Understanding globalisation

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* The views expressed here are mine, not necessarily those of the Bank for International Settlements.

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
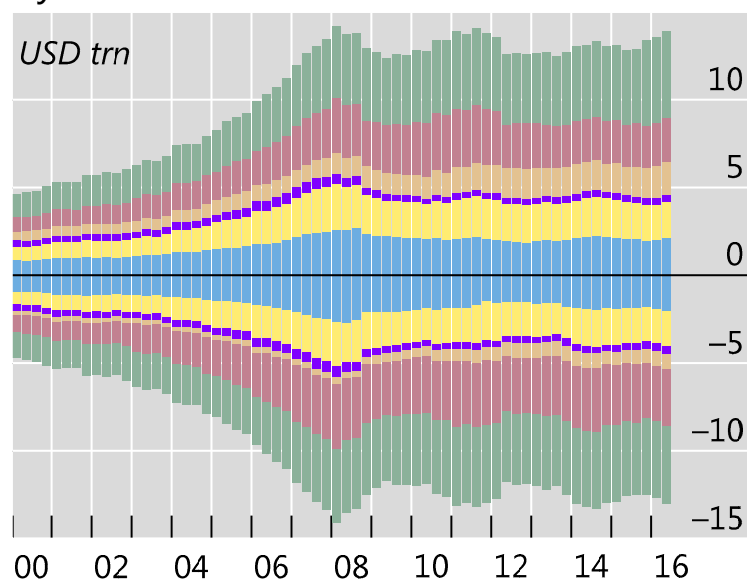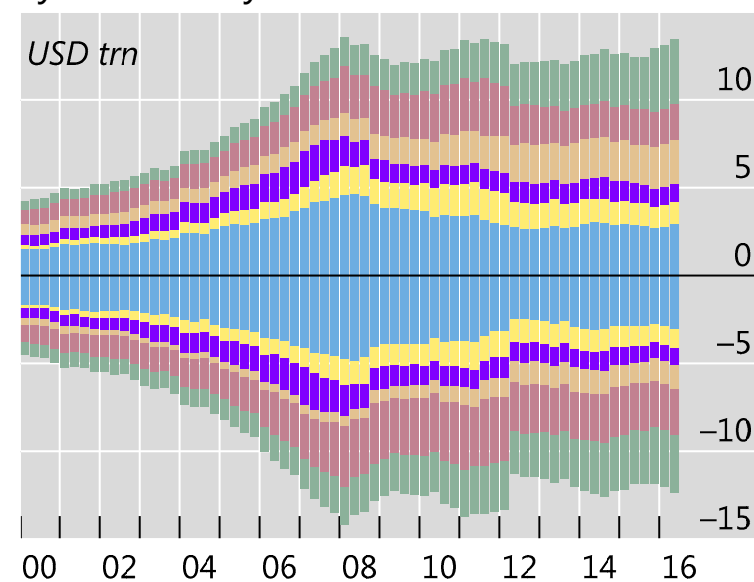
Claims (+) and liabilities (−) of:

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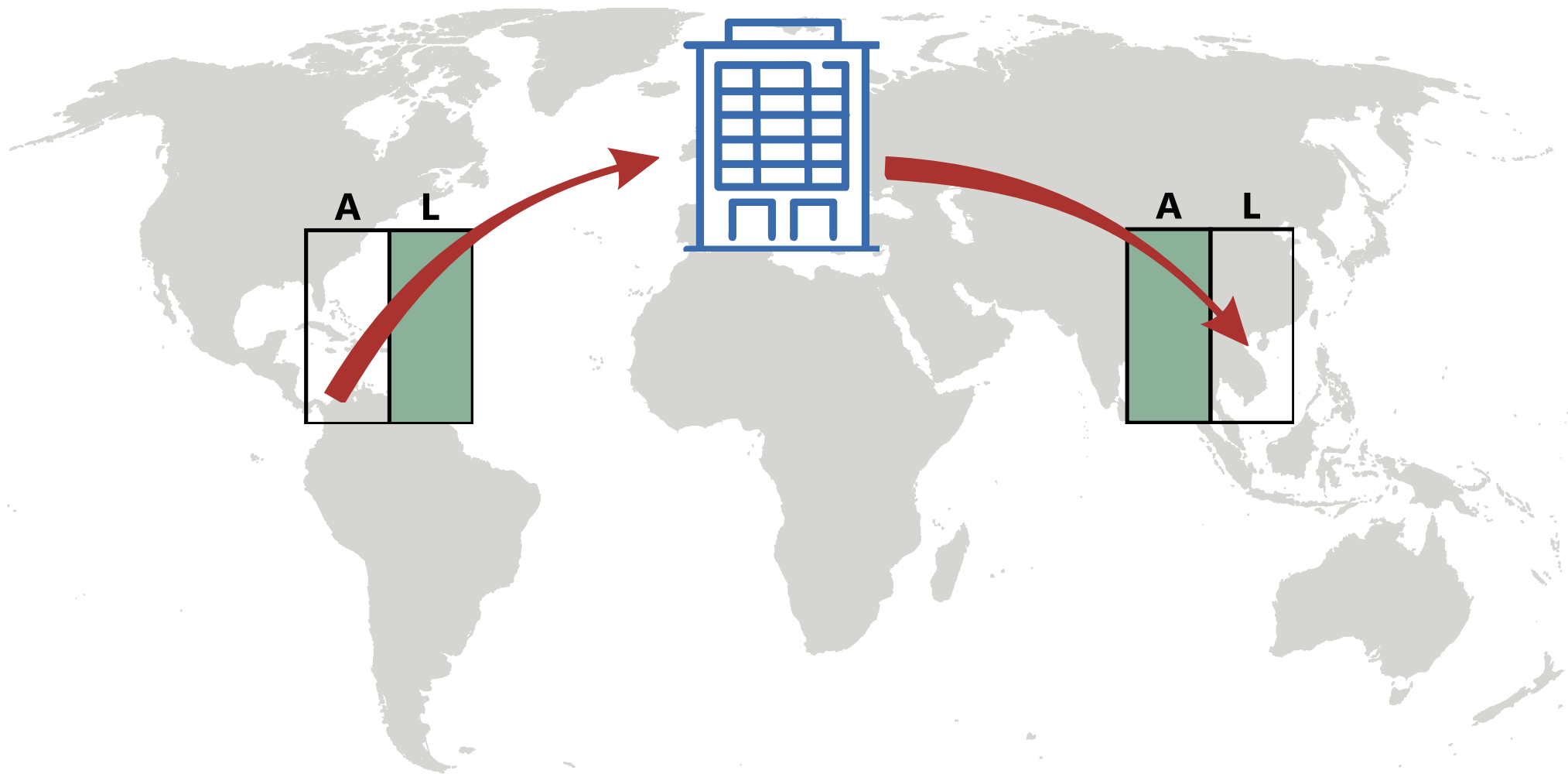- United Kingdom
- Switzerland
- Japan
- United States
- Other

