

CROSS-BORDER PAYMENTS IN THE LONG-RUN: STRUCTURE AND GOVERNANCE BY CATHERINE SCHENK

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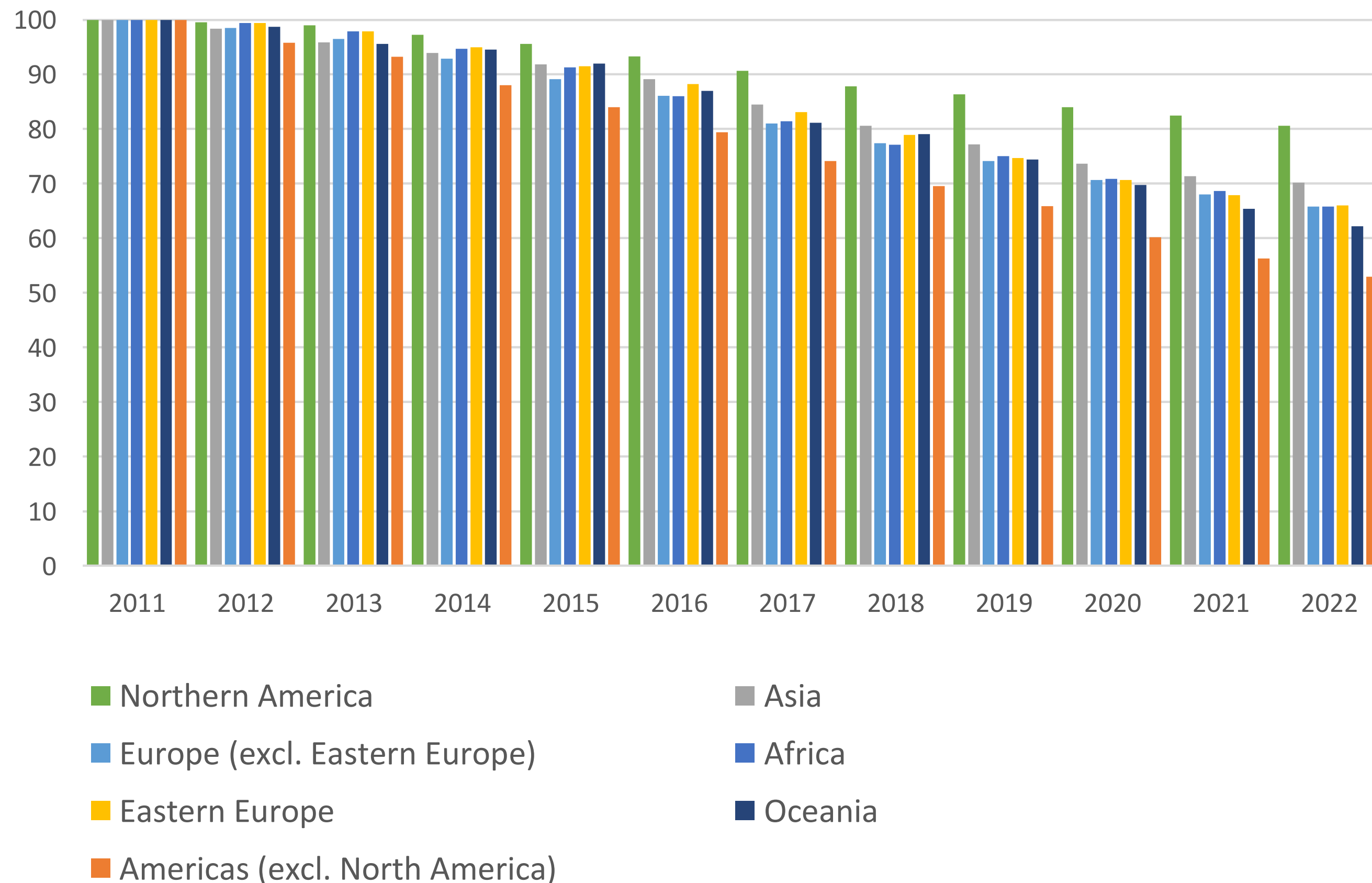


THE LONDON SCHOOL
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10th Macprudential conference
Central Bank of Ireland*

Three parts: (I) the trend in correspondents

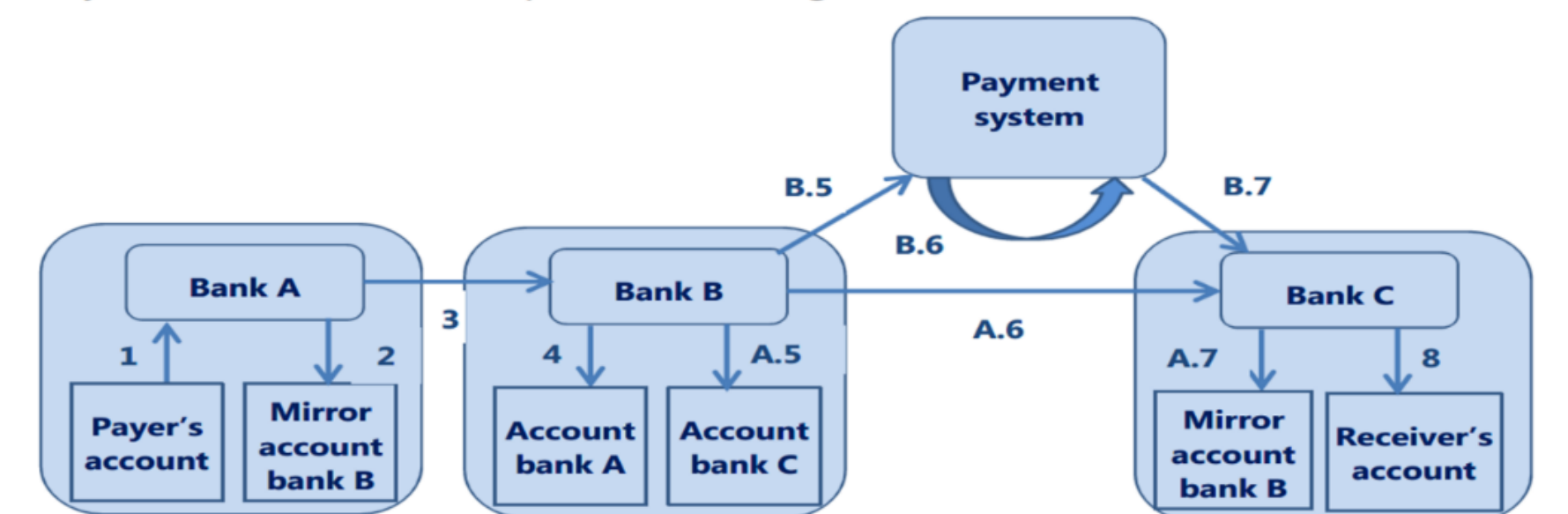
Figure 3: Number of Active Correspondents per Region 2011-2022
(2011=100)



