The offshore dollar and US policy

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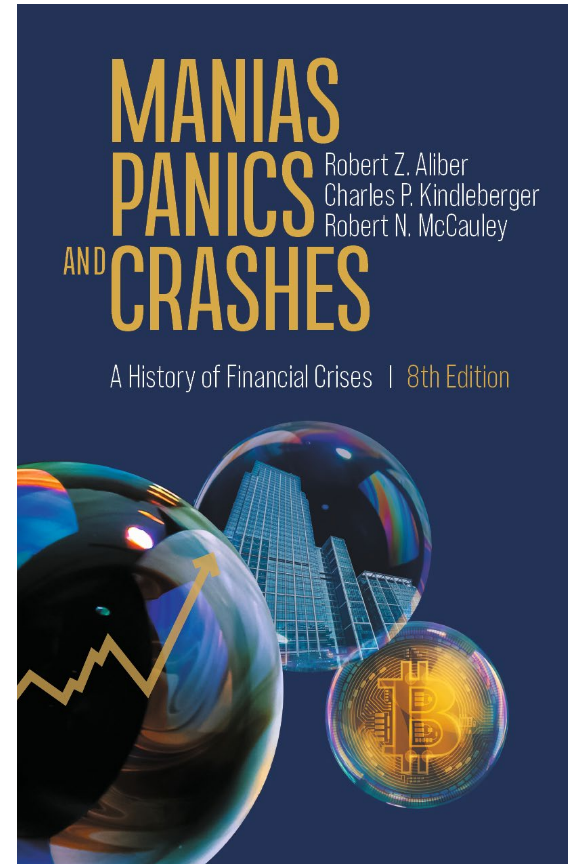
Robert N. McCauley

Senior nonresident fellow, Global Development Policy Center, Boston University
Associate member, Faculty of History, University of Oxford