[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.
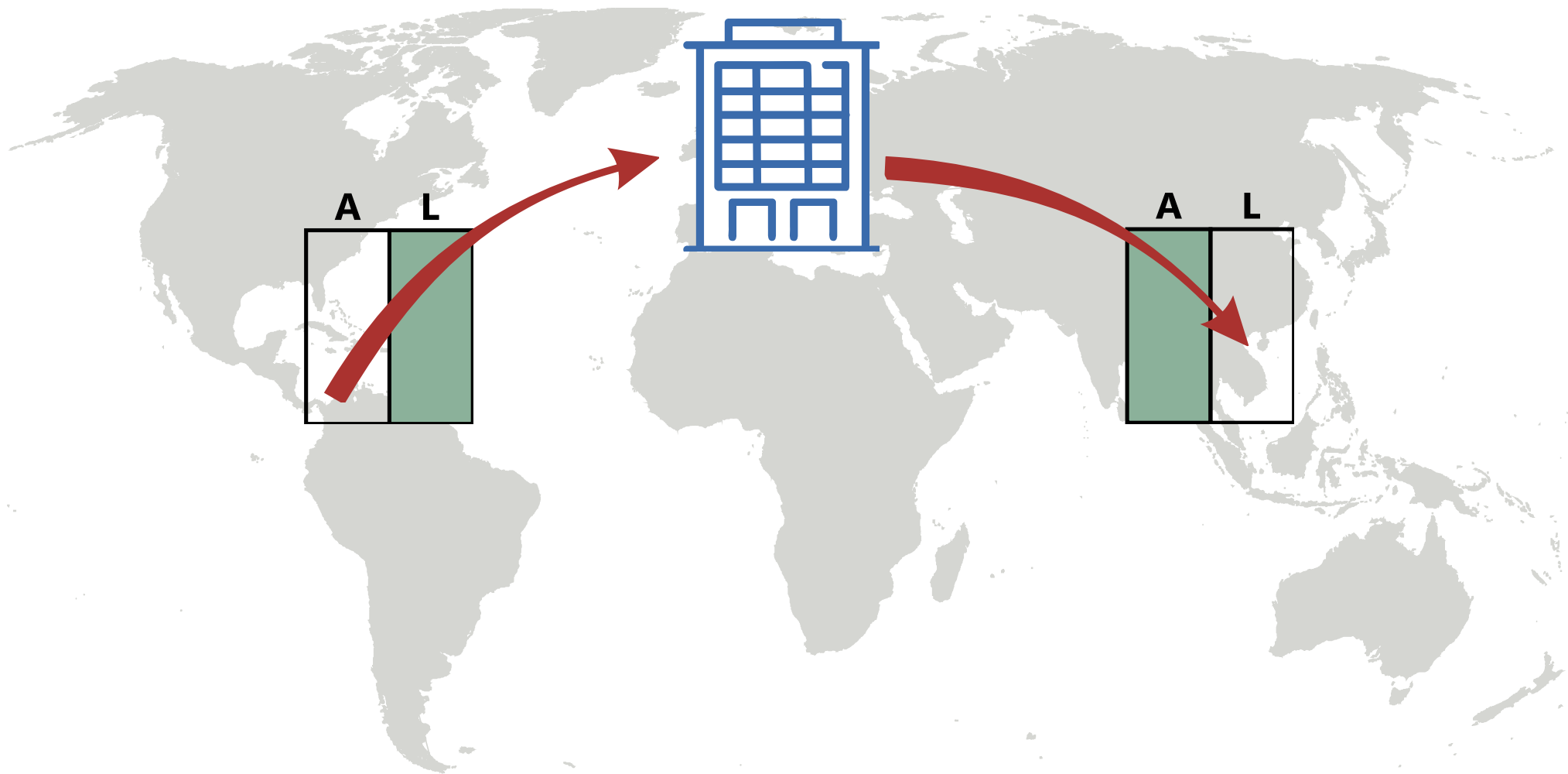Source: BIS locational banking statistics, Tables A5 (by residence) and A7 (by nationality).
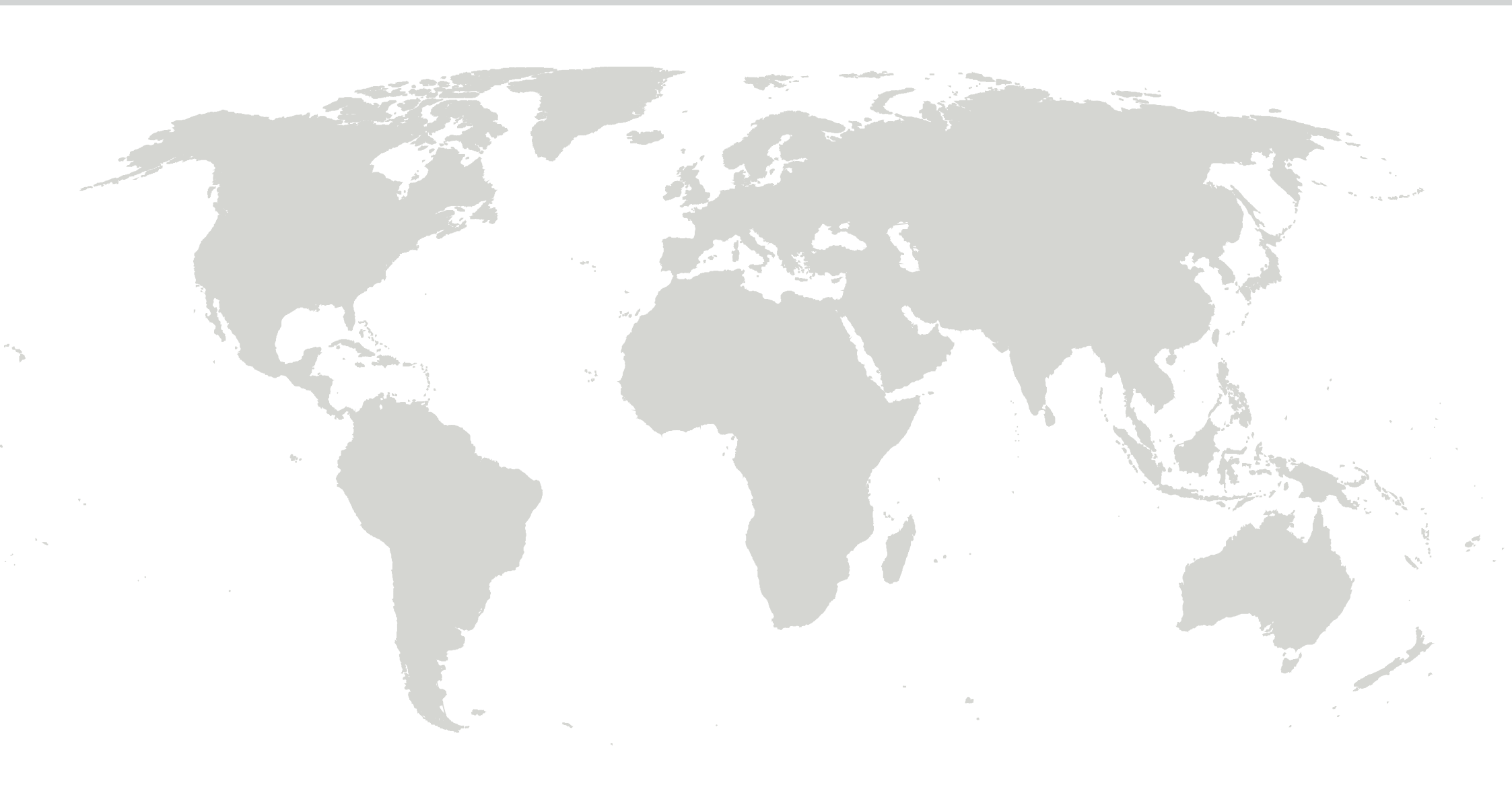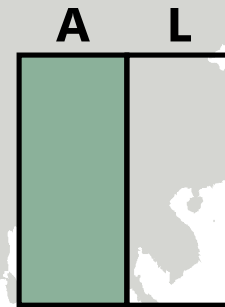
A   L

Deglobalisation? Locational vs consolidated perspectives

Locational cross-border bank claims

Percentage of world GDP

Legend:
- Banks (pink/maroon)
- Non-banks (yellow)
- Inter-office (blue)
- Unallocated (grey)