- Discussion of why correspondent banking network has contracted in past 15 years

- (1) low interest rates and margins,
- (2) higher costs due to compliance with sanctions and laws

Payments settled via correspondent banking

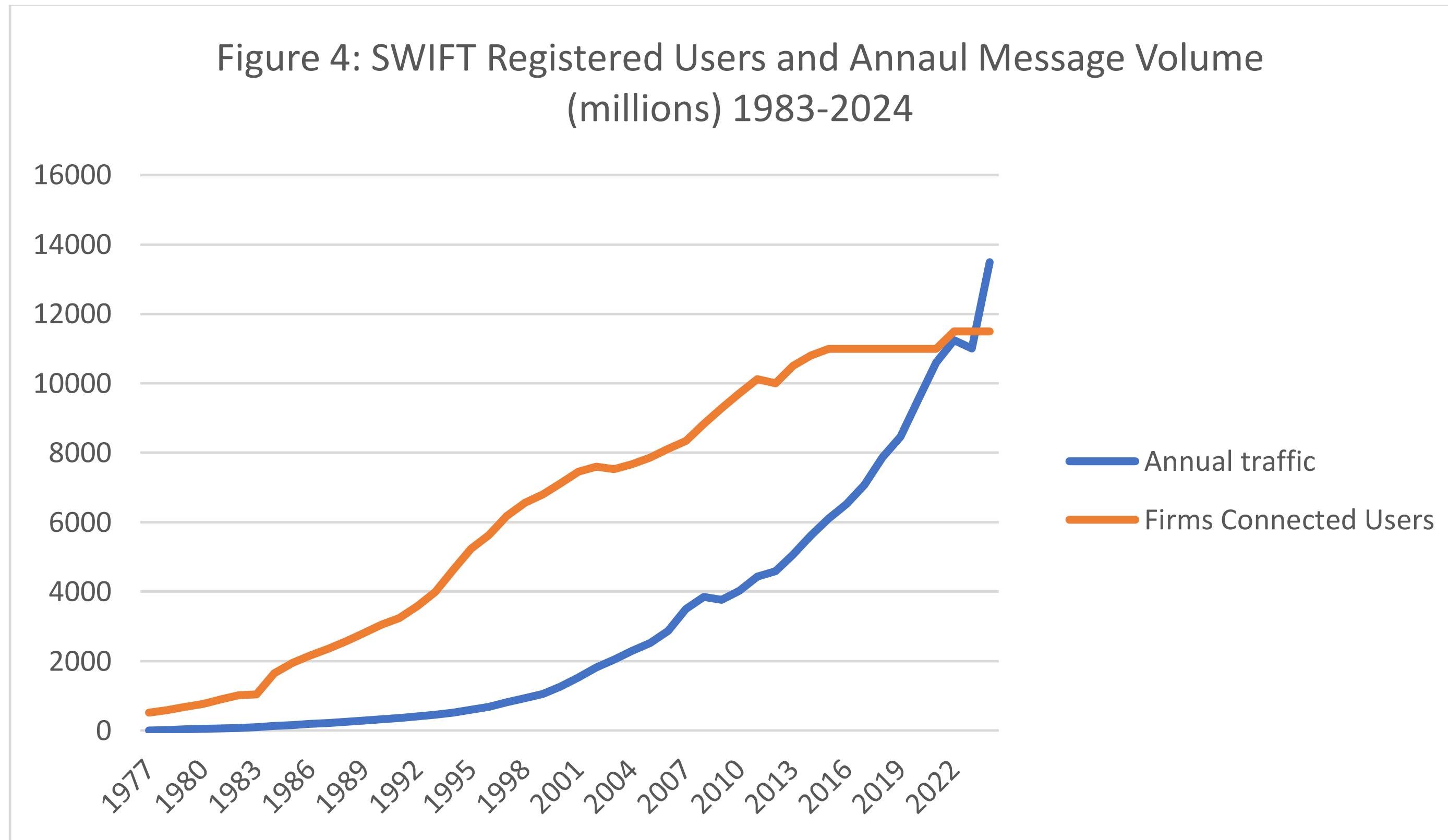


1. Debiting of payer's account with bank A
 2. Crediting of bank B's mirror account with bank A, which is kept for accounting purposes
 3. Payment message from bank A to bank B via telecommunication network
 4. Debiting of bank A's account with bank B (loro account)
 5. Crediting of bank C's account with bank B
 6. Payment message from bank B to bank C via telecommunication network
 7. Debiting of bank's B mirror account with bank C, which is kept for accounting purposes
 8. Crediting of receiver's account with bank C
- A. Use correspondent bank only**
- B. Involvement of payment system**
5. Payment message from bank B to payment system
 6. Settlement via payment system
 7. Payment message from payment system to bank C
 8. Crediting of receiver's account with bank C

Source: ECB, *Ninth survey on correspondent banking in euro*, 2015, adapted from Danmarks Nationalbank, *Payment systems in Denmark*, 2005.

Source: Bank for International Settlements, CPMI 2016

Three parts: (2) SWIFT data



- Extend SWIFT available data to 1977-2012
- Using its annual review and previous work by Scott and Zachariadis (2012)
- Country-level number of:
 - (1) members,
 - (2) users,
 - (3) messages

Source: 1984-2024 SWIFT *Annual Review* (various years). 1977-1983 from Scott, S. V., & M. Zachariadis, M. (2012) 'Origins and development of SWIFT, 1973–2009' *Business History*, 54(3), 462-482. Note: FIN Messages traffic includes ECU Clearing, ACCORD, ECHO, Premium, Network servers. 1977-1983 Number of Members; 1984 onward Number of Firms Connected. From 2012 the SWIFT Annual Reviews report the number of users as 'more than' the recorded number.

On the SWIFT data

Description	SWIFT data		
	MT	MT Description	Market Presence
(1) Interbank Transfers / Payments	103	Single Customer Credit Transfer	High
(2) Financial Institution Transfers	202	General Financial Institution Transfer	High
(3) Foreign Exchange / Loans / Deposits	300	Foreign Exchange Confirmation	Medium Low
	320	Fixed Loan/Deposit Confirmation	Low
(4) Securities Transactions	540	Settlement Instructions receive free	Medium (Cross-border) Low (Domestic)
	541	Settlement Instructions receive against payment	
	542	Settlement Instructions deliver free	
	543	Settlement Instructions received against payment	
(5) Trade Finance / LCs	400	Advice of Payment (Collection and Cash Letters)	High
	700	Issue of a Documentary Credit	High

- FX transactions are huge. As swaps get cleared. Huge share of messages. Changes in FX volumes
- MT300 confirmed by MT202 settlement
- Dominance of dollar matters.
- Payment from A to B often includes going through “hubs” to buy/sell an international currency. Double counting when it comes to commercial transactions.

