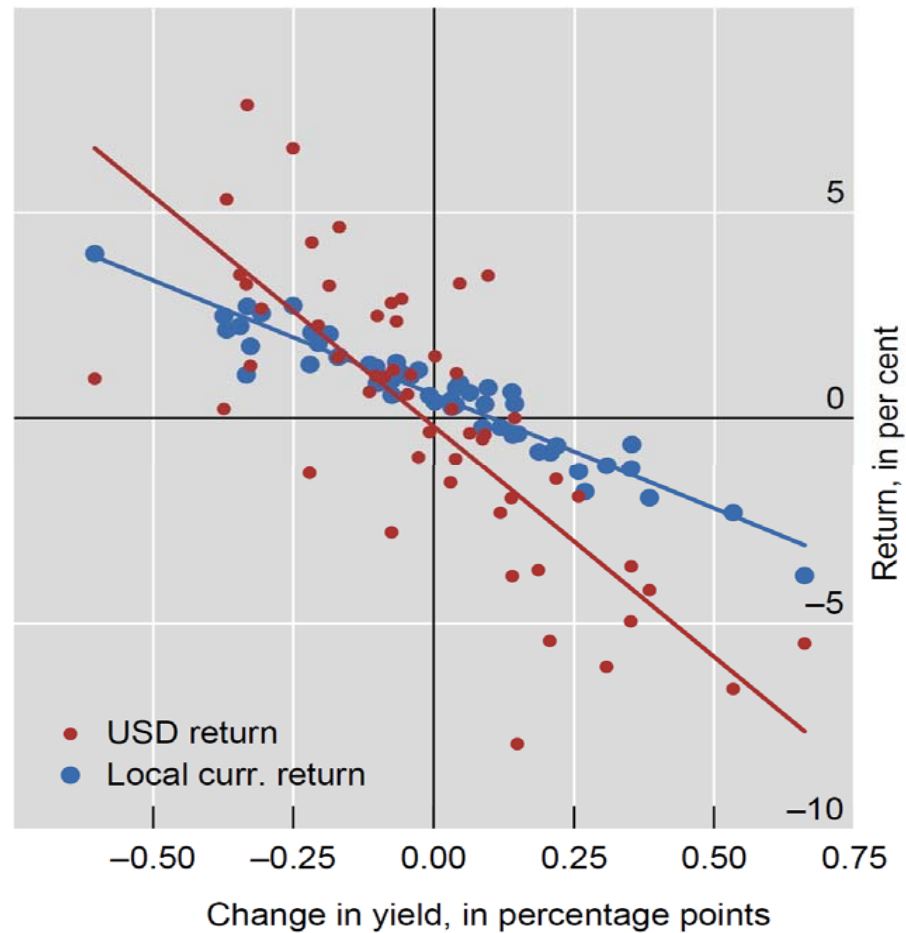
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EME bond fund local currency returns and USD returns

Sources: EPFR; JPMorgan Chase; Hofmann, Shim and Shin (2017)

EME bond fund local currency returns and USD returns

When local currency bond yields fall, gains to dollar-based investors magnified by EME currency appreciation

Return, in per cent

- USD return
- Local curr. return

Change in yield, in percentage points

Sources: EPFR; JPMorgan Chase; Hofmann, Shim and Shin (2017)