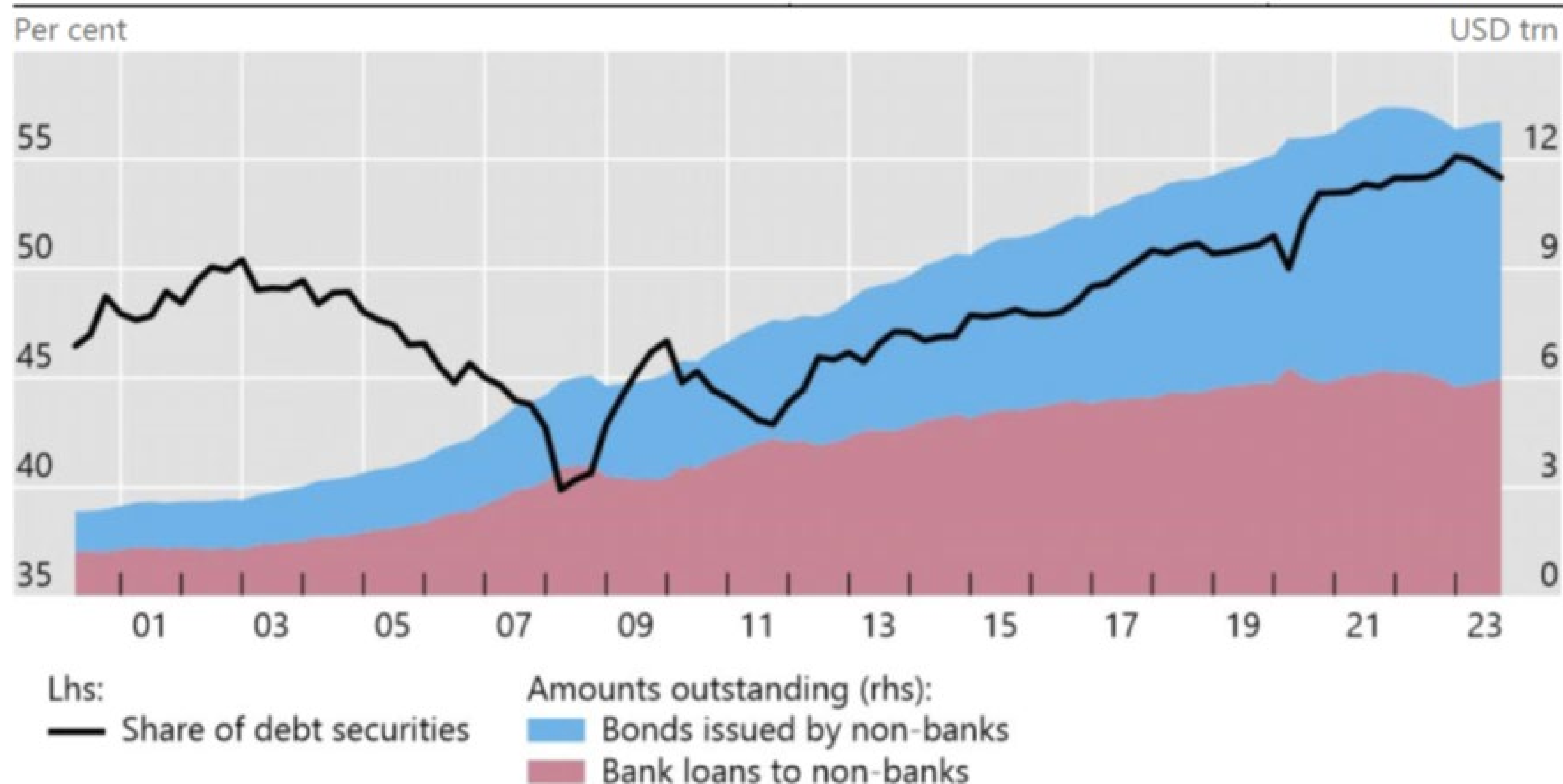


Punch lines

- Tens of trillions of dollars are borrowed outside the US.
- US policy encouraged the dollar to move offshore and supported the eurodollar market at critical times.
- In 2008 and 2020 the Fed lent dollars through central bank swaps to banks abroad and not only promoted global financial stability but also made its own monetary policy effective.
- The Fed's purchase of domestic corporate bonds in 2020 also did double-duty, stabilising the market for global dollar bonds.
- The Fed's swap lines continue to cover a high fraction of offshore dollar borrowing.
- Thus, by swapping dollars with its central bank partners, the Fed can backstop global dollar funding markets.