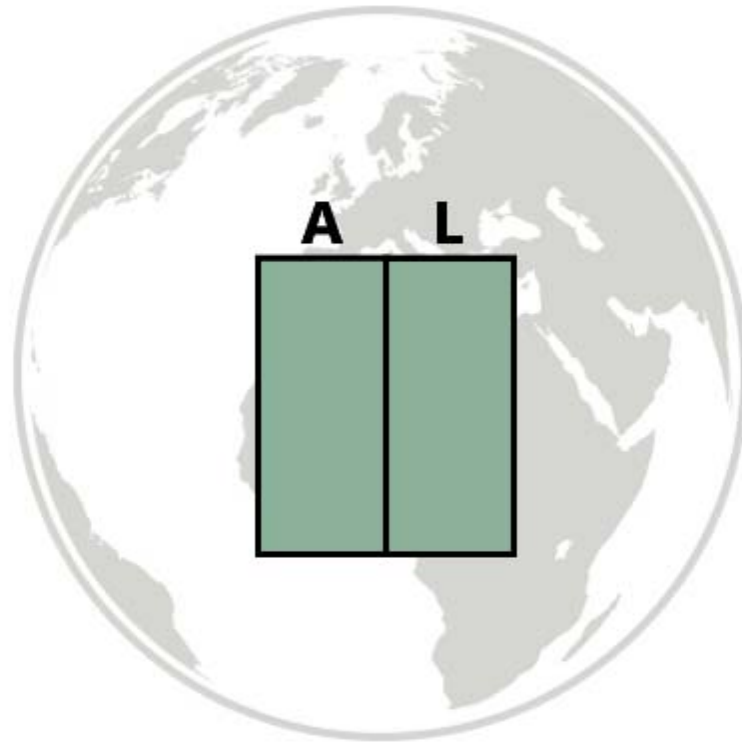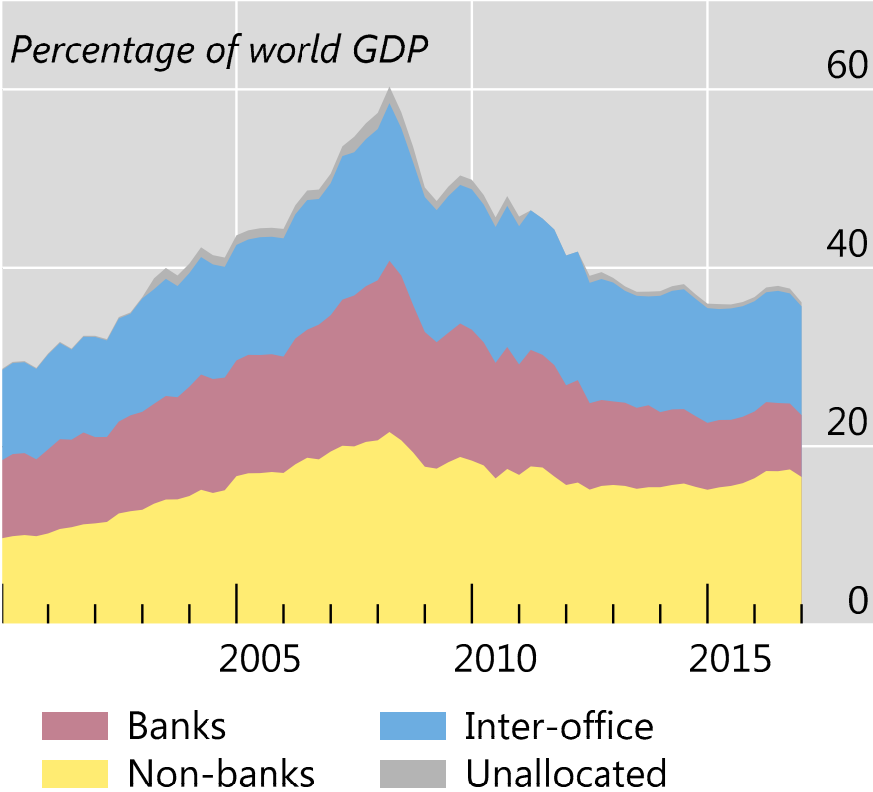Source: 87th BIS Annual Report.

Deglobalisation? Locational vs consolidated perspectives

Locational cross-border bank claims
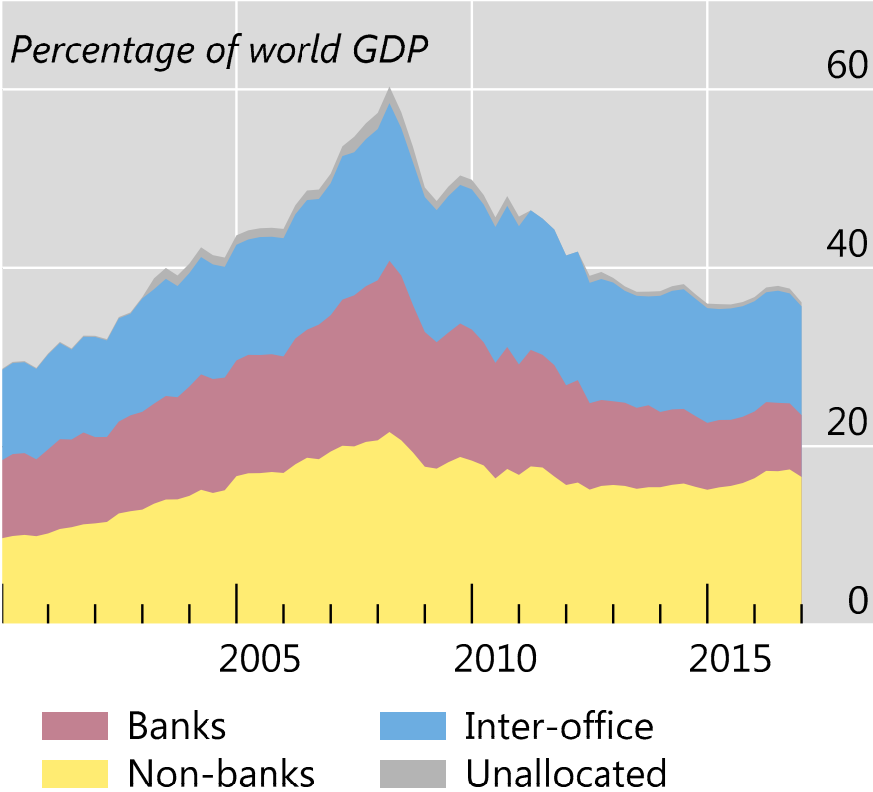
Foreign claims by banking system

Percentage of world GDP

Percentage of world GDP

Banks
Non-banks
Inter-office
Unallocated

Euro area banks
Other European banks
Japanese banks
US banks
Other banks

Source: 87th BIS Annual Report.

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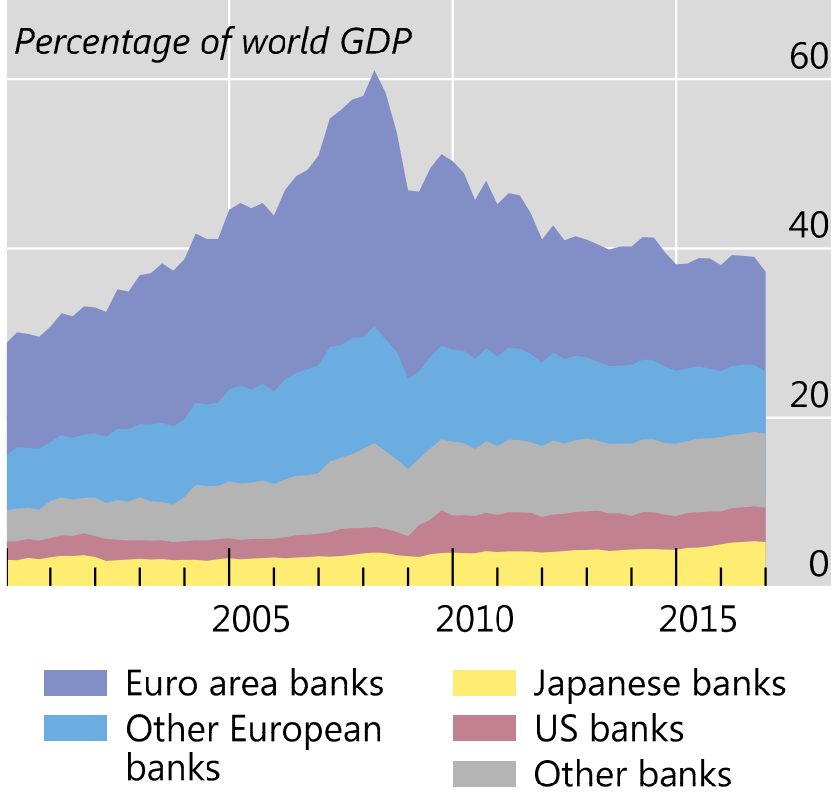
Real economy impact of exchange rates