EME bond fund local currency returns and USD returns

When local currency bond yields rise, losses to dollar-based investors magnified by EME currency depreciation
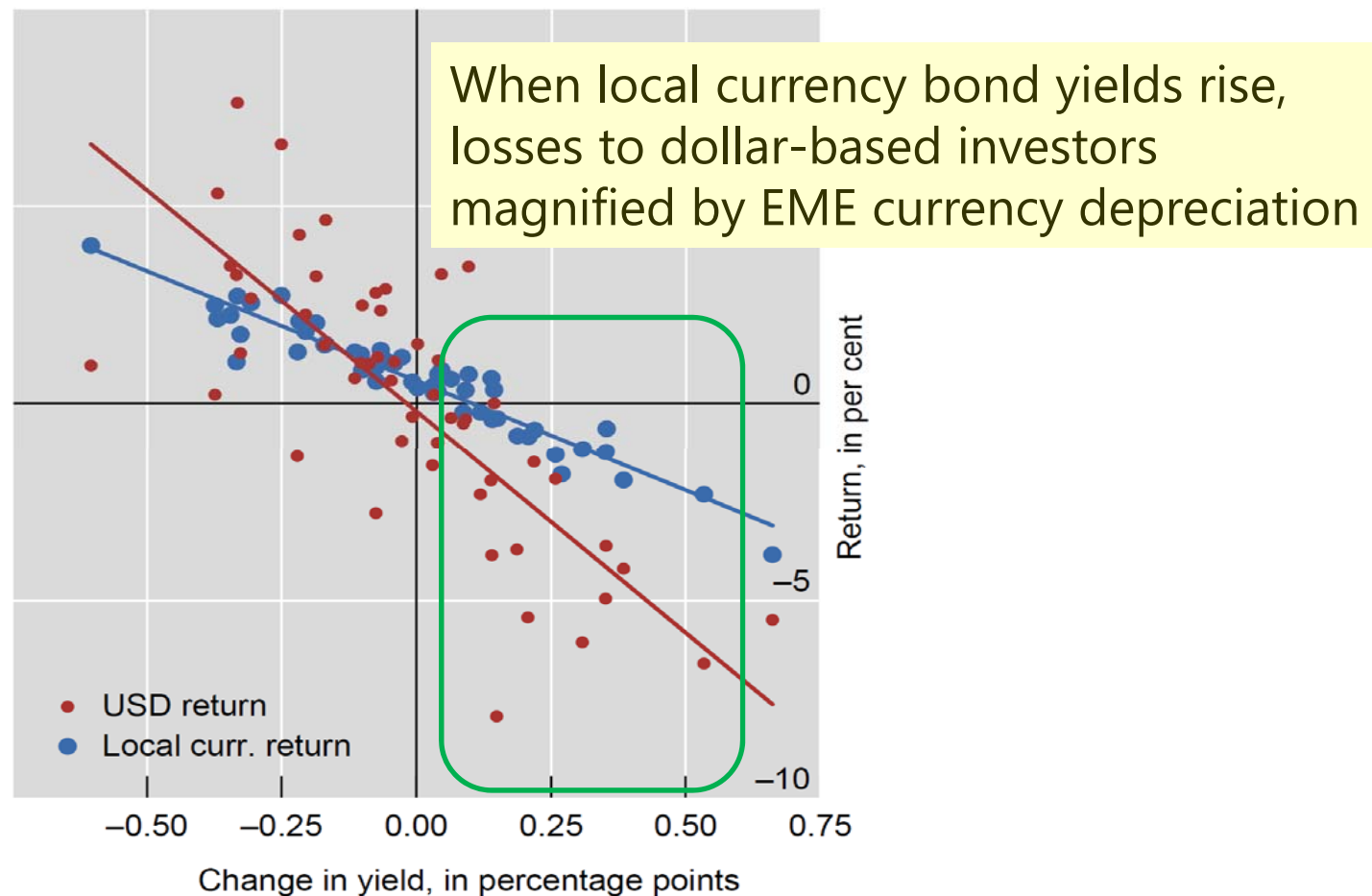
Sources: EPFR; JPMorgan Chase; Hofmann, Shim and Shin (2017)

