SEVENS REPORT

Sevens Report Alpha Webinar – Anatomy of a Currency Crisis

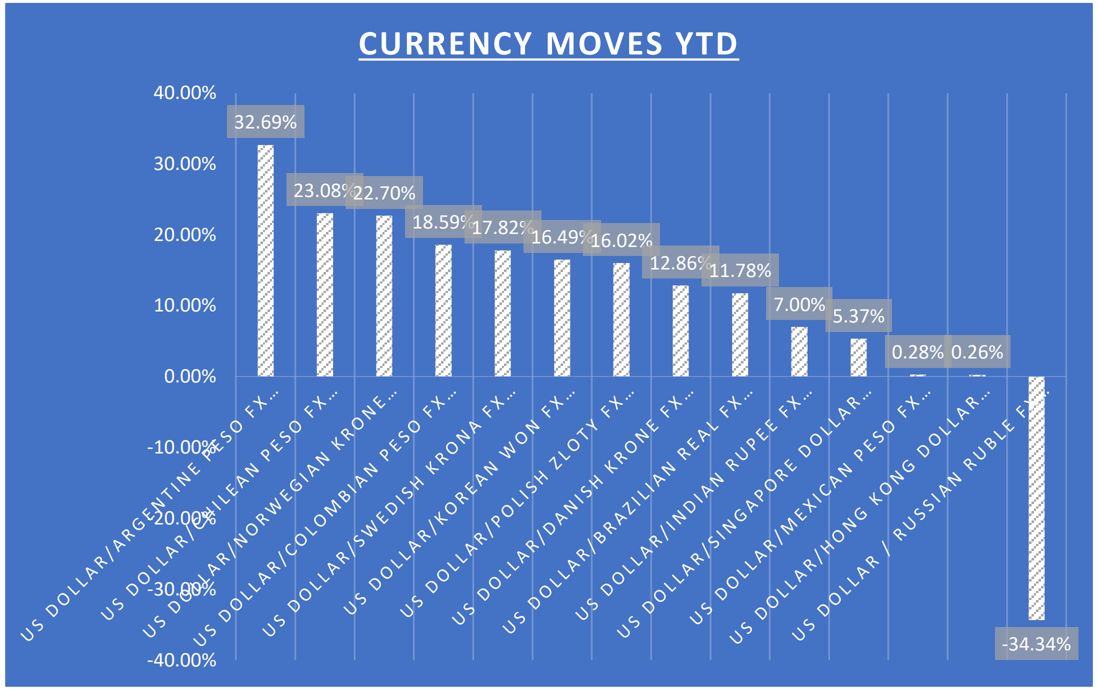
September 29th, 2022

Tom Essaye, President Sevens Report Research

The Dollar Index is up 17.45% YTD to multi-decade highs.

But, the numbers are even bigger looking at smaller currencies.

Currency Pair	1/1/2022	9/28/2022	Return
US Dollar/Argentine Peso FX Spot Rate	110.68	146.86	32.69%
US Dollar/Chilean Peso FX Spot Rate	777.75	957.25	23.08%
US Dollar/Norwegian Krone FX Spot Rate	8.7019	10.677	22.70%
US Dollar/Colombian Peso FX Spot Rate	3781.21	4,484.13	18.59%
US Dollar/Swedish Krona FX Spot Rate	9.488	11.1787	17.82%
US Dollar/Korean Won FX Spot Rate	1223.65	1,425.38	16.49%
US Dollar/Polish Zloty FX Spot Rate	4.2688	4.9528	16.02%
US Dollar/Danish Krone FX Spot Rate	6.7697	7.6401	12.86%
US Dollar/Brazilian Real FX Spot Rate	4.7675	5.329	11.78%
US Dollar/Indian Rupee FX Spot Rate	76.08	81.406	7.00%
US Dollar/Singapore Dollar FX Spot Rate	1.3606	1.4337	5.37%
US Dollar/Mexican Peso FX Spot Rate	20.11	20.1672	0.28%
US Dollar/Hong Kong Dollar FX Spot Rate	7.8297	7.8497	0.26%
US Dollar / Russian Ruble FX Spot Rate	87.5	57.45	-34.34%