Offshore dollar borrowing is big

US dollar credit to non-banks outside the US

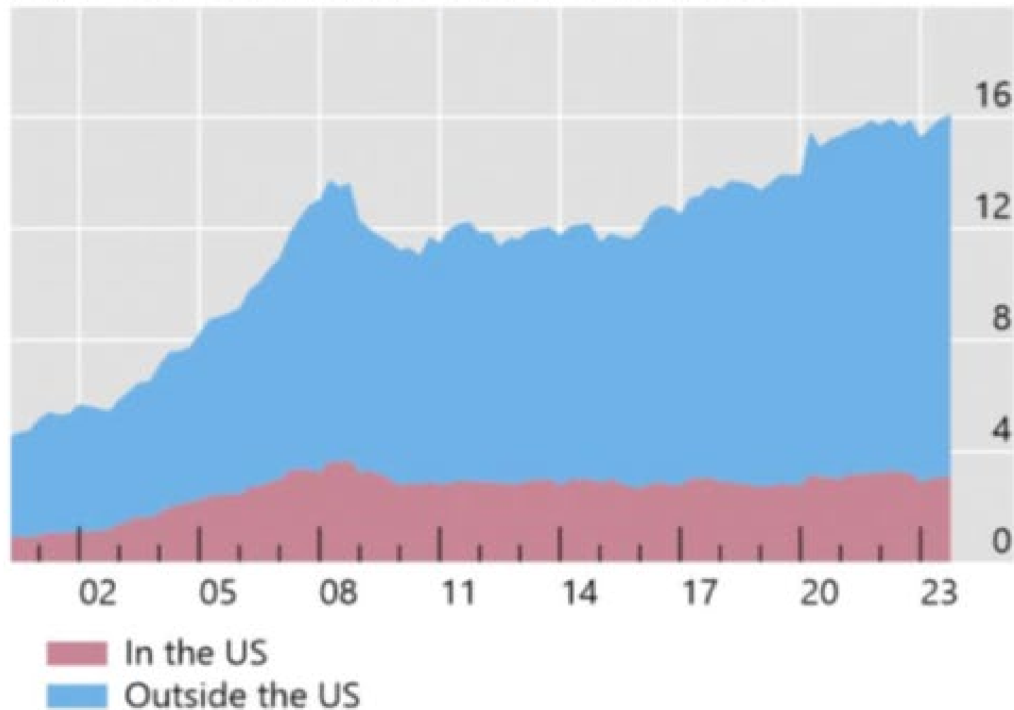


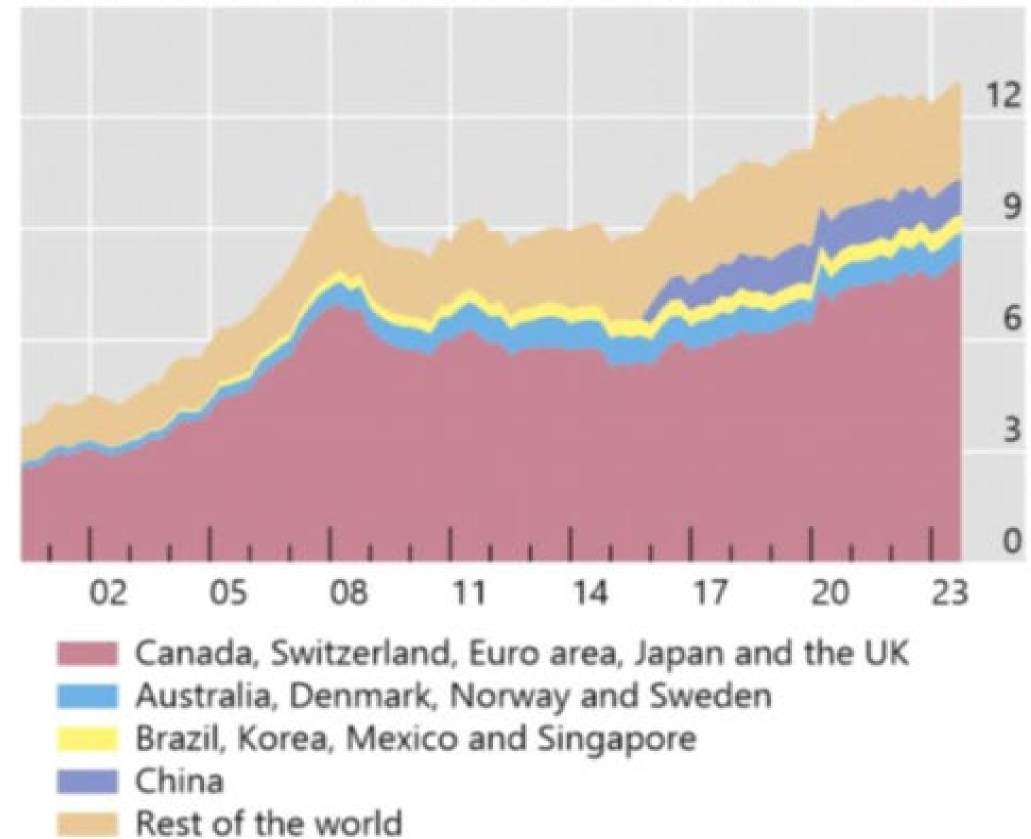
[1] Non-banks comprise non-bank financial entities, non-financial corporations, governments, households and international organisations.

Source: BIS global liquidity indicators.

Dollar liabilities of banks HQ'ed outside US

In trillions of dollars





[1] Cross-border and local liabilities in all instruments vis-à-vis all counterparty countries. Excludes intragroup positions but includes liabilities to other (unaffiliated) banks. From end-2015, includes positions reported by China and Russia (the latter up to end-2021).

Sources: BIS consolidated banking statistics; BIS locational banking statistics; author's calculations.

Huge off-balance sheet dollar debt from FX swaps

- In FX swaps, dollars are borrowed against foreign currency collateral.
  - Like repos, collateralised borrowing; unlike repos, off-balance sheet.
  - For instance, a Dutch pension fund borrows dollars against euro in an FX swap to fund a US Treasury holding with a currency hedge.
  - Much short-term: $3.5 trillion daily turnover in dollar FX swaps in April 2022 as maturing swaps are rolled over.
- Non-banks outside the US owed about $26 trillion in FX swaps and forwards in mid-2022, twice their on-balance sheet dollar debt.
- For their part, non-US banks owed about $39 trillion, more than twice their on-balance sheet dollar debt.

US policy has encouraged and at times supported offshore dollar.

A patchwork of policies, with many unintended consequences

- Regulatory arbitrage: offshore dollars yielded more.
  - Fed regulation limited interest rates on US deposits, esp 1950s and 1960s
  - Reserve requirements, important until 1990, imposed higher costs with higher rates.
- Late 1960s, Fed prevented offshore dollar funding squeezes by swapping dollars to BIS to deposit in London banks: precedent for 2008, 2020.
- In 1974, Fed discount window lent to Franklin National against collateral from its London branch held in custody at the Bank of England.
- US authorities avoided losses to uninsured offshore depositors in US banks: Are some Silicon Valley Bank depositors in its Cayman Islands branch the first offshore depositors in a US bank to lose money?

In 2008 and 2020 Fed’s last-resort lending through swaps to non-US banks abroad did double-duty: it promoted *global* financial stability and *domestic* monetary transmission

Fed supported dollar funding of non-US banks, 2008

- Slow run on non-US banks started in August 2007 when BNP Paribas announced that pricing of private mortgage-backed securities is impossible.
- In December 2007, the Fed rolled out the Term Auction Facility, a stigma-free discount window, with US branches of non-US banks as big takers of Fed credit.
  - In parallel operations, Fed swaps funded ECB “13th District” dollar loans.
  - Fed provided $s to ECB and ECB lent them to European banks against euro collateral.
  - ECB took the credit/collateral risk.
- After Lehman failure, a money market fund “broke the buck” and a fast run on US money market funds was also a run on non-US banks’ dollar funding.
  - Fed and Treasury provided emergency support to money market funds.
- To meet runs on non-US banks, central bank swaps increased in size, maturity and participation.
- On October 13, swap amounts provided to major central banks “to accommodate whatever quantity of U.S. dollar funding is demanded.”
- 3-month Libor subsequently fell from almost 6% to 3% in November.