On the SWIFT data

Figure 9: Number of SWIFT Messages 1984-2024

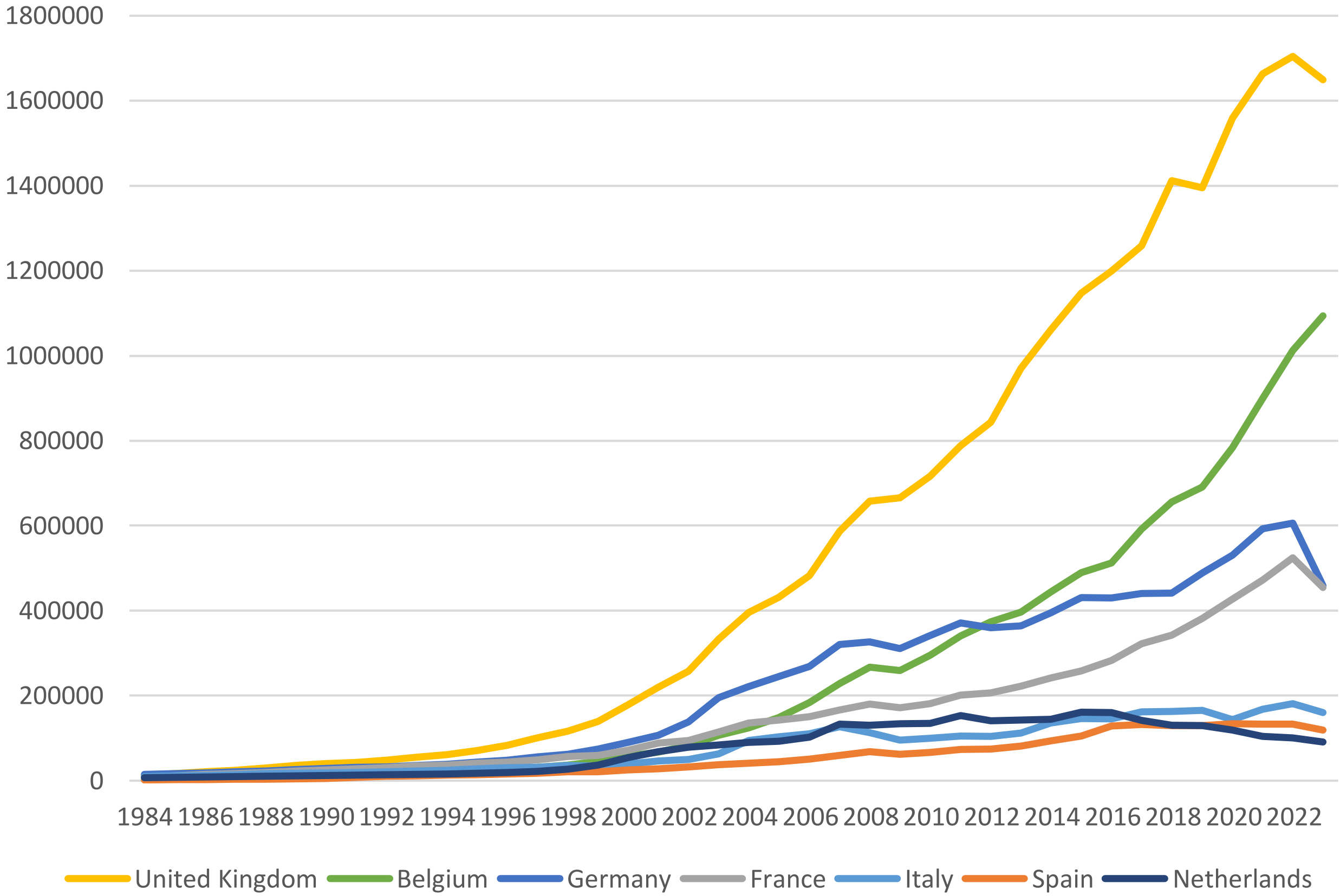
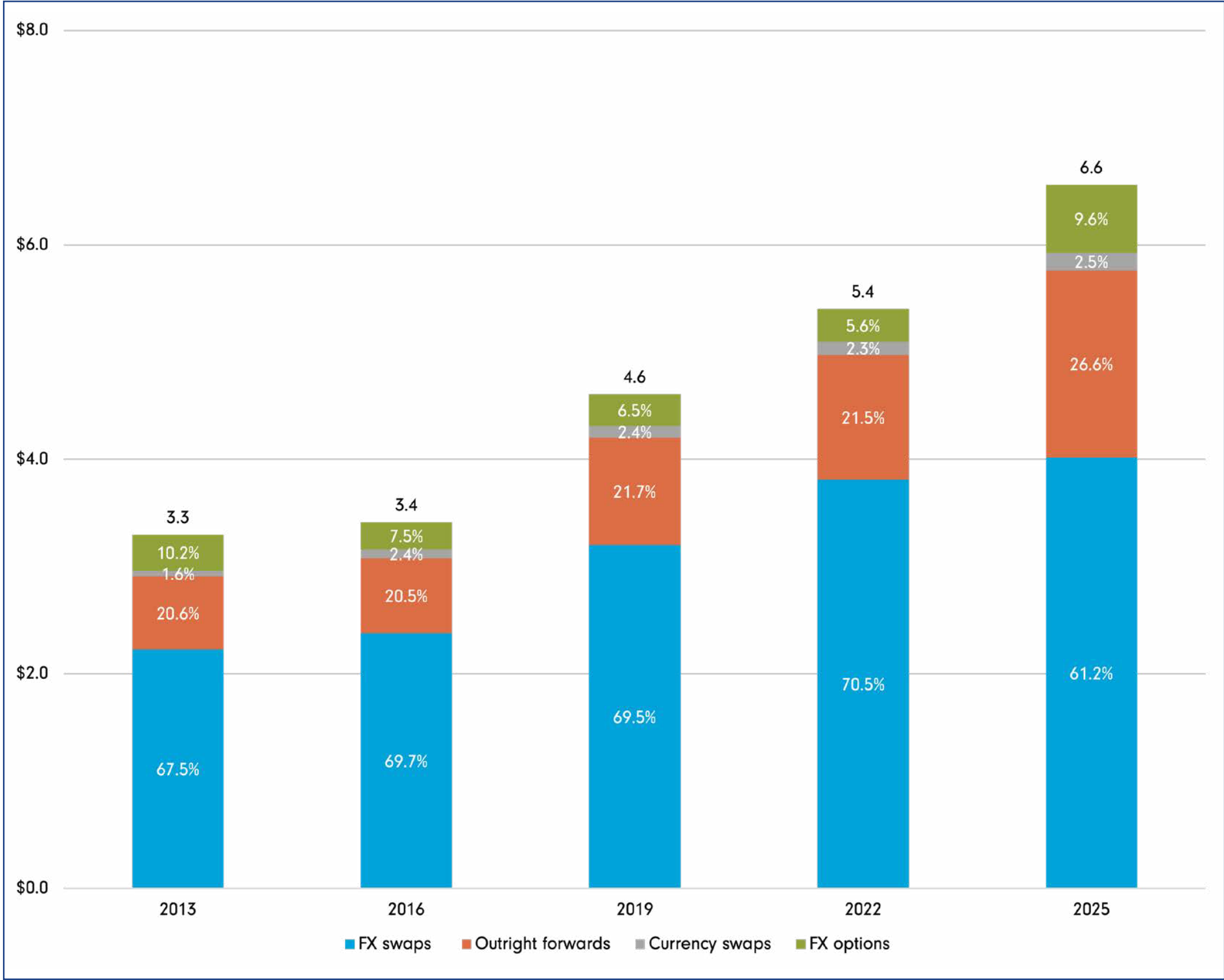