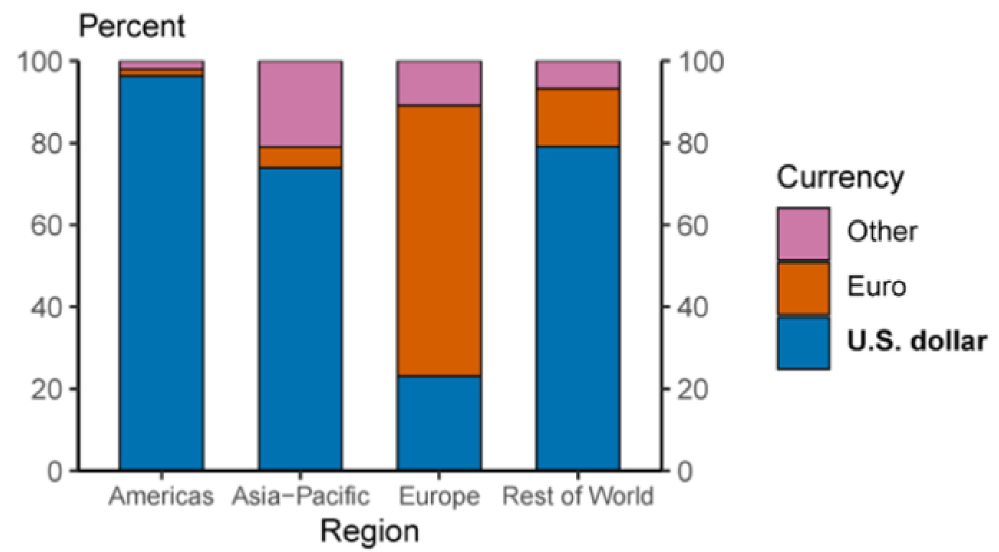


Why Does This Matter?

- Impact on global trade
- Impact on debt payments
- Stress on currency pegs

Impact on Global Trade

Figure 5. Share of export invoicing



Note: Average annual currency composition of export invoicing, where data are available. Data extend from 1999 through 2019. Regions are those defined by the IMF. Legend entries appear in graph order from top to bottom.

Source: IMF Direction of Trade; Central Bank of the Republic of China; Boz et al. (2020); Board staff calculations.

Accessible version

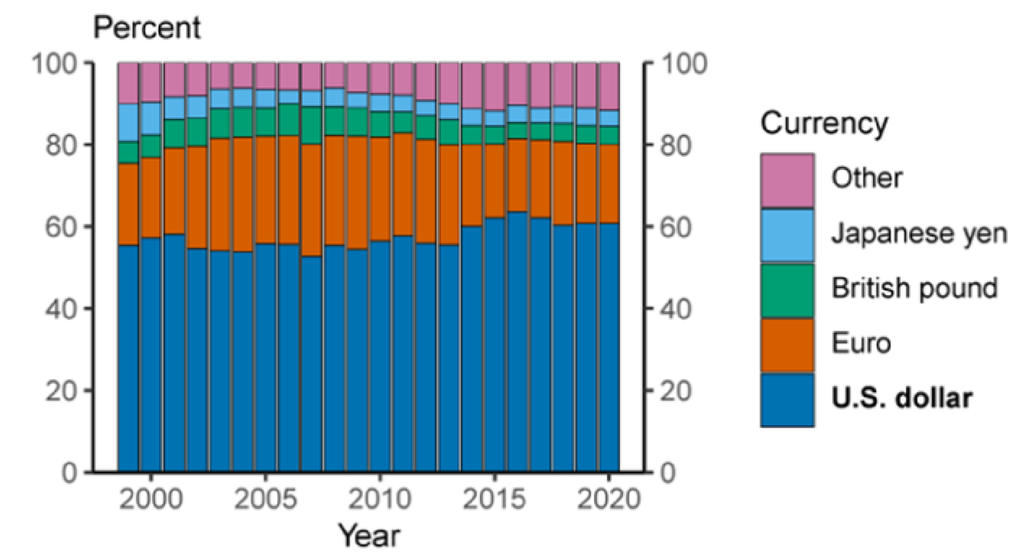
- Global trade occurs in U.S. dollars, especially for the trade of essential raw materials like oil, copper, aluminum, natural gas, etc.
- From 1999-2019, the dollar accounted for:
  - 96% of trade invoicing in the Americas
  - 74% in the Asia-Pacific region
  - About 20% in Europe
  - 79% of the rest of the world
- Why this matters: Foreign governments pay for commodities in U.S. dollars. If their local currency falls by 20% vs. the dollar, that makes raw materials 20% more expensive – regardless of any additional price appreciation.
- This stresses foreign budgets, causes inflation, and reduces economic growth