In 2008, Fed swaps brought down Libor, easing rates for US firms and households (percent)

6 5 4 3 2 1 0

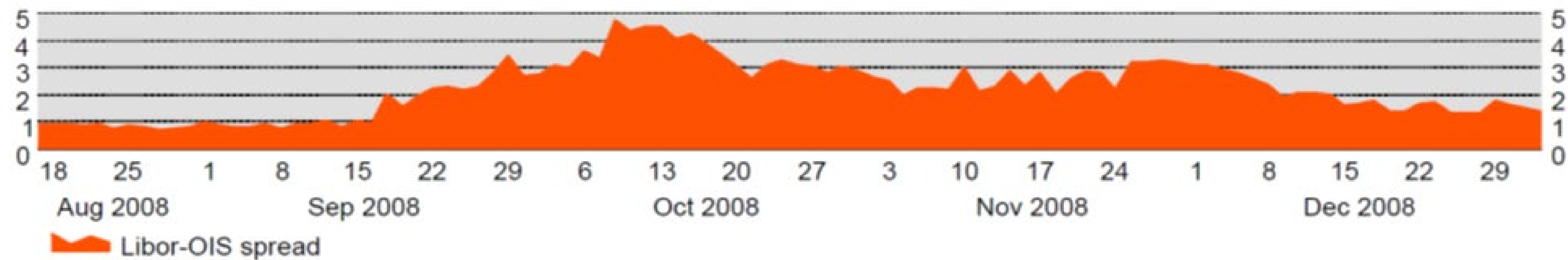
Unlimited Fed swaps announced

18 25 1 8 15 22 29 6 13 20 27 3 10 17 24 1 8 15 22 29

Aug 2008 Sep 2008 Oct 2008 Nov 2008 Dec 2008

3-month US$ overnight index swap (OIS) rate

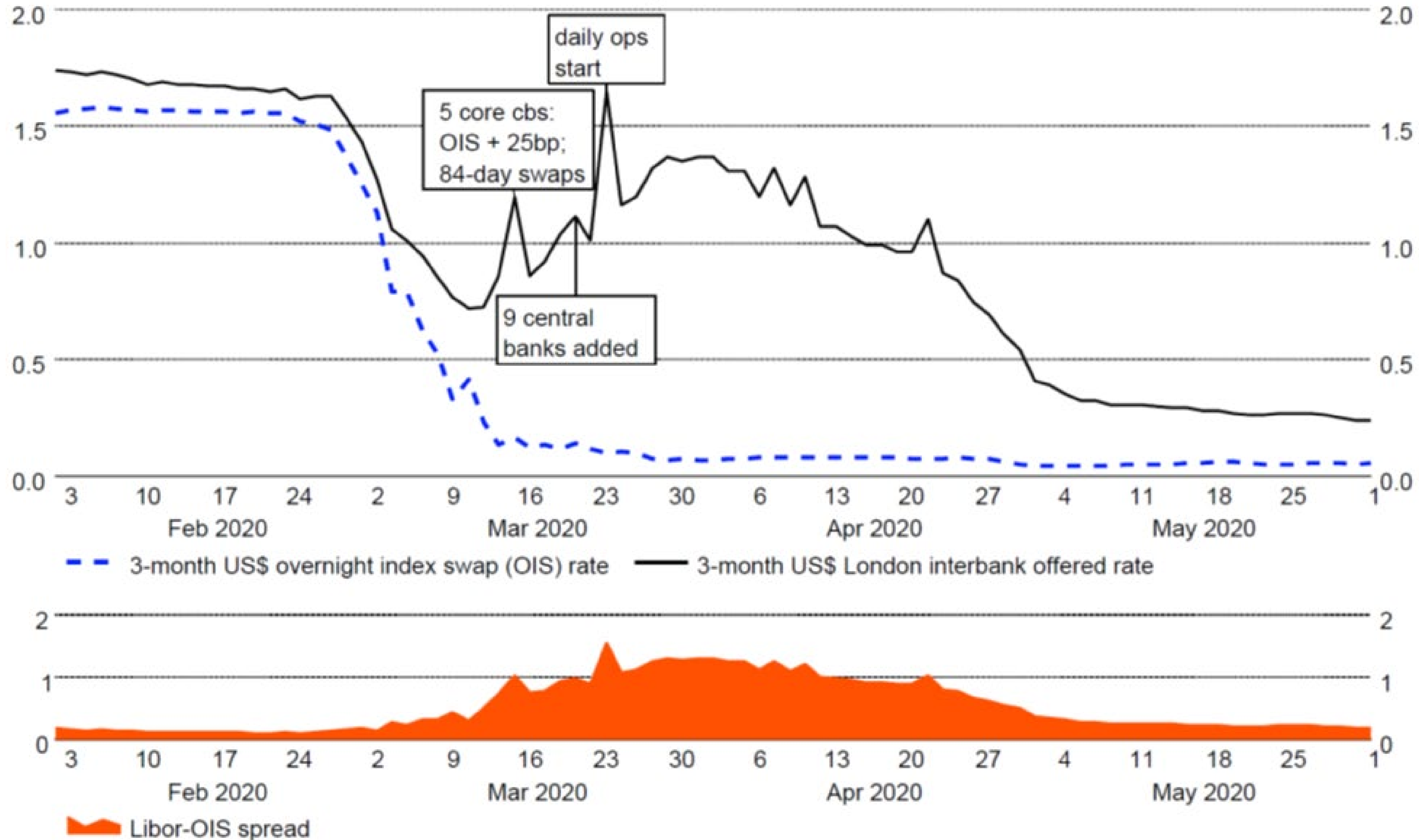
3-month US$ London interbank offered rate



Fed fast-forwarded in March 2020 as non-US banks lost dollar funding

- “Dash for cash” led to large redemptions at “prime” money market funds—even though none “broke the buck.”
- Non-US banks’ liabilities to money market funds dropped by $200 billion.
- Fed again used its emergency powers to buy and to underwrite commercial paper, supporting money market funds.
- After Libor started to rise despite Fed easing, Fed quickly lowered the pricing of central bank swaps and lengthened their tenor.
- Then it added 9 temporary central bank swaps to 5 standing swap lines.
- Once daily swaps begin, Libor peaked and declined within weeks.
- Businesses and households with Libor-based debt benefited from lower policy rate.