- "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
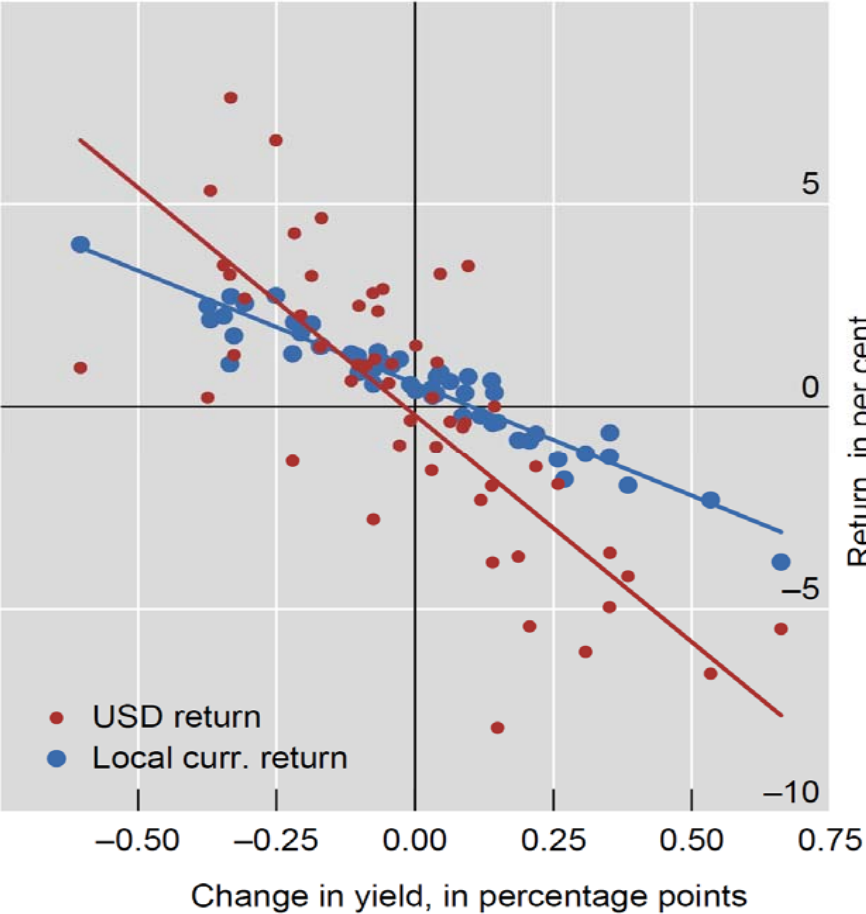
EME bond fund local currency returns and USD returns

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

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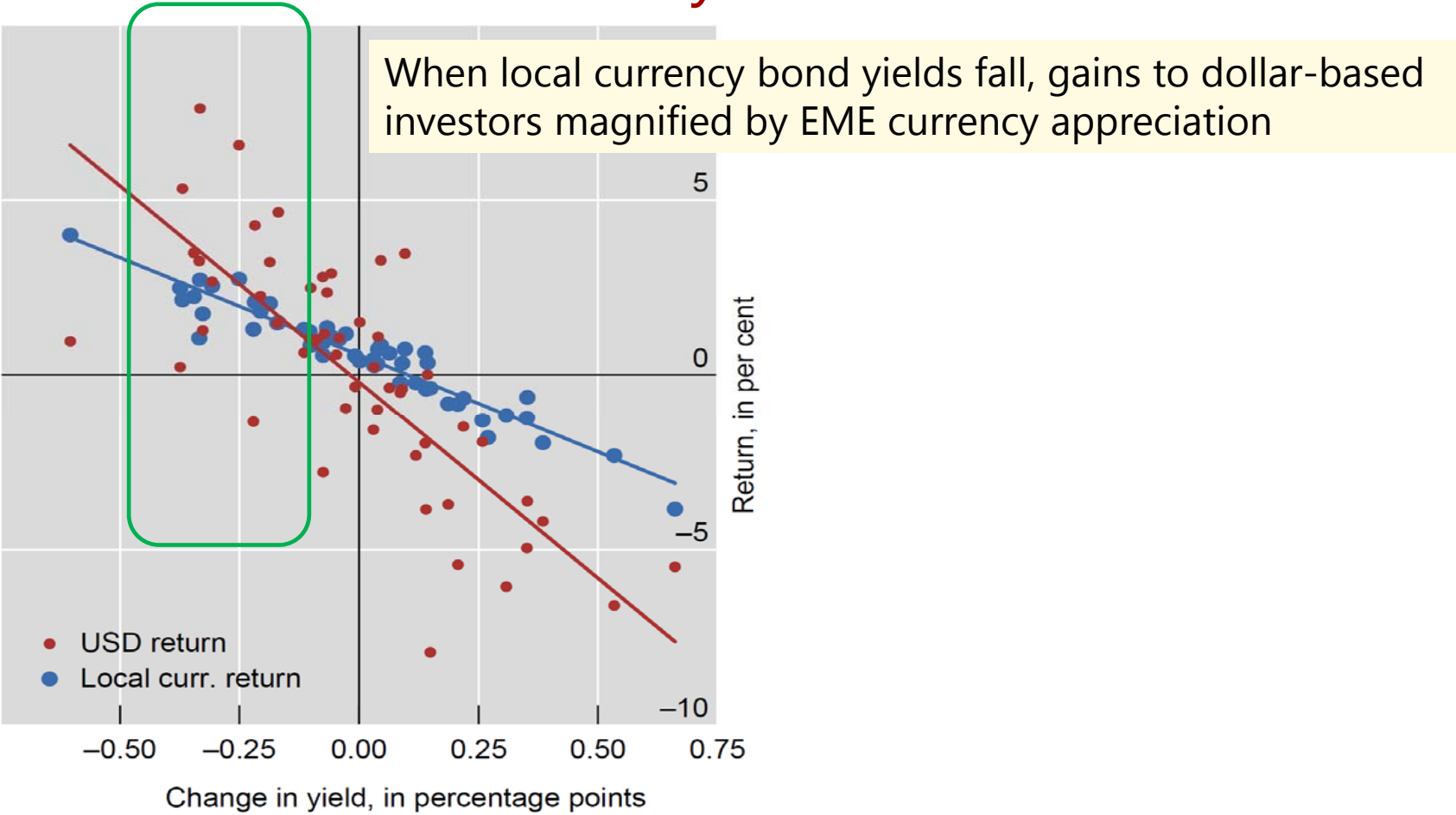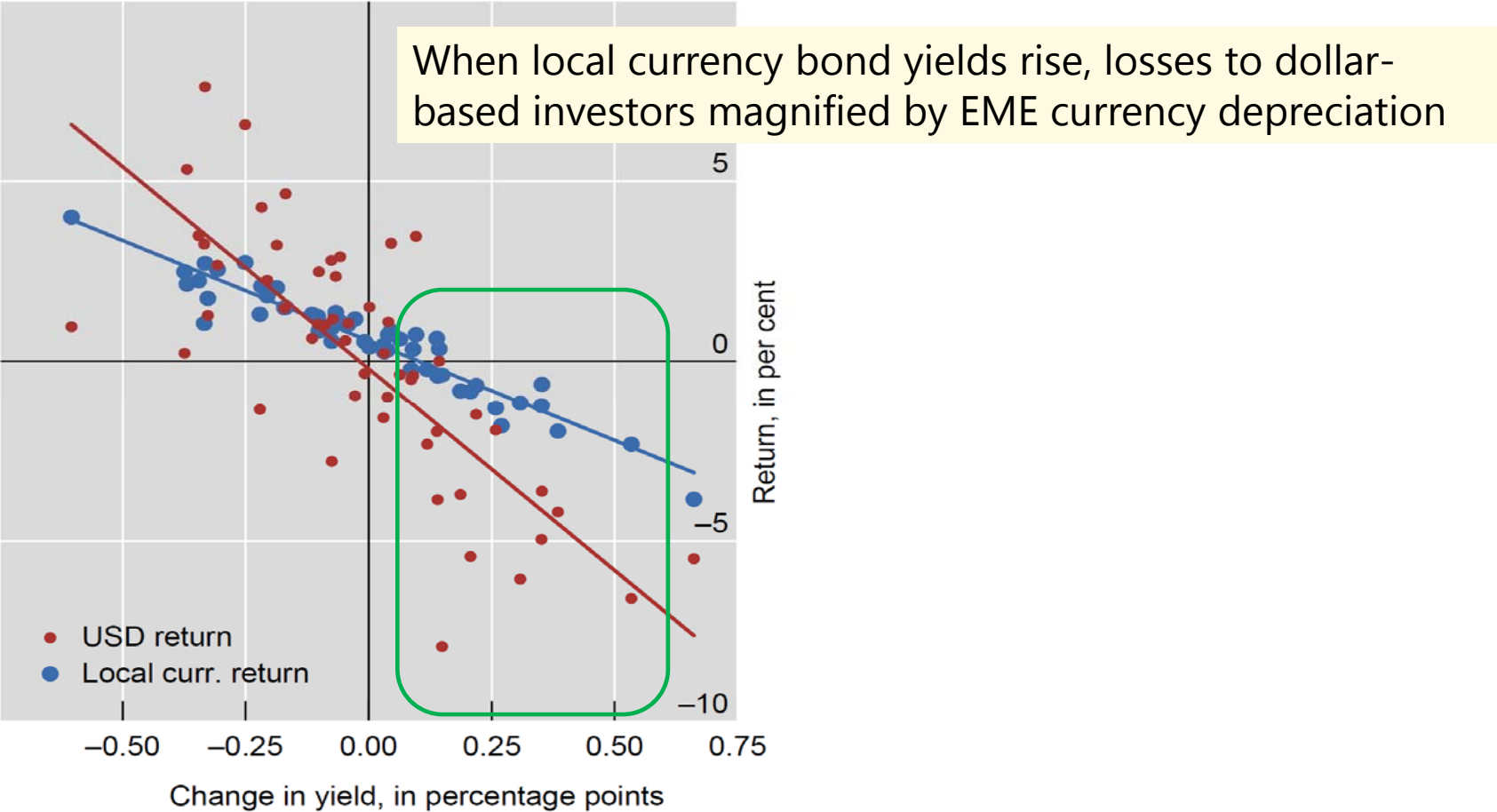
CDS spreads and bilateral USD exchange rate
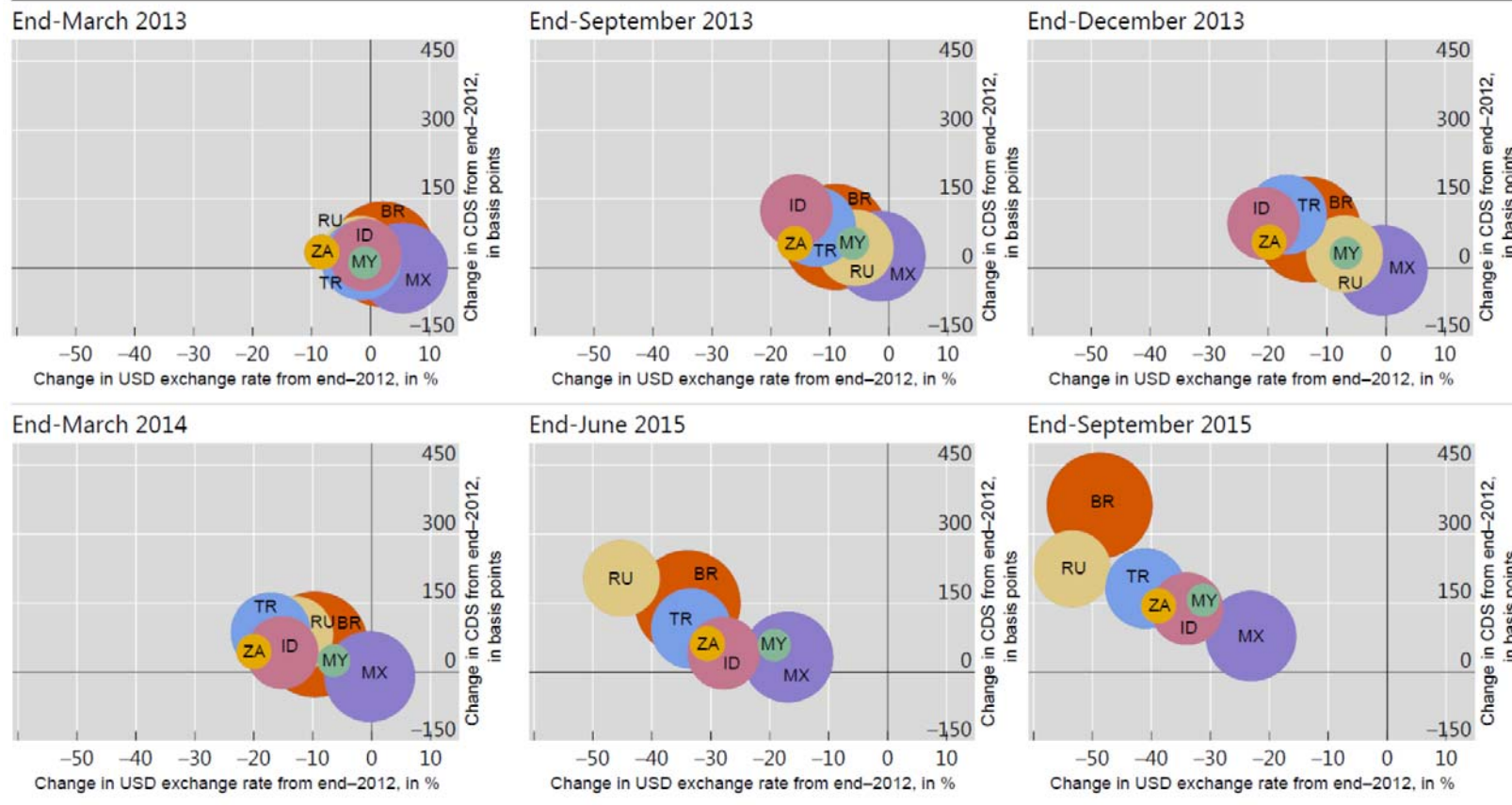
Findings from Hofmann, Shim and Shin (2017)