CDS spreads and bilateral USD exchange rate
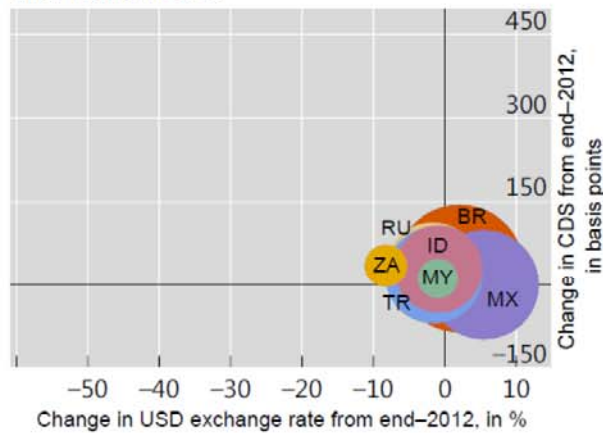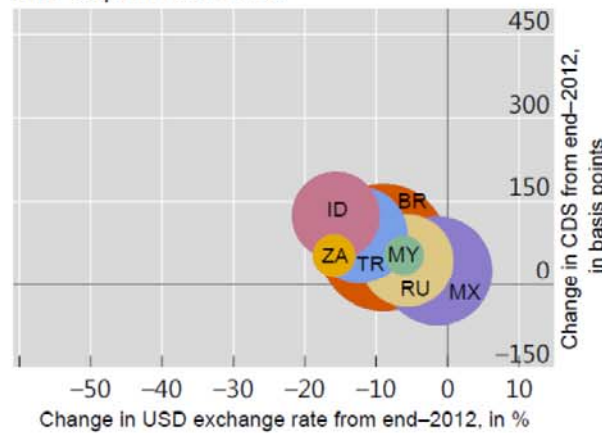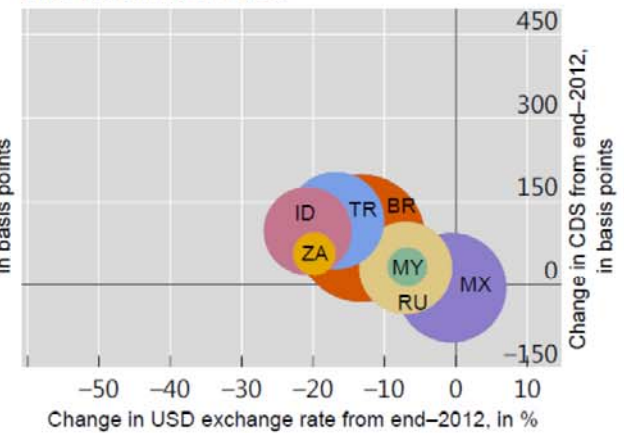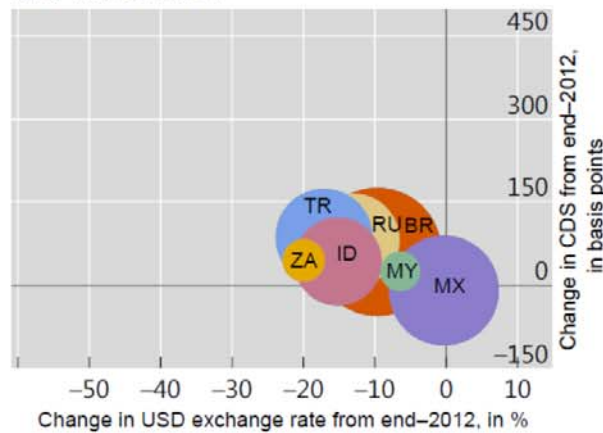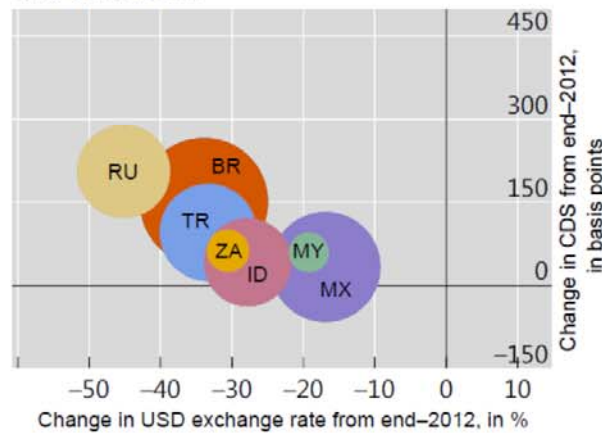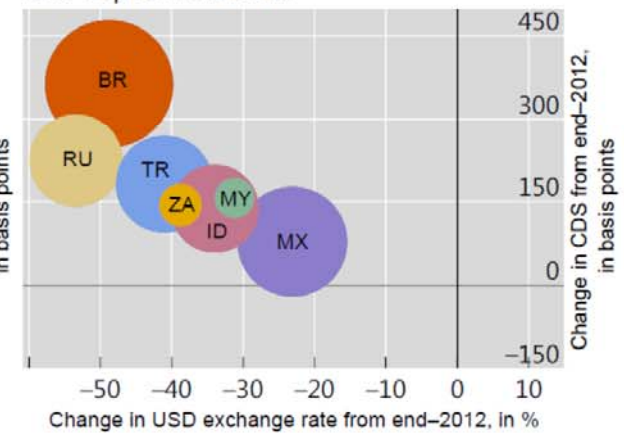
Findings from Hofmann, Shim and Shin (2017)