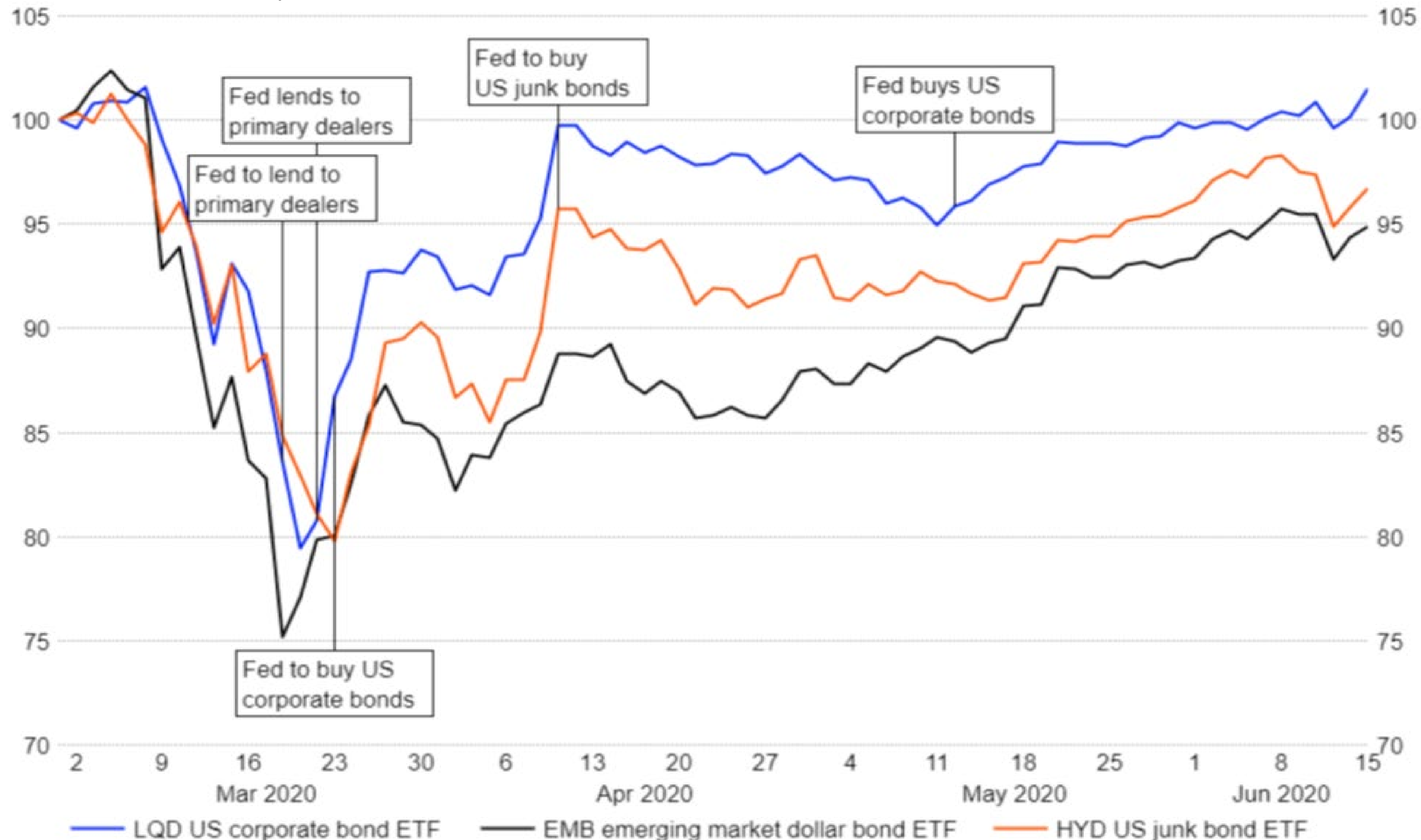
Fed responded quickly with swaps to reverse Libor rise in 2020 (percent)



In 2020 bond market turmoil, Fed's d*omestic* corporate bond-buying of last resort also did double-duty, stabilizing *global* dollar bond market.