Chart 1: Global FX Derivatives Average Daily Turnover by Product on a Net-net Basis (US\$ trillions)



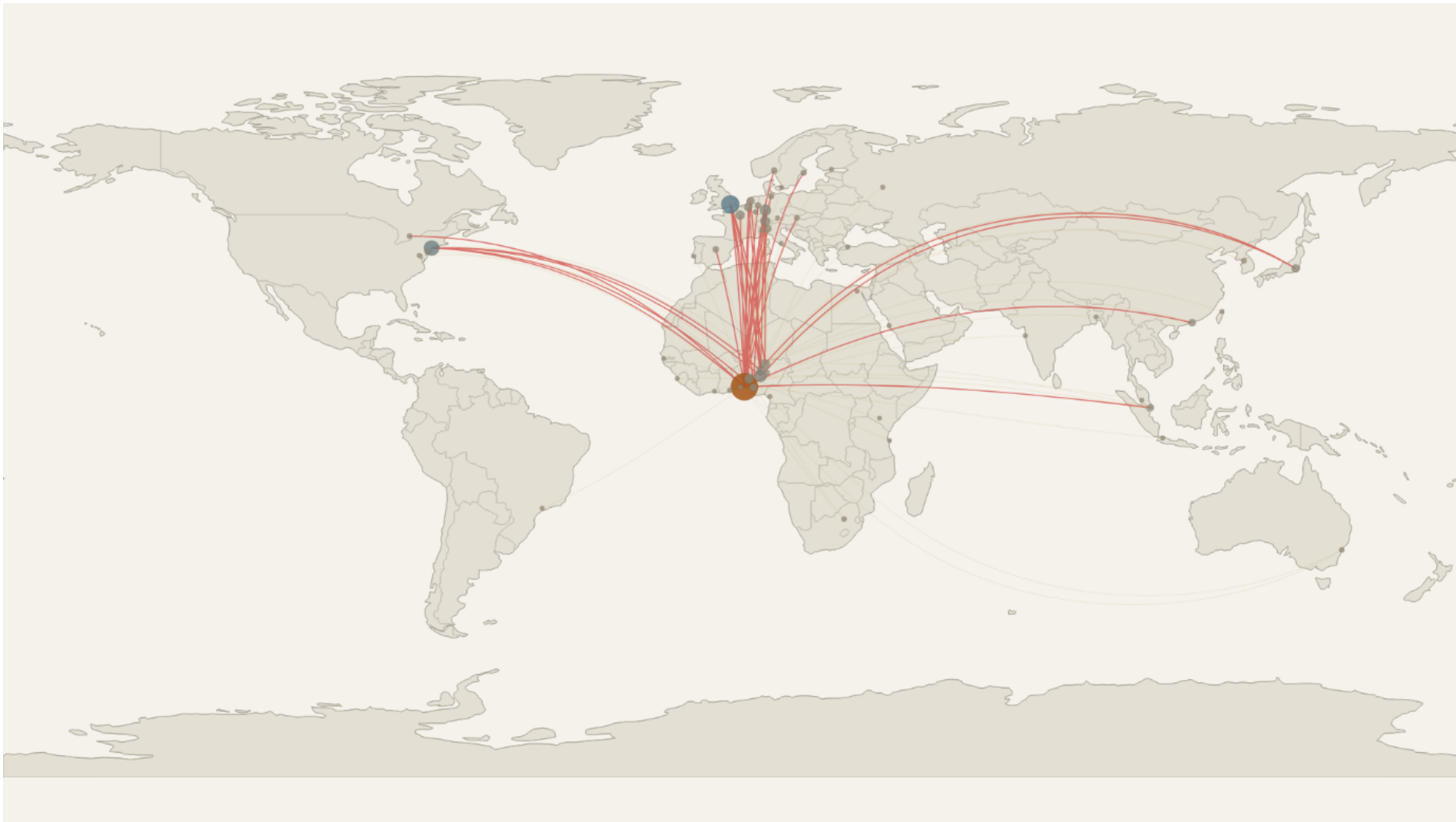
Source: BIS Triennial Central Bank Survey

Three parts: (3) new data on correspondents

Correspondent banking links to Nigeria: 1995: Bankers Almanac



Correspondent banking links to Nigeria: 2000: Bankers Almanac



- The Banker’s Almanac annual issues
- Lists correspondent banks in London and New York for many international banks all over the world

Table 1: GloCoBank Data – Summary

	Number of Correspondent Links
1990-2007	317,971
1990	47154
1995	85535
2000	71280
2005	54953
2007	59049