- Exchange rate vis-à-vis USD is significant determinant of EME local currency bond market conditions
    - Appreciation is associated with looser financial conditions
    - Appreciation against USD boosts real activity near term
    - Effect works through risk premium

- Appreciation in trade-weighted exchange rate unrelated to USD goes in opposite direction
    - Financial channel of exchange rates is consistent with textbook net exports channel

Hofmann, Shim and Shin (2017) "Sovereign yields and the risk-taking channel of currency appreciation", BIS WP 538

Exchange rates, working capital and trade

- Trade openness entails substantial degree of financial openness

- Global value chains introduce potential for working capital channel of trade fluctuations

Trade openness has grown with manufactured goods trade

Composition of trade

Percentage of world GDP

Legend:
- Manufactures
- Other merchandise
- Fuel
- Ores and metals
- Food
- Agricultural raw materials
- Services

X-axis: 1965, 1965, 1985, 1985, 2015, 2015
Y-axis: 0, 10, 20, 30, 40

Trade openness reflected in global value chains (GVCs)

Country links in GVCs

Percentage of total trade

Legend:
- Emerging market economies to emerging market economies
- Emerging market economies to advanced economies
- Advanced economies to advanced economies
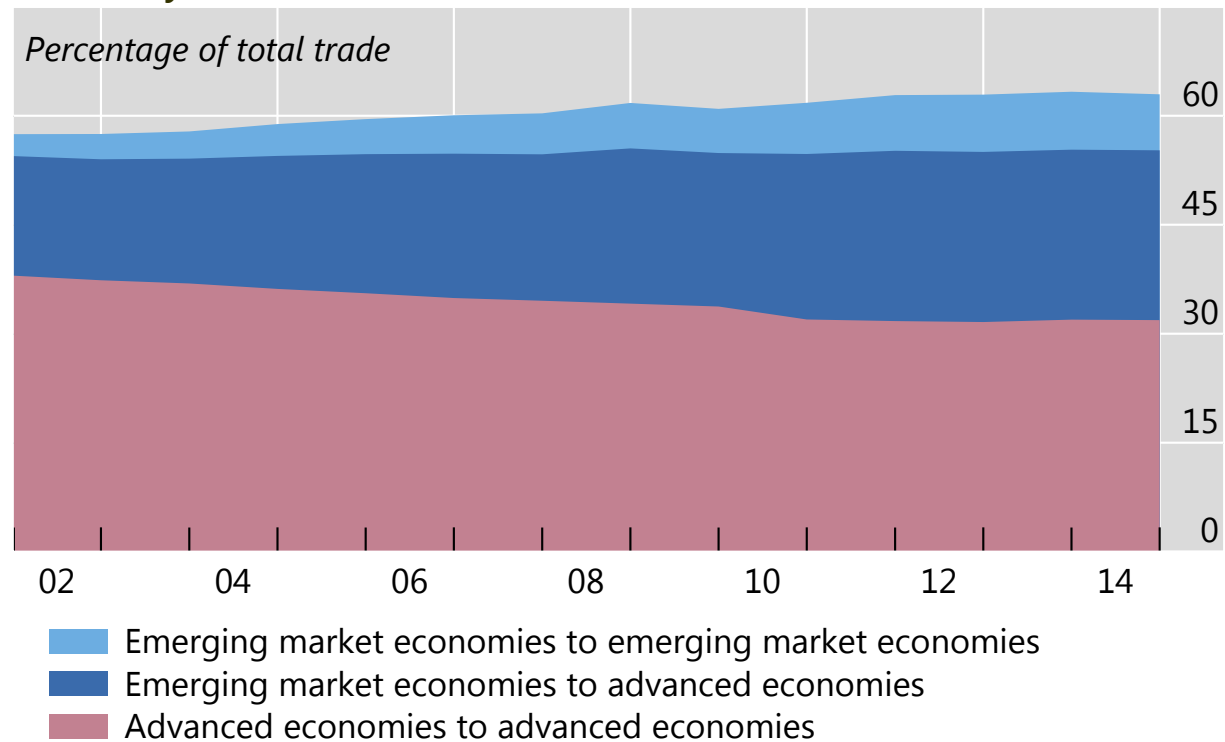
Source: 87th Annual Report.