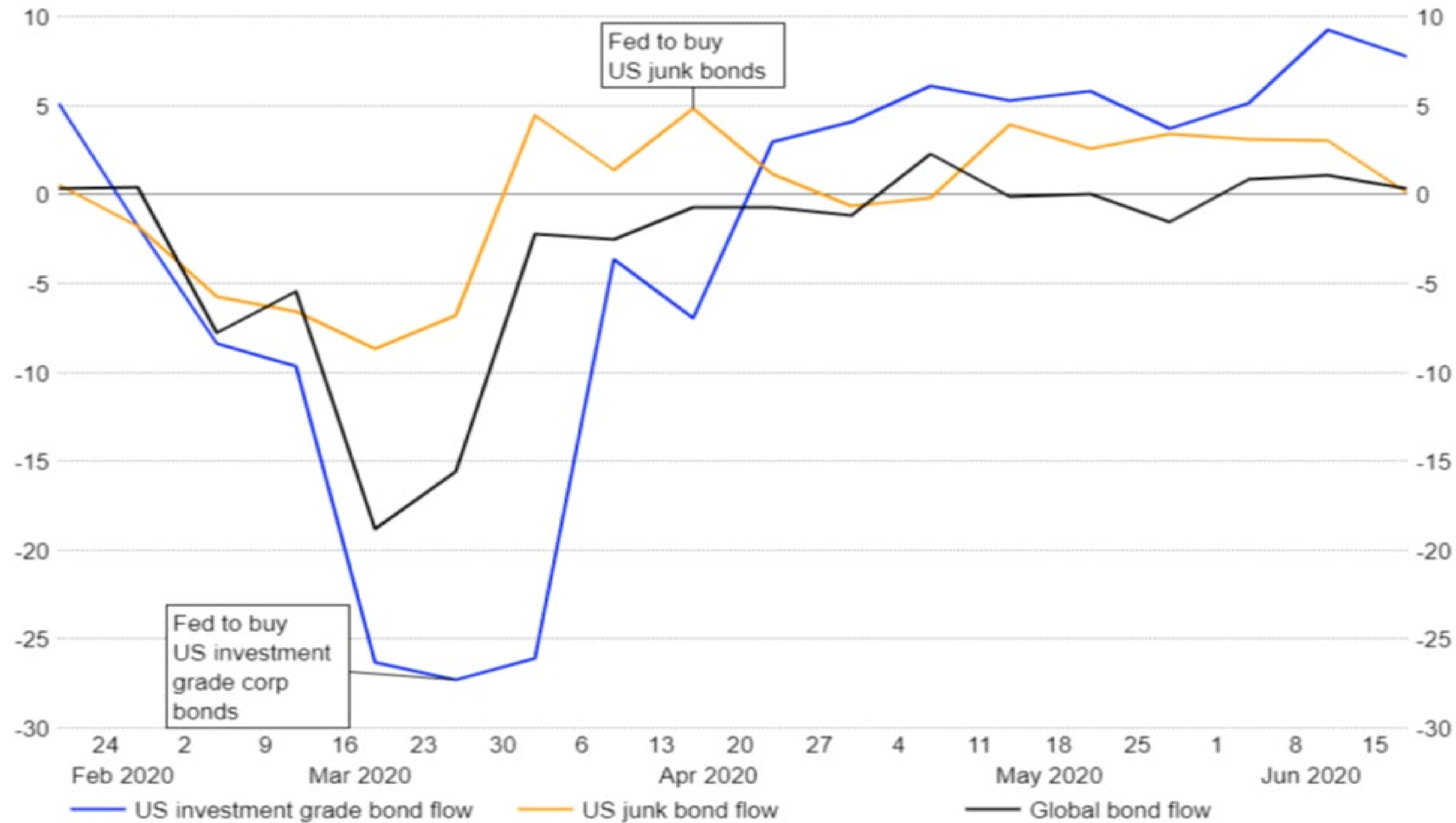
Emerging market $ bond prices rise with Fed US corporate bond buying, 2020

Index, February 28 = 100



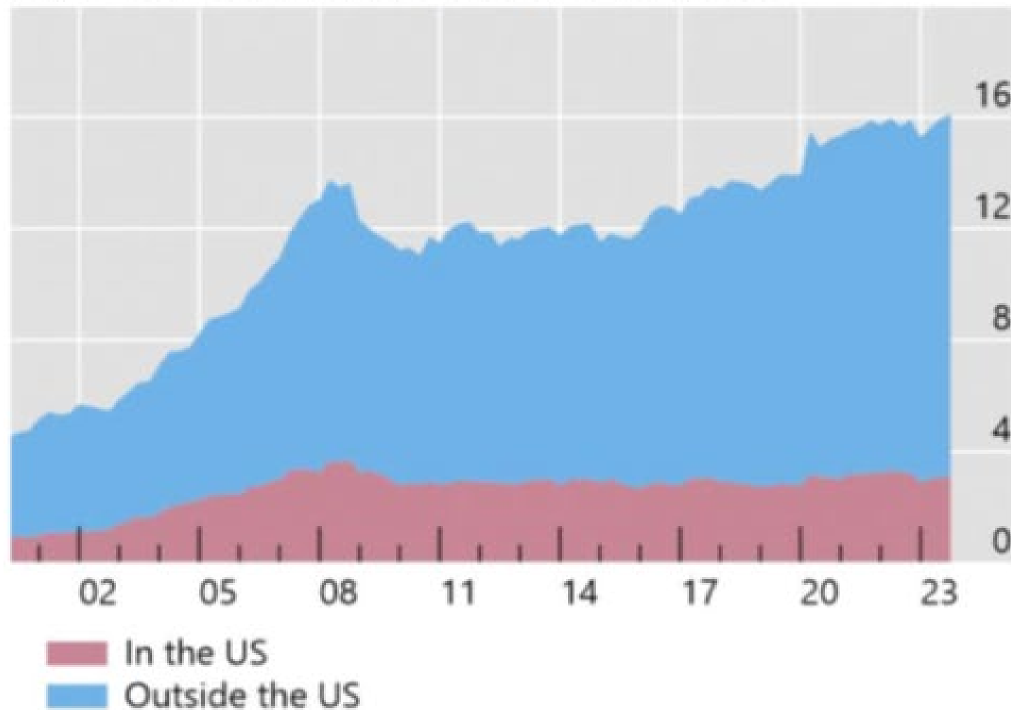
Global bond investor outflows stop with Fed US corporate bond buying, 2020