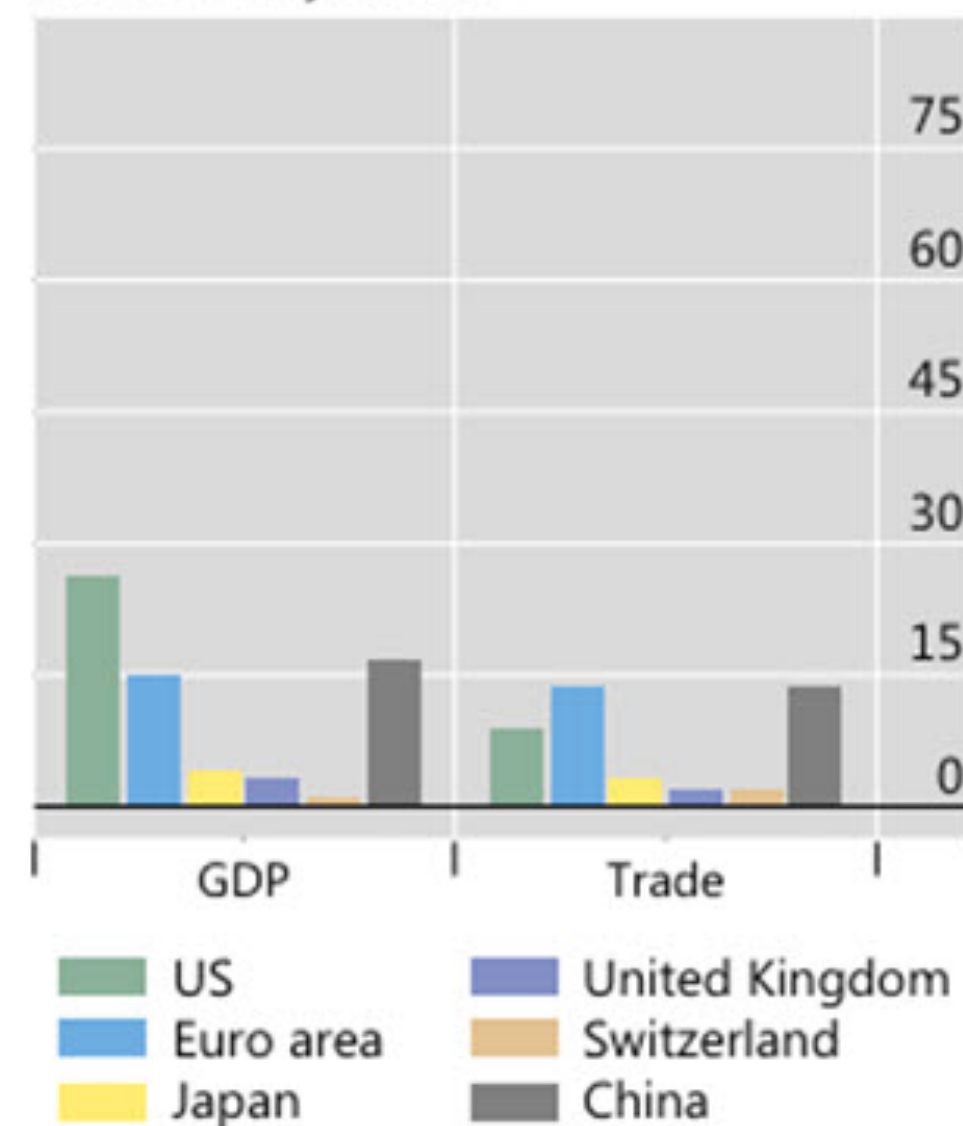
Regional effects: hubs and financial centers

The use of currencies in international finance¹

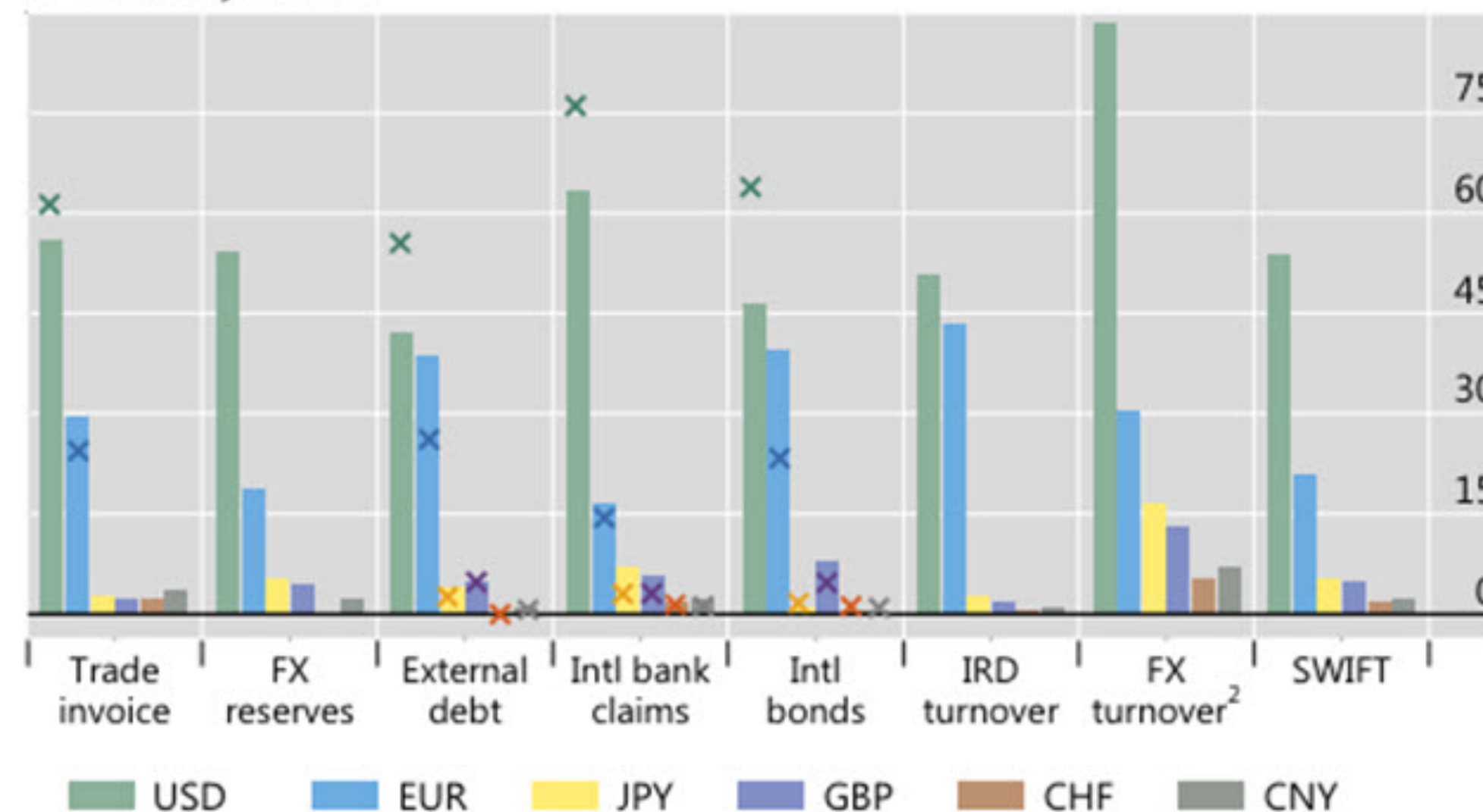
Latest available data, as a percentage of total, by indicator