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	Date 1	Date 2	Date 3
Stage 1			
Stage 2			
Stage 3			

	Date 1	Date 2	Date 3
Stage 1			
Stage 2			
Stage 3			

Date 1   Date 2   Date 3

Stage 1
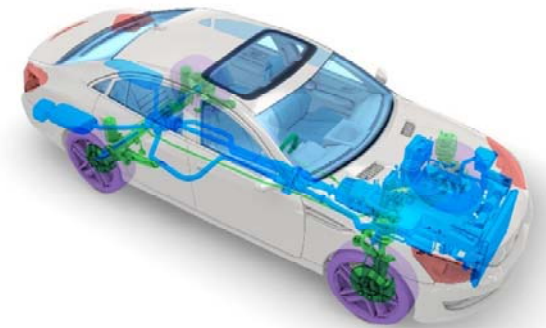
Stage 2

Stage 3

Date 1   Date 2   Date 3

Stage 1

Stage 2

Stage 3

Inventories and trade

"When our grandfathers owned shops, inventory was what was in the back room. Now it is a box two hours away on a package car, or it might be hundreds more crossing the country by rail or jet, and you have thousands more crossing the ocean."

[CEO of UPS quoted in Thomas Friedman (2005): *The World is Flat*, p 174)]

Inventories and trade
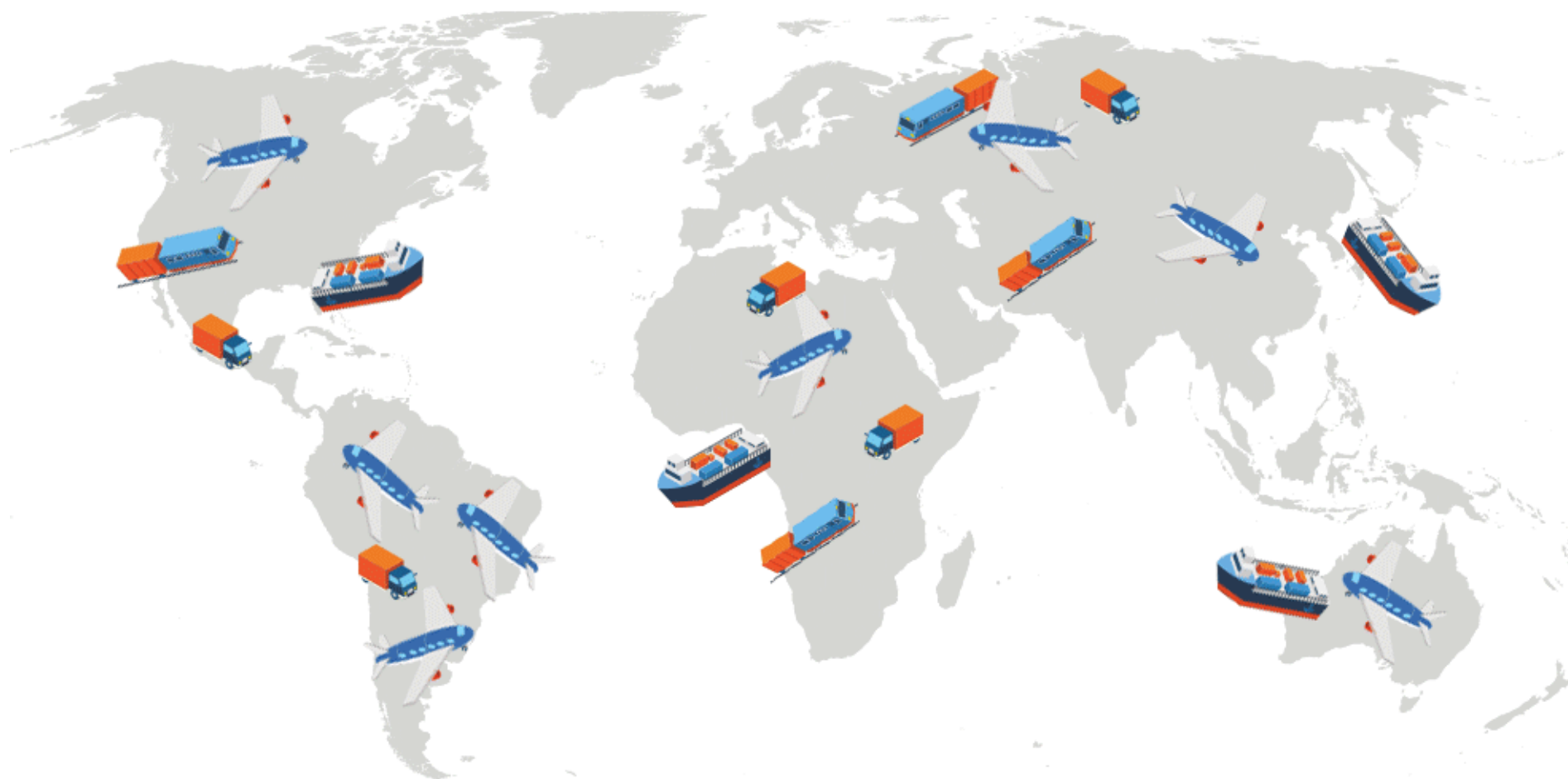
	Date 1	Date 2	Date 3