Impact on Debt Payments

Share of Int'l Foreign Currency Claims (i.e. Loans)

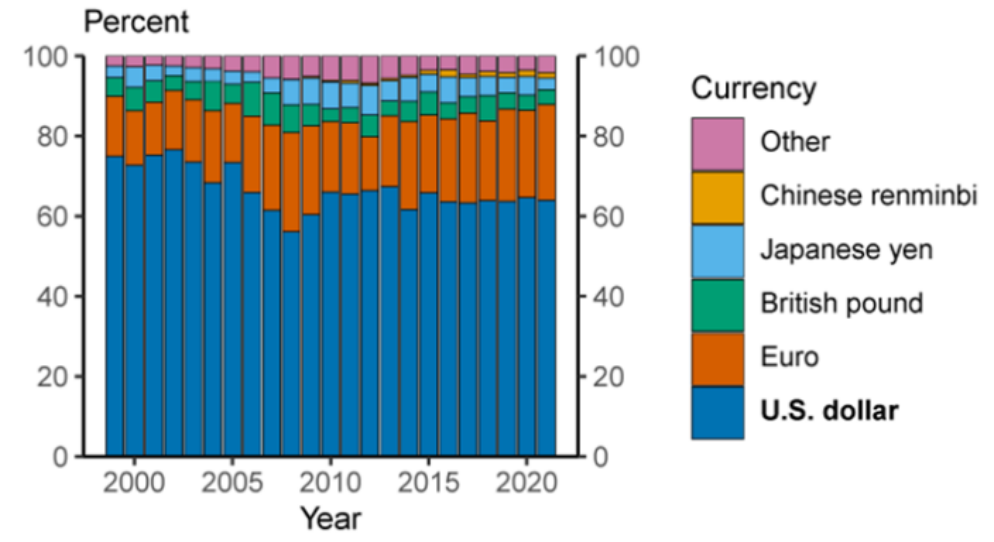
Figure 6. Share of international and foreign currency banking claims and liabilities

6a. Claims



Share of foreign currency debt issuance

Figure 8. Share of foreign currency debt issuance



Note: Foreign currency debt is denominated in a foreign currency relative to the country of the issuing firm (not the location of issuance). At current exchange rates. Data are annual and extend from 1999 through 2021. 2021 is 2021-H1. Legend entries appear in graph order from top to bottom. Chinese renminbi is 0 until 2008.

Source: Dealogic; Refinitiv; Board staff calculations.