Graph 1

A. Economy shares



B. Currency shares



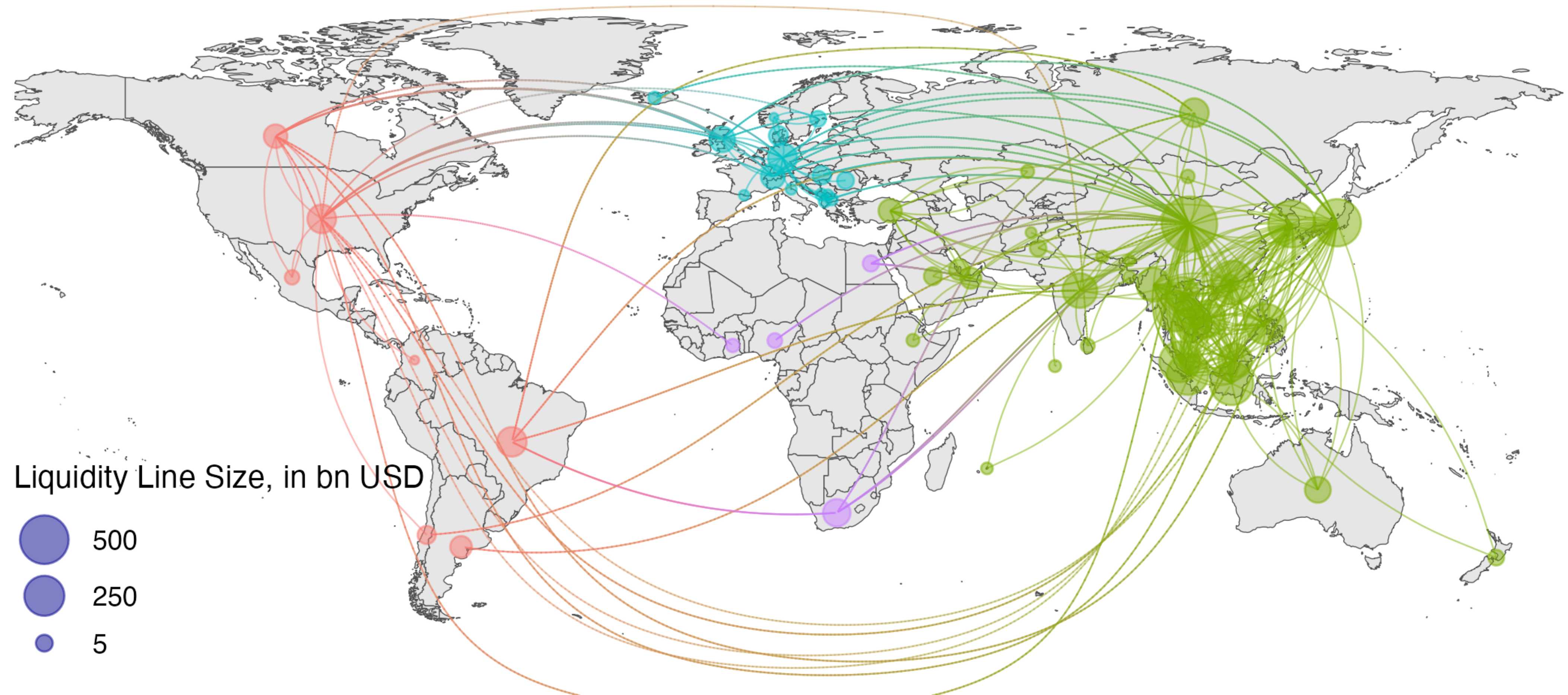
¹ Trade invoice = weighted average of export and import currency invoicing shares; Intl bank claims = international bank claims (cross-border and local claims) in foreign currencies; Intl bonds = international debt securities outstanding; IRD = interest rate derivatives; FX = all FX instruments; SWIFT = global payments delivered via SWIFT. See technical annex for details. Bars in both panels show shares in international transactions, including those that involve residents of the currency area on one side. Positions within a currency area are excluded where possible. Crosses in panel B indicate shares after excluding (to the extent possible) amounts that involve residents of the currency area, leaving only the offshore segment. ² Spot and FX derivatives. Shares add up to 200% for FX turnover because transactions involve two currencies.

Sources: Allen et al (2023); Boz et al (2022); IMF, *Direction of Trade Statistics*; IMF, *International Financial Statistics*; IMF, *World Economic Outlook*, April 2024; Bloomberg; SWIFT; BIS international debt securities statistics; BIS locational banking statistics; BIS Triennial Central Bank Survey, 2022; authors' calculations.

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- London and New York. But also Singapore, Hong Kong, Switzerland.
- Tied to currencies.
- Is USD important because of New York, or is New York important because of USD?
- Hub to hub network as well

Regional effects: swap line network



Regional effects: swap line network

(a) Countries intermediated by major central banks (b) GDP access given by major central banks