Stage 1

Stage 2

Stage 3

Assets	Liabilities
Cash	Equity
Receivables	Payables
Long-term assets	Long-term liabilities

Date 1 Date 2 Date 3

Stage 1 v

Stage 2

Stage 3

Assets	Liabilities
Cash	Equity
(1 period old) (=v)	Short-term debt
Receivables Long-term assets	Payables Long-term liabilities

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	Assets	Liabilities
	Cash	Equity
	Inventories (1 period old) (=v)	
	Inventories (2 periods old) (=$2v$)	Short-term debt
	Inventories (3 periods old) (=$3v$)	
	Receivables	Payables
	Long-term assets	Long-term liabilities

Date 1, Date 2, Date 3

Stage 1 — v

Stage 2 — $2v$

Stage 3 — $3v$

GVC of four links needs funding of $4v + 3v + 2v + v$.
Funding need grows rapidly – at rate of **square** of length of GVC.

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	Date 1	Date 2	Date 3
Stage 1			v
Stage 2			$2v$
Stage 3			$3v$

Assets	Liabilities
Cash	Equity
(1 period old) (=v)	
Inventories (2 periods old) (=$2v$)	Short-term debt
Inventories (3 periods old) (=$3v$)	
Receivables Long-term assets	Payables Long-term liabilities

If GVC crosses the boundary of the firm, then receivables are financed with payables and external debt.

Non-financial firms, China
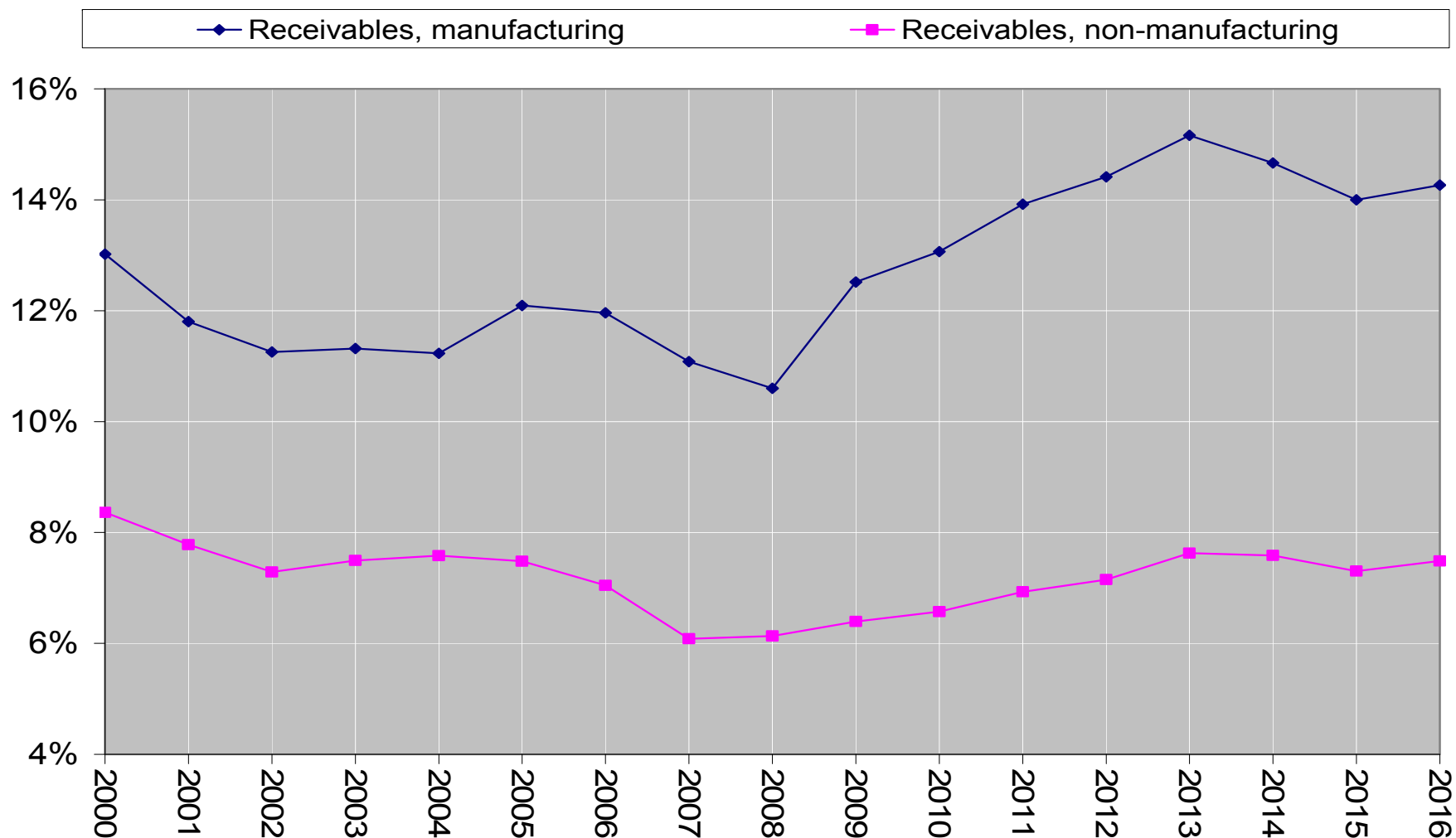
Average receivables/assets; balanced panel of non-financial firms
Source: Bruno, Kim and Shin (2017) "Exchange rates and the working capital channel of trade fluctuations"