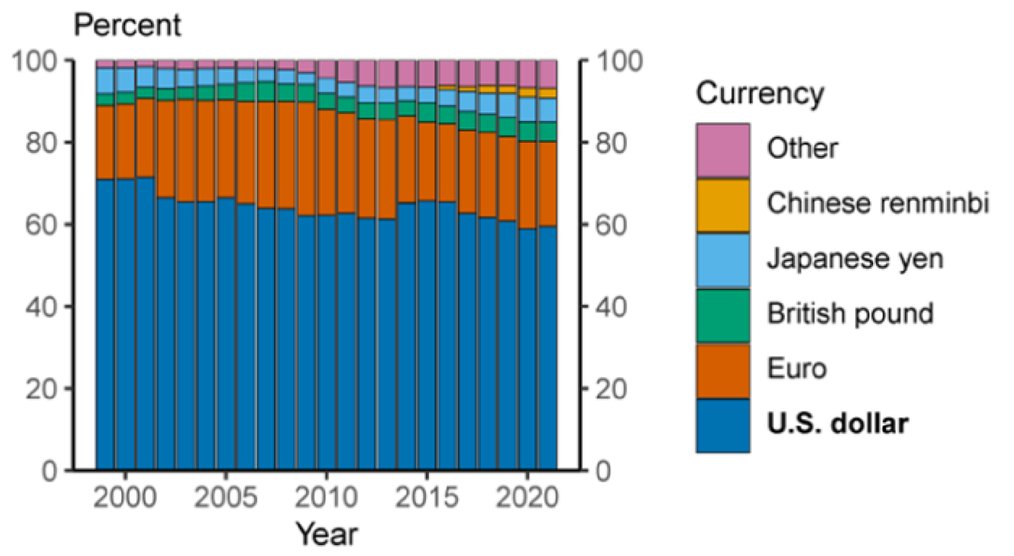
Impact of Debt Payments

- About 60% of international and foreign currency loans (claims) are denominated in U.S. Dollars.
- About 60% of foreign debt is denominated in U.S. Dollars.
- This creates a material liability for different countries.
  - Smaller countries, especially in emerging markets, have a hard time getting competitive loans/financing unless they agree to the loans in U.S. Dollars. So, they must make interest payments in USD.
  - If the dollar appreciates by 20% versus their local currency, that makes the interest rates 20% more expensive!
  - That can cause material stress on government budgets and result in debt downgrades, austerity, slower growth, etc.

Stress on Currency Pegs

- As recent as 2015, economists estimated that 50% of the world's GDP was produced by countries that had a currency "peg" to the U.S. Dollar.
- Currently 66 countries "peg" their currency to the U.S. Dollar.
- But, pegs don't exist just because they are spoken.
- Pegs must be maintained by central banks literally buying and selling a currency against the dollar in the open market to maintain the peg.

Figure 2. Foreign exchange reserves



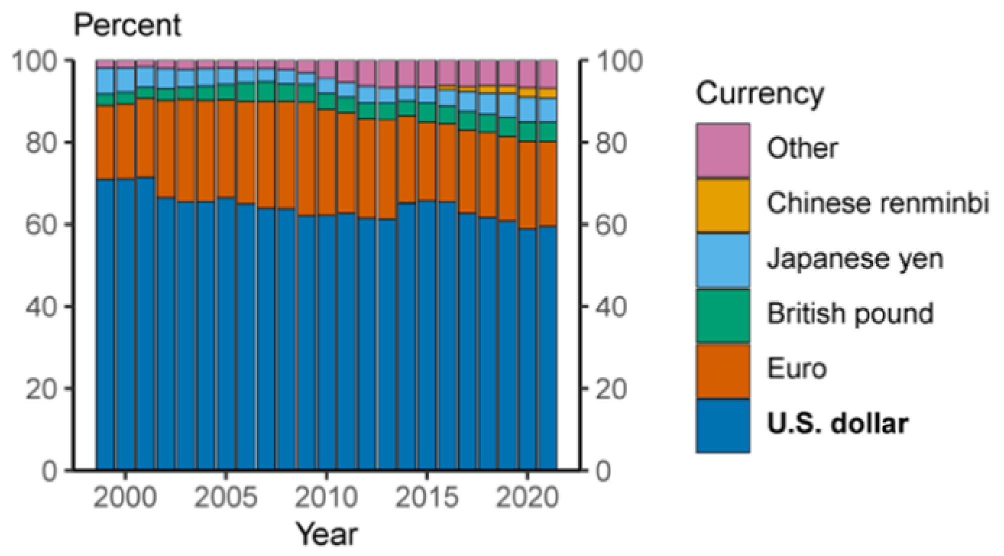
Note: Share of globally disclosed foreign exchange reserves. At current exchange rates. Data are annual and extend from 1999 through 2021. 2021 is 2021-Q1. Legend entries appear in graph order from top to bottom. Chinese renminbi is 0 until 2015-Q2.