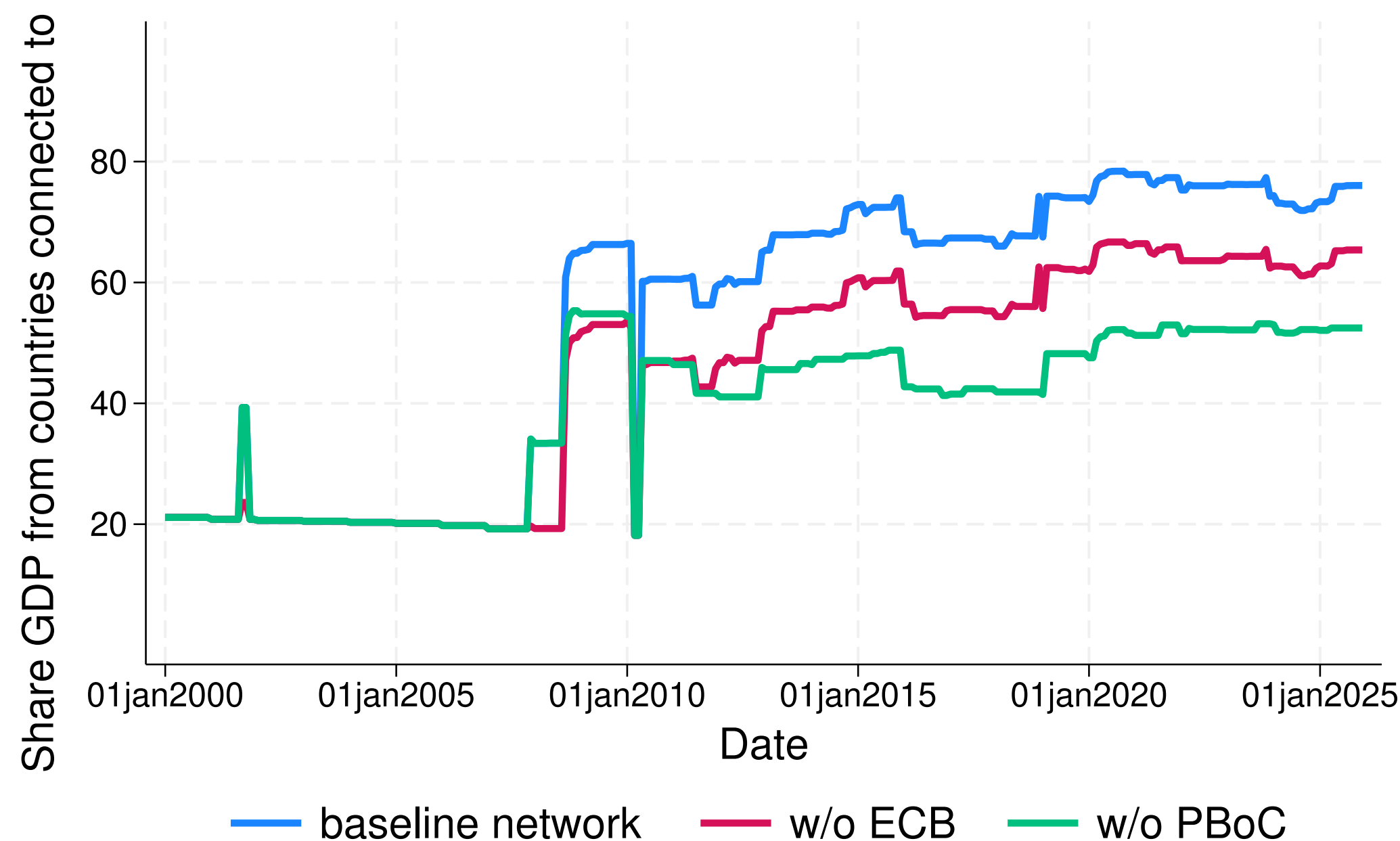
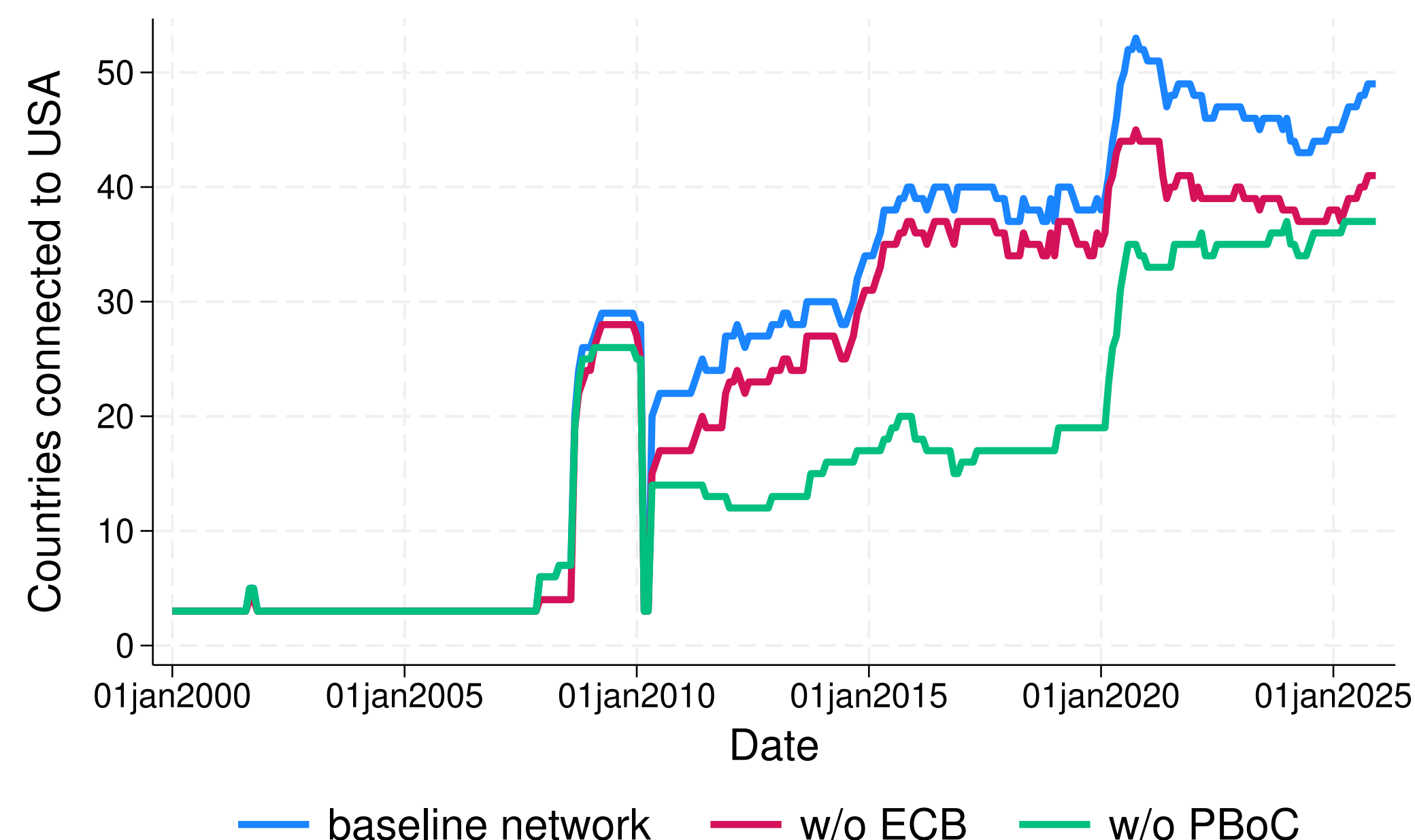
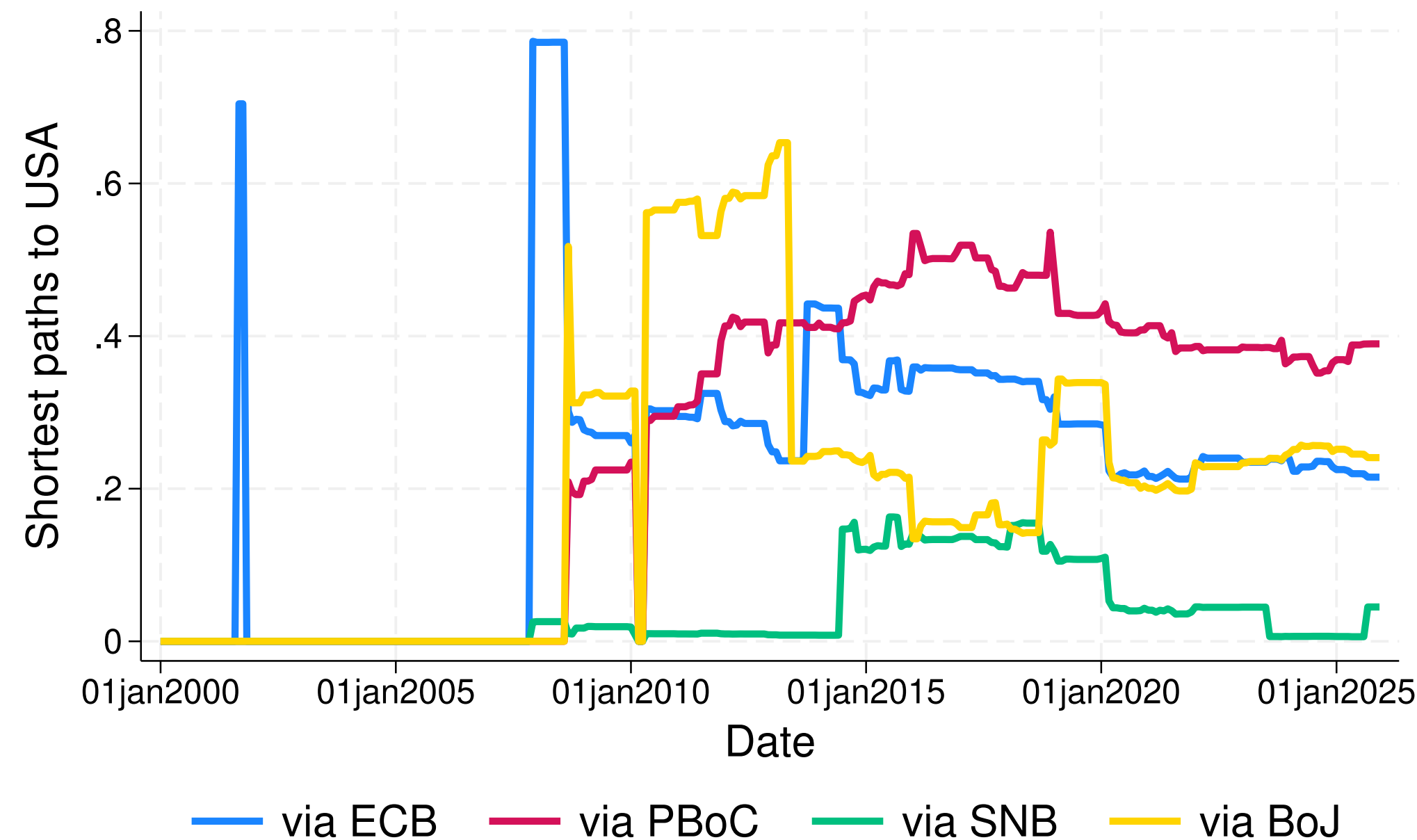