Non-financial firms, China

Average of (receivables+inventories)/assets; balanced panel of non-financial firms
Source: Bruno, Kim and Shin (2017) "Exchange rates and the working capital channel of trade fluctuations"

Working capital of EME firms and the US dollar

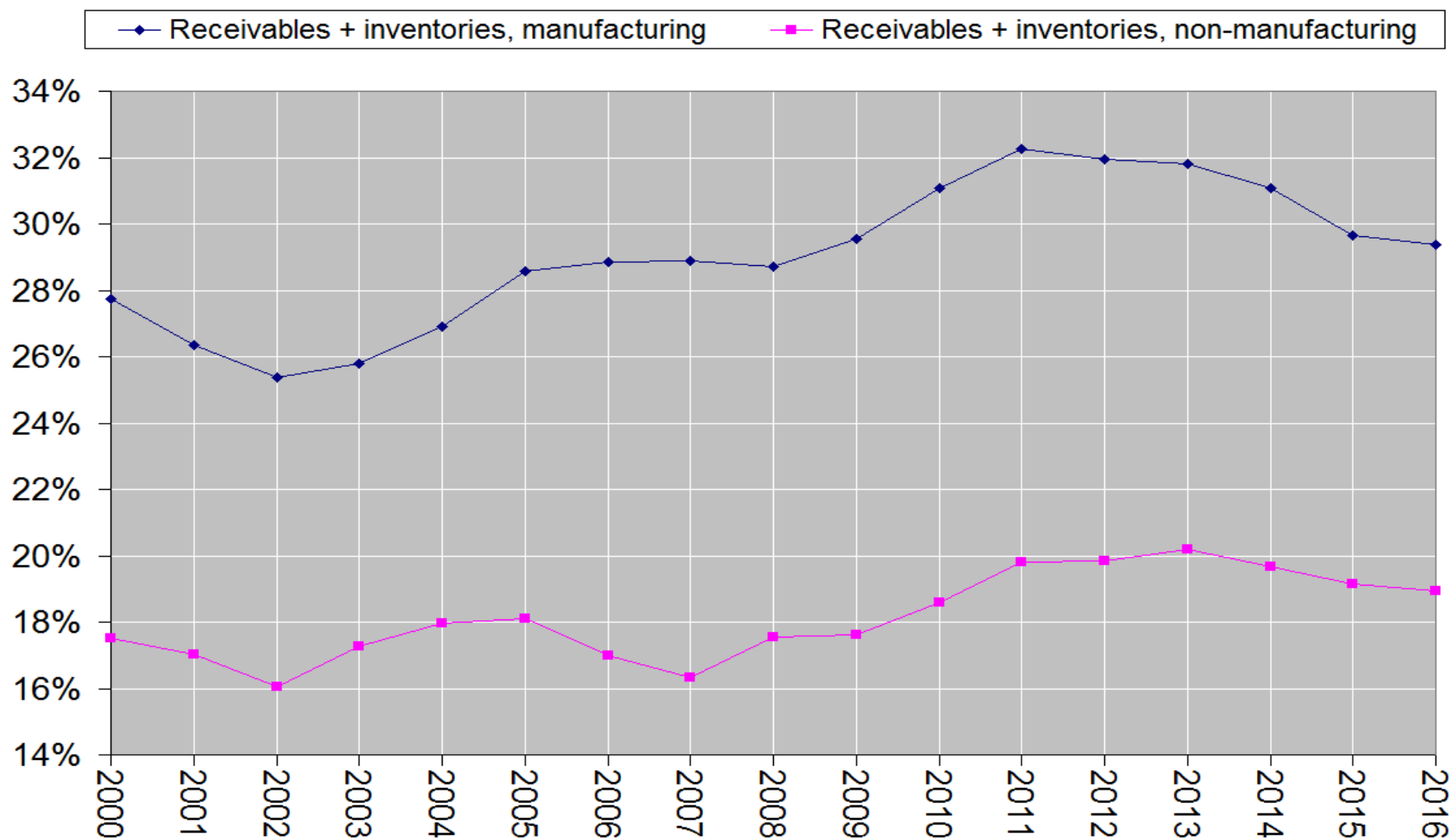|	(1) ΔAR	(2) ΔINV	(3) ΔAR	(4) ΔINV	(5) ΔCCC	(6) ΔCCC
Sample	China	China	All	All	China	China
ΔUSD REER	-0.3679*	-1.5625***	-1.0007***	-1.6707***	-0.4551*	
	[0.2073]	[0.1996]	[0.1234]	[0.1254]	[0.2331]	
ΔSales	0.0342*	0.0116	0.0366***	0.0382***	0.0352	0.0342
	[0.0206]	[0.0190]	[0.0113]	[0.0106]	[0.0276]	[0.0278]
Cash/TA	1.0719***	0.9940***	1.0934***	1.0073***	0.4941***	0.5124***
	[0.1195]	[0.0902]	[0.0730]	[0.0677]	[0.1427]	[0.1427]
Cash Flow/TA	0.7653***	0.2581***	0.0810	0.1691***	0.1151	0.1239
	[0.1413]	[0.0880]	[0.0651]	[0.0605]	[0.2034]	[0.2007]
PPE/TA	0.4464***	0.5318***	0.6026***	0.3992***	-0.0252	-0.0099
	[0.1339]	[0.1065]	[0.0611]	[0.0525]	[0.1678]	[0.1700]
ΔBilateral ex rate						-0.7237**
						[0.3375]
Constant	0.0079	-0.0847**	-0.0305	-0.0241	-0.0442	-0.0627
	[0.0529]	[0.0409]	[0.0242]	[0.0224]	[0.0679]	[0.0680]
Obs	23,519	23,360	88,136	83,398	23,079	23,079
R-squared	0.010	0.023	0.009	0.019	0.001	0.001
# firms	2,463	2,467	8,697	8,361	2,432	2,432

From Bruno, Kim and Shin (2017) "Exchange rates and the working capital channel of trade fluctuations"

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Global role of the dollar

- Step 1: Invoicing currency for trade

- Step 2: Funding currency for investment
  - Oil and gas sector, for example
  - Currency denomination of diversified global portfolio

- Step 3: Dollar liabilities of global banks
  - Hedging for investors who hold diversified global portfolio

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Global role of the dollar

- Layer 1: Invoicing currency for trade

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    - Hedging for investors who hold diversified global portfolio

How easy is it to draw a line between real and financial globalisation?

Real globalisation and financial globalisation

We cannot draw a sharp distinction between the two

- Real globalisation entails substantial financial globalisation
- But the global financial system is subject to procyclicality and excesses, like the domestic financial system
    - Durable benefits of globalisation reaped through a more resilient global financial system
    - Importance of international cooperation towards resilience is undiminished
- Need to transcend "islands" view of global economy to that of the matrix of balance sheets