- 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

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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
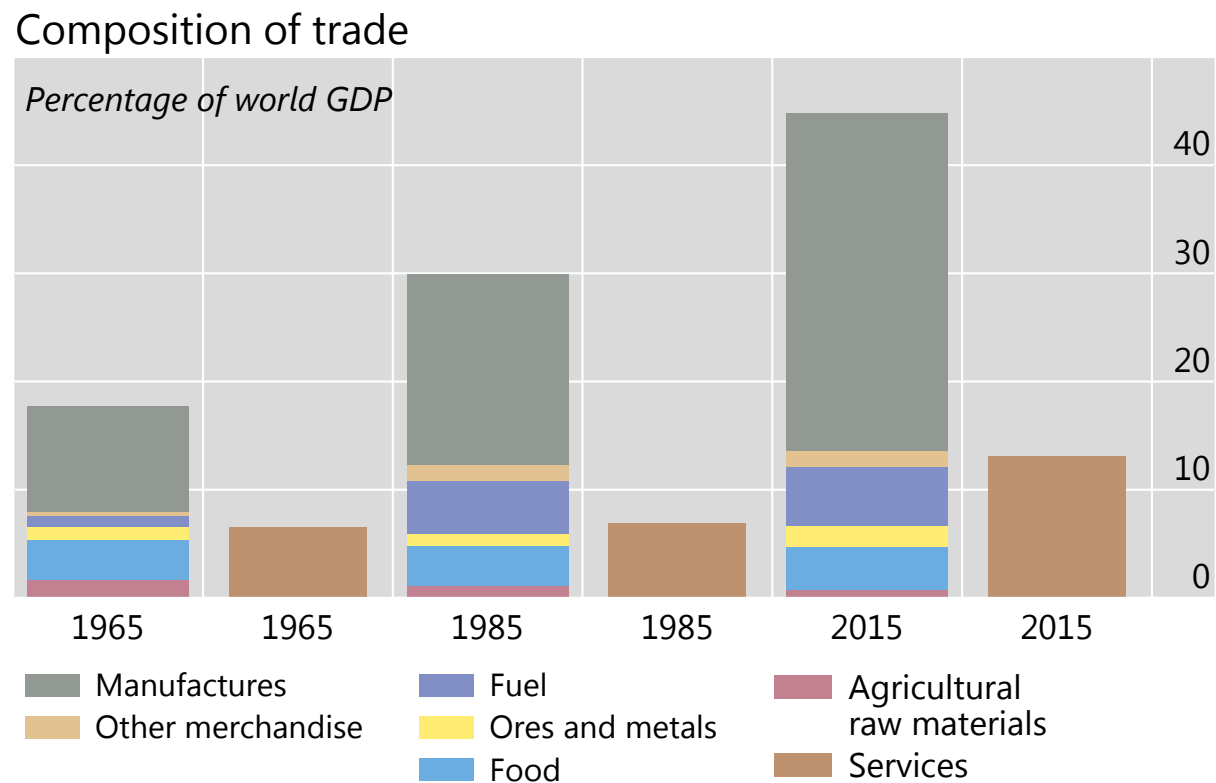
Source: 87th Annual Report.