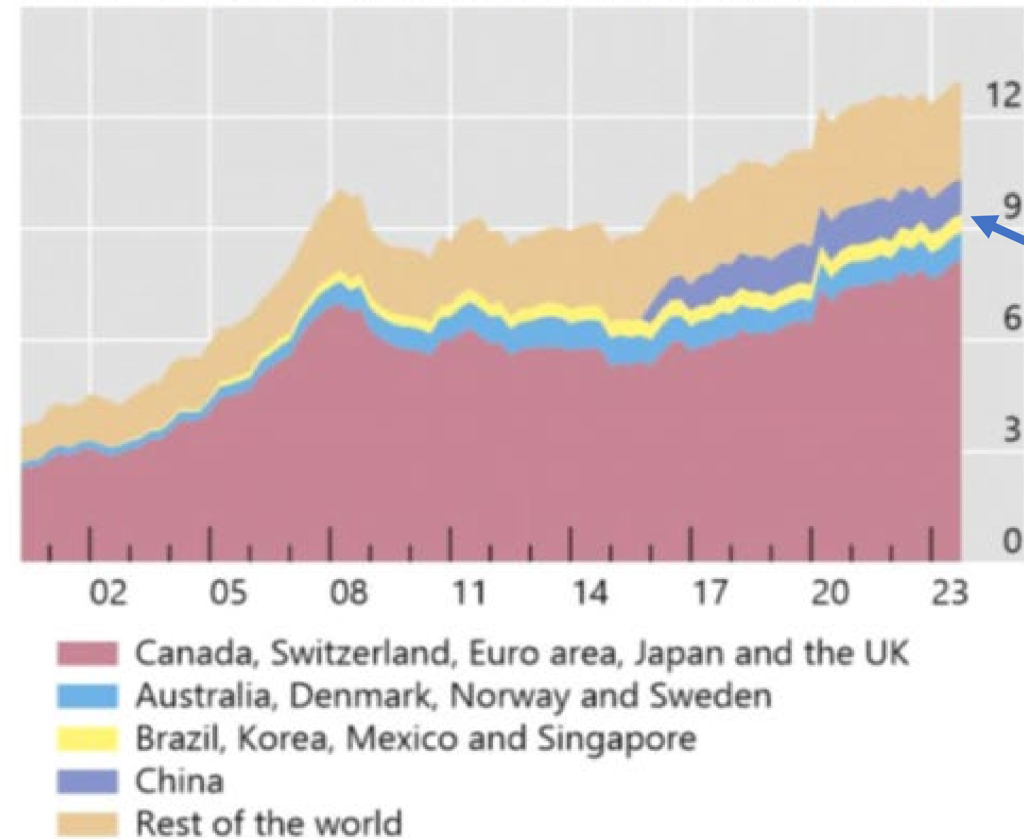
Billions of dollars per week



Looking forward, Fed’s swap lines reach banks and currency markets that account for high shares of offshore dollar borrowing.

Fed swap lines reach about ¾ of offshore liabilities of banks HQ'ed outside US (trillion $)