Fig. 9. The ECB and PBoC's role in access to the USD.

Note: Countries with direct or indirect connections to the Fed to access the USD in baseline bilateral network and in the bilateral network when eliminating selected counterparties. GDP shares measured using countries' share of PPP annual world GDP.

Regional effects: swap line network

(a) Shortest path to access USD



(b) Betweenness centrality of central banks

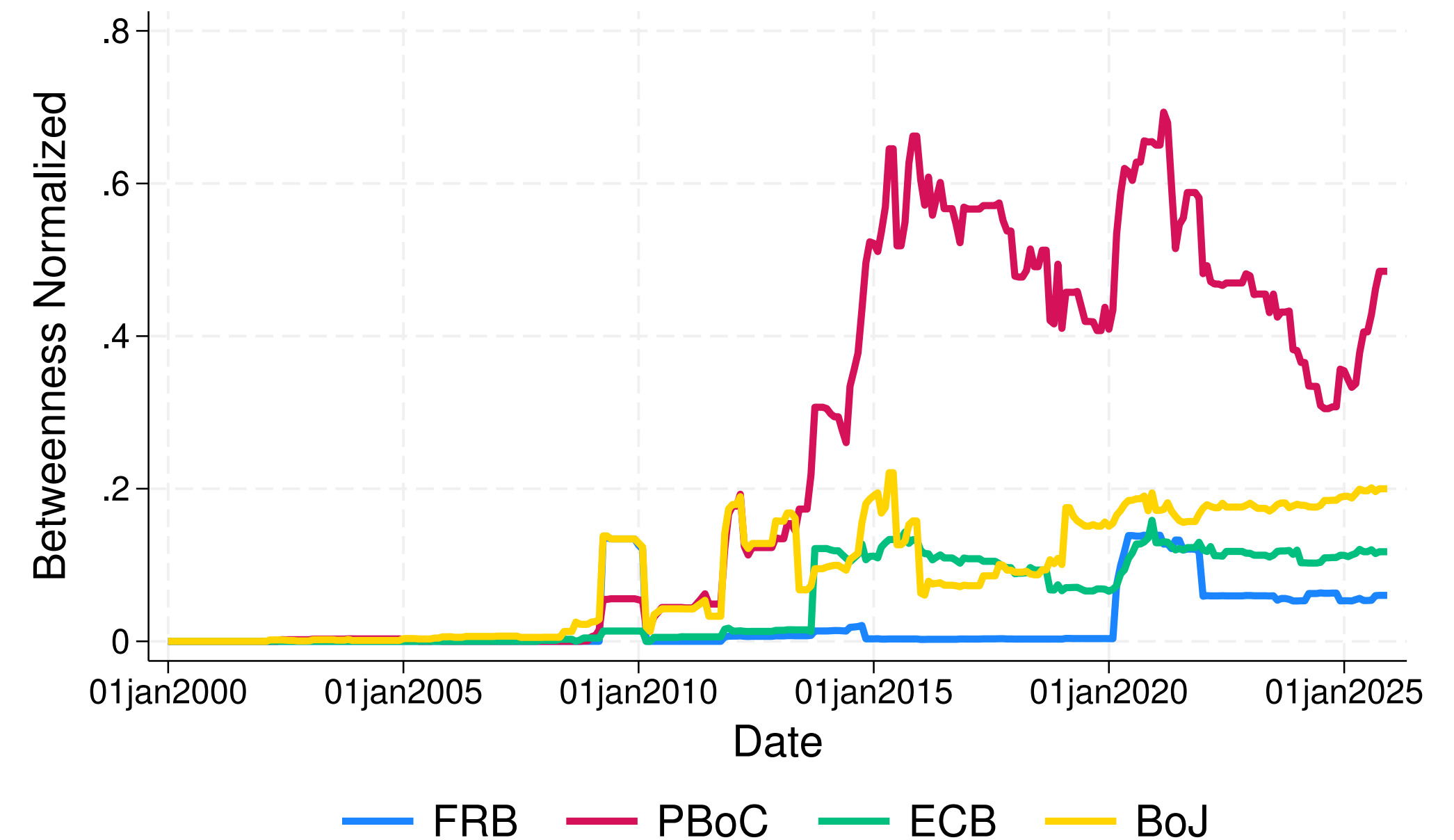


Fig. 10. Shortest paths via selected nodes.

Note: Panel (a) shows the share of shortest paths to the USD running through each counterparty central bank as a percentage of all shortest paths. One country may have multiple equal length shortest paths. Each path is weighted by the share of world PPP GDP of the recipient country. Panel (b) shows betweenness centrality $b(c)$ of node c weighted by the sum of PPP GDP of source and recipient country. Letting $k_{s,t}$ be the shortest paths between nodes s and t containing c , and $K_{s,t}$ be the total number of shortest paths from s to t , then betweenness centrality is $b(c) = \sum_{s,t \neq c} k_{s,t}(c) / K_{s,t}$. We normalise weigh it by multiplying $b(c)$ by the sum of PPP GDP of s and t and divide by the PPP GDP weighted potential shortest paths, where 74×73 total potential shortest paths among the 74 countries in our directed network exist. The measure is calculated for the bilateral connections only.