Trade openness reflected in global value chains (GVCs)

Country links in GVCs
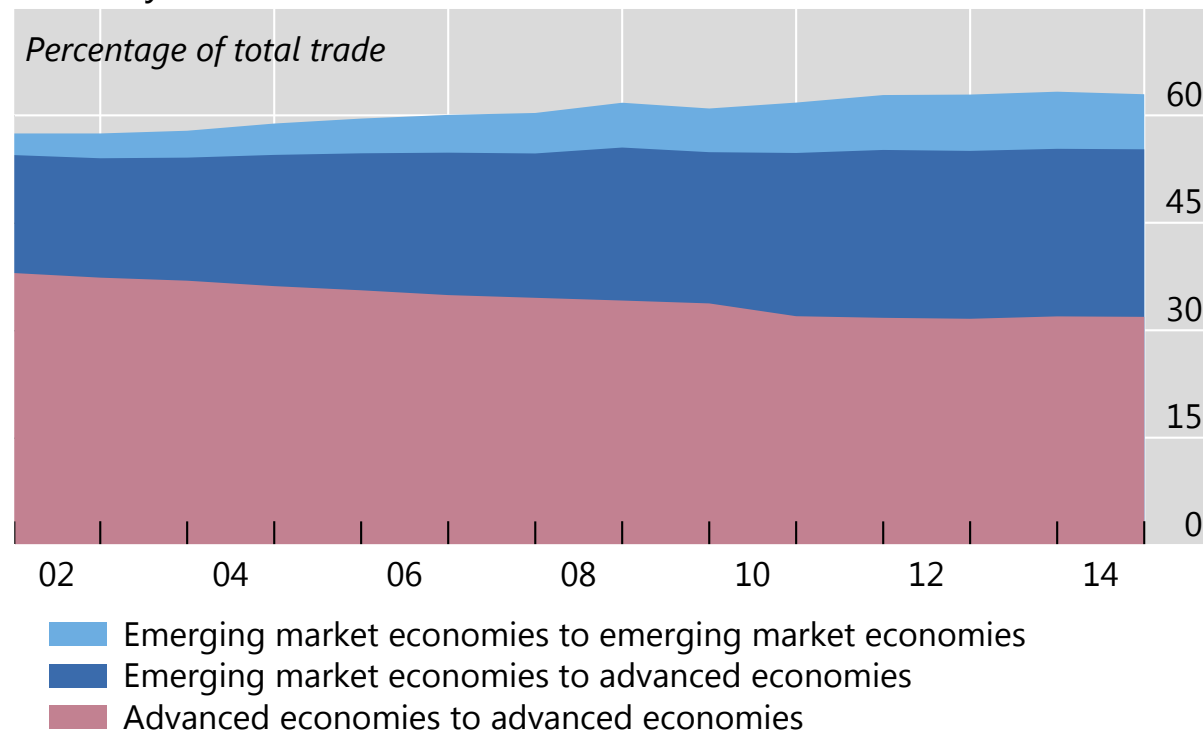
Percentage of total trade

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
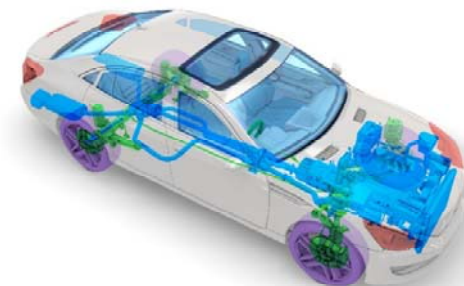
Stage 2

Stage 3

	Date 1	Date 2	Date 3
Stage 1			
Stage 2			
Stage 3			
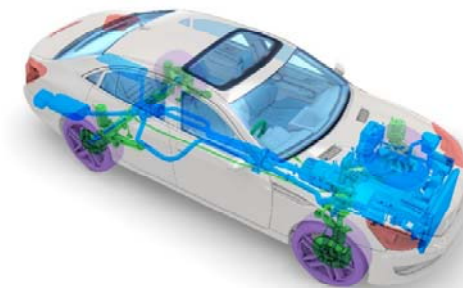
Inventories and trade

"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
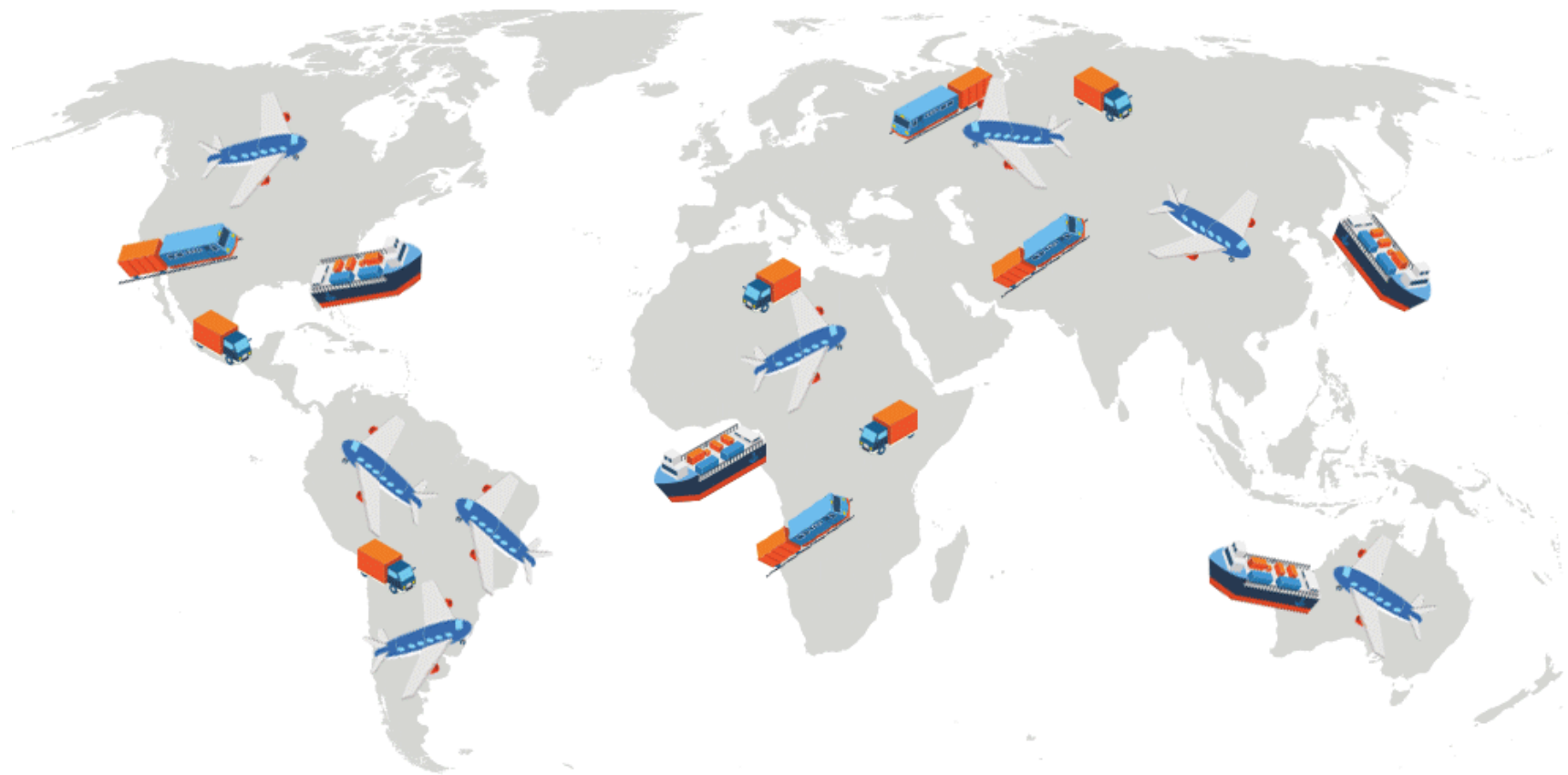
| | Date 1 | Date 2 | Date 3 |