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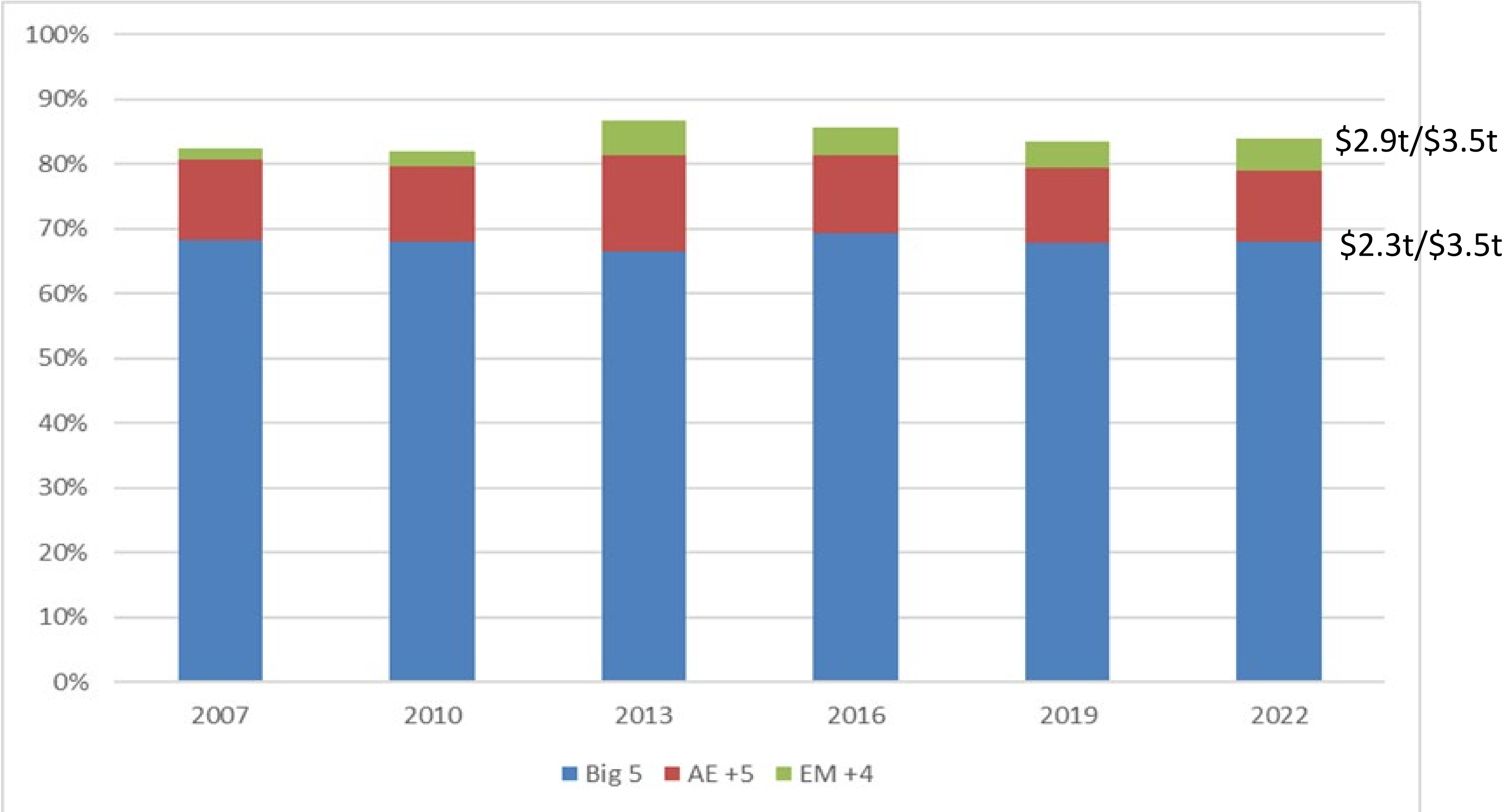
Fed set up swap lines with central banks with most dollar borrowing vs their currencies in FX swaps

		Fed swap, 2008?		
		Yes	**No**	Total
$ FX swap turnover, 2007	**Top 14**	12	2 (HKMA, RBI)	14
	Bottom 13	2 (CB Brazil, RBNZ)	11	13
	Total	14	13	27

Currencies of Fed's central bank swap partners account for a high share of $ FX swap market turnover



Question: with Libor gone, why might the Fed backstop offshore dollar funding markets?

US financial stability remains exposed to offshore dollar funding strains

- US monetary transmission less exposed to offshore $ funding strains?
  - Repo-based SOFR likely to respond to such strains less than Libor did.
  - Also, the Fed’s standing repo facility could limit the response.
- But offshore $ funding strains could still lead to US financial instability.
  - Such strains could lead to cut-backs in global dollar credit supply.
  - And if foreign investors that borrow dollars in FX swaps to hedge US bond holdings have a hard time rolling over their maturing swaps, they might be forced to sell US bonds in fire sales.
  - In these cases, Fed dollar lending through central bank swaps to restore the functioning of offshore dollar funding markets would promote financial stability at home.

Conclusions

- The dollar’s role as leading international currency, with some help from US policy, features large dollar borrowing markets offshore.
- In response to runs in 2008 and 2020, the Fed channeled dollars through central bank swaps to non-US banks abroad and brought down the benchmark lending rate for US borrowers.
- The Fed’s swap lines can still reach a high share of offshore dollar borrowing by non-US banks and in FX swap markets.
- In the event of severe strains in the offshore dollar funding markets, the Fed’s dollar lending of last resort through central bank swaps can promote both global financial stability and domestic financial stability.

Offshore dollars and the lender of last resort

- To backstop offshore dollar liabilities, two approaches:
  - Extended discount window: The Fed advances dollars to banks abroad against offshore dollar collateral that is held in custody locally. One central bank, one currency, multiple jurisdictions.
  - Swap lines: The Fed swaps dollars to partner central banks that onlend them to local banks against local-currency collateral. Multiple central banks, multiple currencies, multiple jurisdictions.
- The Fed has taken the easier, second approach, leaving collateral and private bank risks with its central bank partners.