Source: IMF COFER.

Stress on Currency Pegs

- To defend a currency peg, a government must have a large reserve of U.S. Dollars that it is willing to trade for its own currency at the peg price.
- If the dollar is spiking, global markets may try to "break" the peg, and governments and central banks must have enough reserves to satisfy market demand at the peg price.
- If the peg is broken, financial instability can occur.

Figure 2. Foreign exchange reserves



Note: Share of globally disclosed foreign exchange reserves. At current exchange rates. Data are annual and extend from 1999 through 2021. 2021 is 2021-Q1. Legend entries appear in graph order from top to bottom. Chinese renminbi is 0 until 2015-Q2.

Source: IMF COFER.

Why Does This Matter: The Thai Bhat & Asian Financial Crisis

- The Thai Bhat had been pegged to the U.S. Dollar for more than a decade.
- But, as the dollar relentlessly appreciated in the 1990s, the Thai government's reserves dwindled as maintaining the peg became more and more expensive.
- On July 2, 1997, Thai officials abandoned the peg and by October 24th the Bhat has declined 60% vs. the dollar, sparking a massive Asian currency crisis that rippled throughout developing Asia.
- This is a real, practical, and historic example of how a strengthening U.S. Dollar can cause a global financial crisis, and it can happen again.

How Will We Know If a Crisis is Brewing?

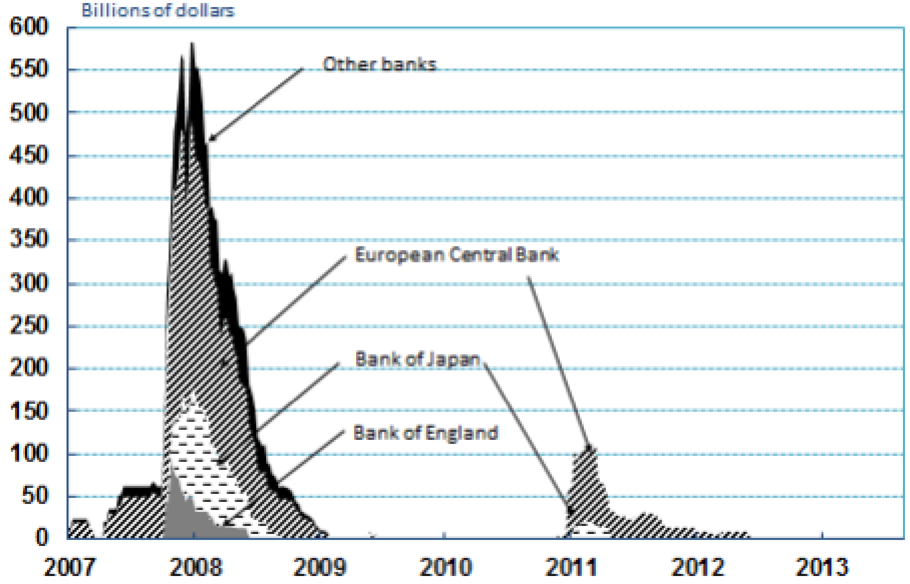
- Watch for the Fed to lower the cost of existing dollar swap lines and expand access to more countries.
- Dollar swap lines
  - These are short-term dollar loans. During times of stress/crisis (and when the dollar is surging), there can be a "run" on global holdings of U.S. Dollars. If governments don't have enough dollars, they may not be able to repay dollar-denominated loans, conduct dollar-denominated trade, etc.
  - To ensure the global economy has enough dollars to conduct business, the Fed will "swap" U.S. dollars for local currency (like the euro, yen, pound, peso, etc.)