	Assets	Liabilities
	Cash	Equity

Stage 1

Stage 2

Stage 3

Receivables
Long-term assets

Payables
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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	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

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	Assets	Liabilities
	Cash	Equity
	Inventories (1 period old) (=v)	Short-term debt
	Inventories (2 periods old) (=$2v$)	
	Inventories (3 periods old) (=$3v$)	
	Receivables Long-term assets	Payables Long-term liabilities
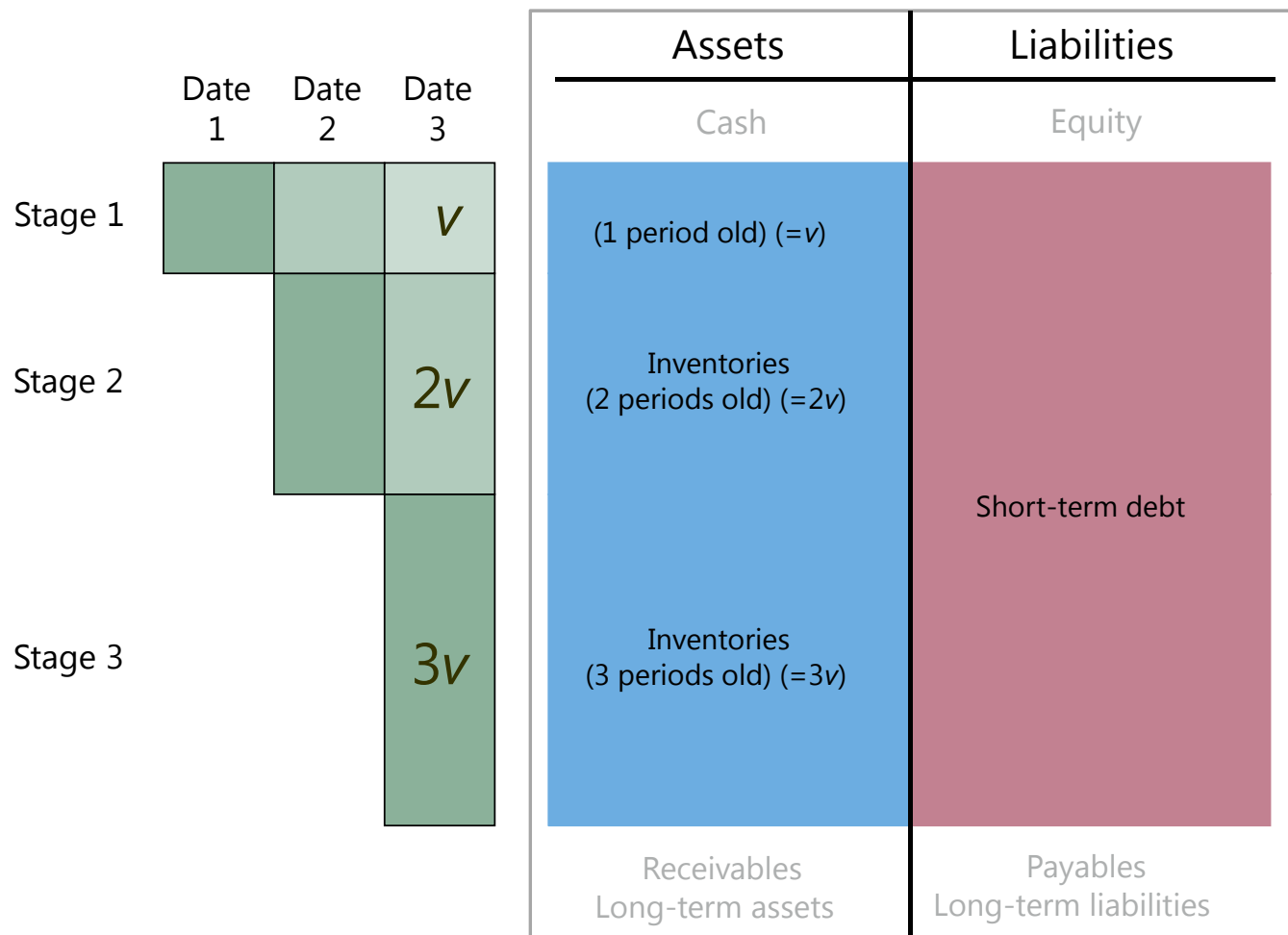
GVC of four links needs funding of 4v + 3v + 2v + v.
Funding need grows rapidly – at rate of **square** of length of GVC.

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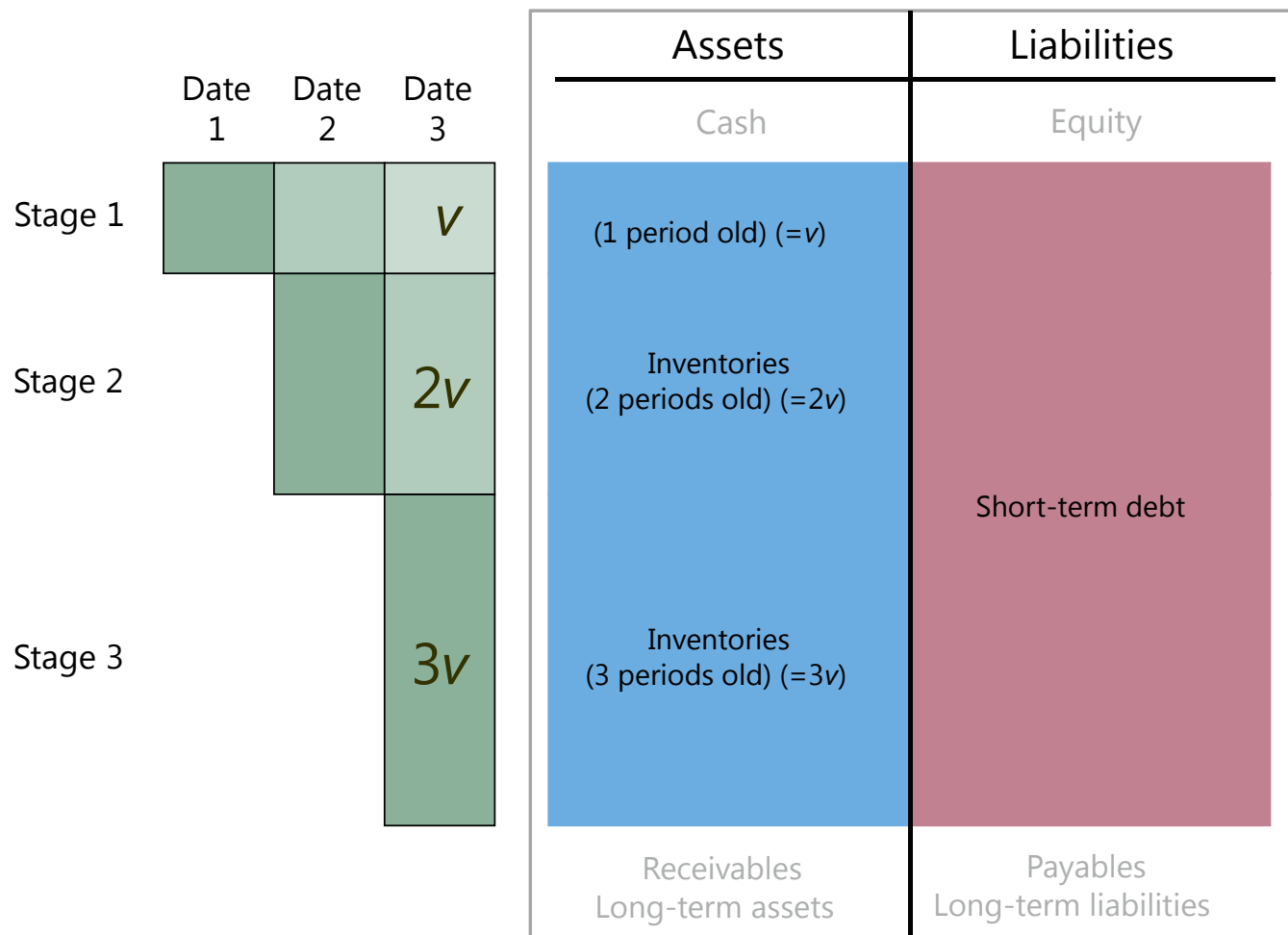
If GVC crosses the boundary of the firm, then receivables are financed with payables and external debt.