How Will We Know If a Crisis is Brewing?

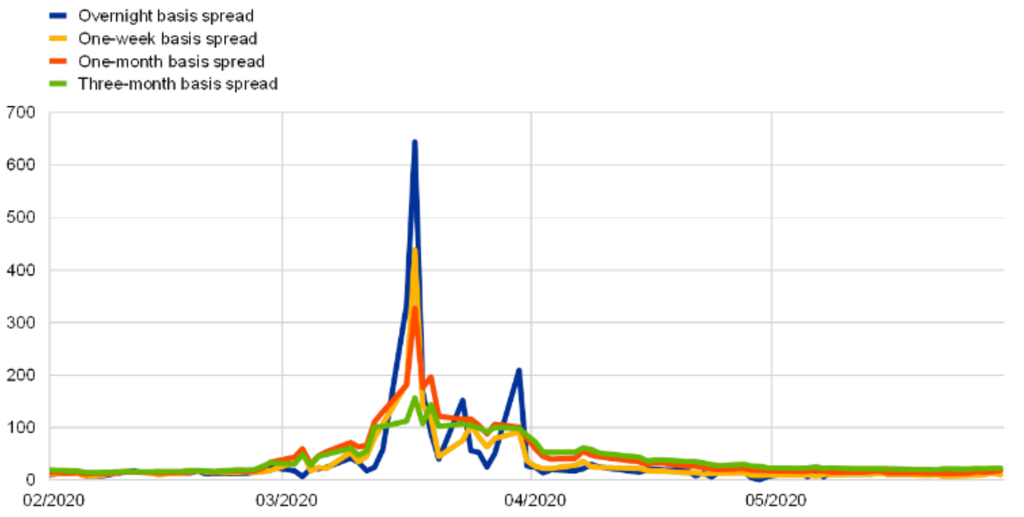
The expansion of dollar swap lines (both in size and access) has accompanied every currency crisis since the 1990's, including the Mexican peso crisis when the U.S. massively increased an established currency swap line with Mexico.

Swap lines were again used during the Global Financial Crisis and the Pandemic and it's reasonable to assume that they will be used again should the strong U.S. Dollar cause a funding or liquidity problem.

Figure 4: Dollar Liquidity Swaps



Source: Federal Reserve System.



Sources: ECB, MMSR, Bloomberg.
Notes: The effective federal funds rate is used as a US dollar risk-free rate for the overnight maturity and US dollar OIS rates are used for the other tenors. The US dollar borrowing rate is the rate paid by MMSR reporting agents to receive US dollars in the EUR/USD FX swap market at different maturities. The overnight US dollar borrowing rate in the EUR/USD FX swap market is based on tomorrow/next day transactions.

Expansion and Increase in Swap Lines is a Sign of Financial Stress

- The Fed has permanent swap lines with the Bank of Canada, Bank of Japan, ECB, BOE, and Swiss National Bank.
- During the pandemic, the Fed opened temporary swap lines with central banks of:
  - Australia
  - Brazil
  - South Korea
  - Mexico
  - Singapore
  - Sweden
  - Denmark
  - Norway
  - New Zealand
- If we see a repeat of the Fed increasing dollar swap access, especially to emerging market countries (like they did during the Asian debt crisis) that’s a sure sign a global crisis is emerging.

How Close Are We?

- There's no specific level of a dollar rally that causes a funding or currency crisis, as it's dependent on other countries reserves, etc.
- By looking at financial history, it seems that a rise in the dollar of around 30% in a relatively short time frame can lead to funding stress.
- So, while the dollar has rallied sharply YTD, it's not at levels that historically led to some sort of a funding/currency crisis, but it's not that far, either.