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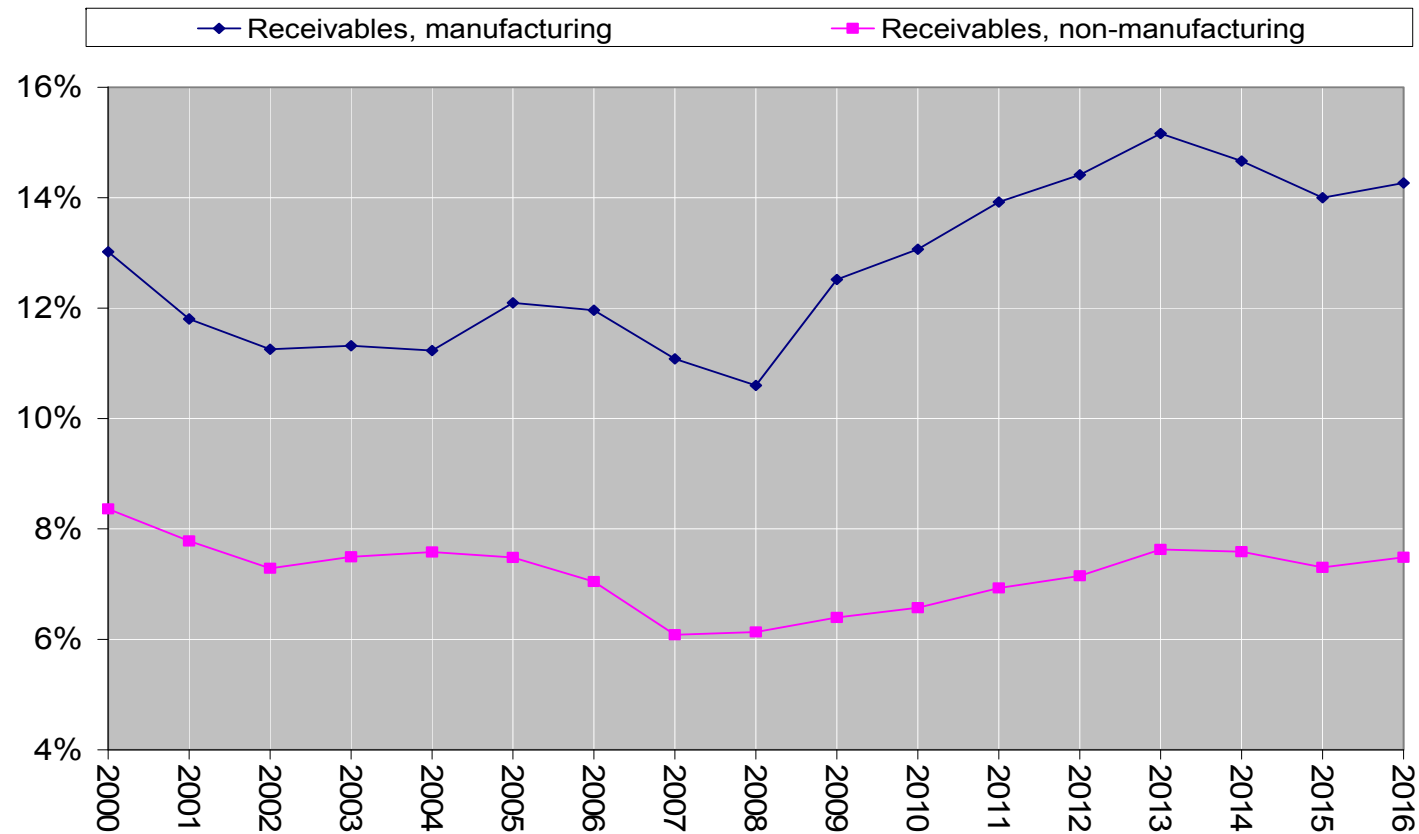
Average receivables/assets; balanced panel of non-financial firms
Source: Bruno, Kim and Shin (2017) "Exchange rates and the working capital channel of trade fluctuations"

Non-financial firms, China

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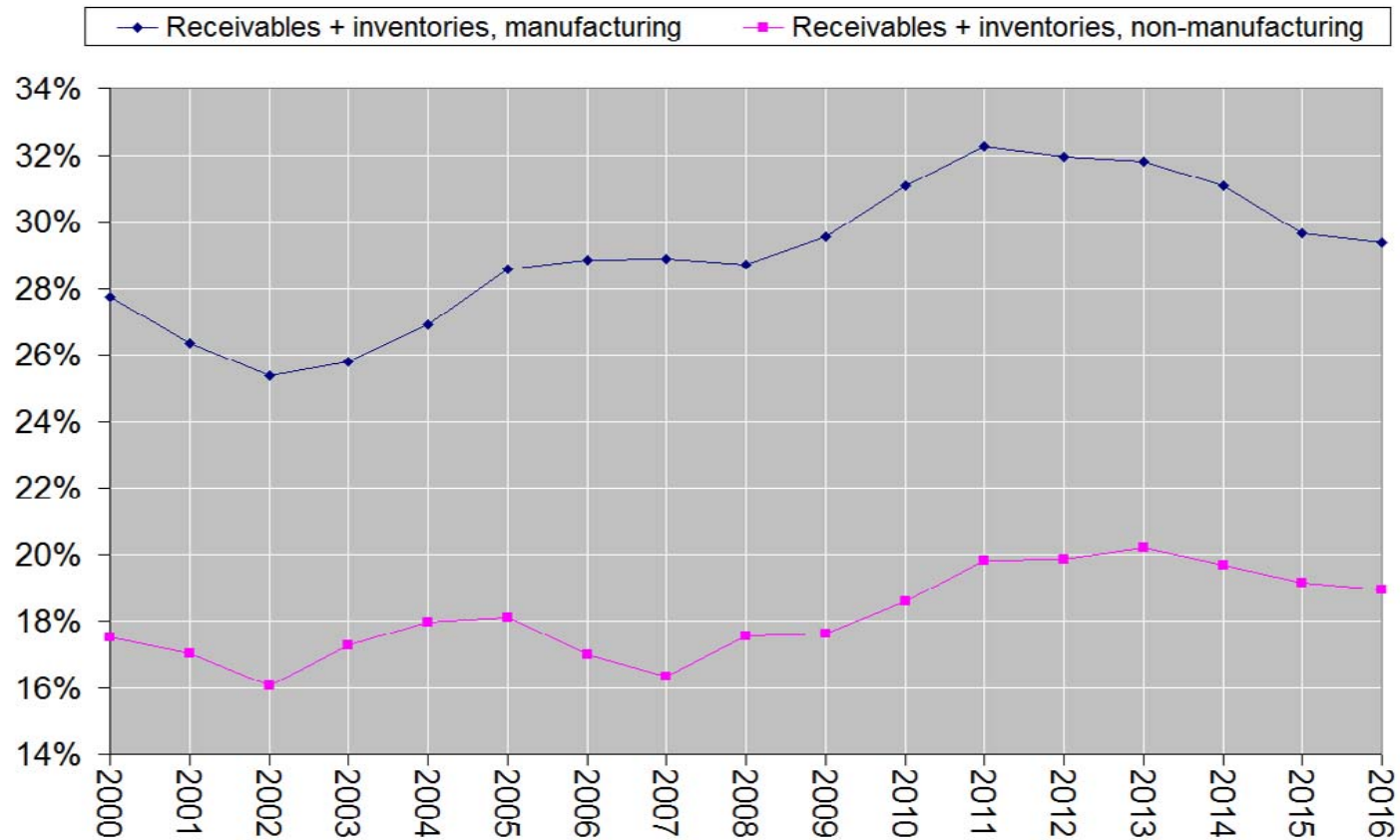Source: Bruno, Kim and Shin (2017) "Exchange rates and the working capital channel of trade fluctuations"

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"

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

Global role of the dollar

- Layer 1: Invoicing currency for trade
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How easy is it to draw a line between real and financial globalisation?

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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