

The Global Dollar System

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The global financial crisis started in 2007 when European banks came under increasing strain. If forced to specify the crisis kickoff, I would pick Thursday, August 9, the day that BNP Paribas halted redemptions from three investment funds because it couldn't value their holdings of U.S. mortgages.¹ Responding to the ensuing market scramble for liquidity, the ECB injected €95 billion that day into the European banking system and the Federal Reserve put \$24 billion in theirs. Today, these numbers look quaint. Then, they seemed enormous.²

With time we learned that banks outside the United States, in Europe and elsewhere, had been borrowing a large volume of dollars in short-term money markets and investing it in U.S. mortgage-backed securities. As the mortgages started to default and the securities lost value, the non-U.S. banks had trouble rolling over their short-term debt. McGuire and von Peter (2009) eventually estimated the dollar shortfall to be well over \$1 trillion!

That there are significant parts of the global financial system that run on U.S. dollars is no surprise. In 2013, the dollar accounted for 80% of trade finance³ and 87% of foreign currency market transactions.⁴ But the fact of the matter is that there is an enormous parallel dollar-based financial system – call it the Global Dollar system – that operates outside the United States.

Using data from the BIS, we can estimate the size of this Global Dollar system. Starting with U.S. dollar liabilities of banks outside the United States, we quickly get to a sum around \$13 trillion.⁵ (If you have a dollar-denominated account in a bank in London, Zurich or Hong Kong, it would be included in this total.) Now, not all countries report to the BIS, so this subtotal is incomplete.⁶ China and Russia are missing, for example. In addition, Ecuador, El Salvador and Panama are dollarized, so their banks are issuing dollar liabilities. Tallying these non-reporting sources may add another \$1 trillion. Next come a few trillion dollars from dollar-denominated securities that are issued outside the United States (mostly in London).⁷

All of this leads to the conclusion that the Global Dollar system has issued dollar liabilities of more than \$15 trillion; a volume that exceeds the total liabilities of banks operating within the United States.

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¹ See New York Times (2007).

² For a contemporary account of the August 2007 event, see Cecchetti (2007).

³ Data are from SWIFT,

http://www.swift.com/about_swift/shownews?param_dcr=news.data/en/swift_com/2013/PR_RMB_nov.xml .

⁴ See the Bank for International Settlements (2013).

⁵ This estimate comes from combining information from Tables 5A, 5D, 13A and 14C from the BIS locational banking statistics available at <http://www.bis.org/statistics/bankstats.htm> .

⁶ The list of reporting countries is available at http://www.bis.org/statistics/rep_countries.htm .

⁷ Data are at <http://www.bis.org/statistics/secstats.htm> .

Who should be concerned about this? In 1971, President Nixon's Treasury Secretary John Connolly famously told an assembled group of European finance ministers: "The dollar is our currency, but your problem." He was speaking about exchange rates, expressing a view that was already questionable 40 years ago.

Applied to the 21st century global system of dollar finance, Connolly's view is patently false. The world's largest intermediaries are now so interdependent that if one gets into trouble, others are likely to follow. And the market for short-term dollar funding is unified globally. Consequently, if a systemic bank in Europe finds itself unable to roll over dollar liabilities, it can be compelled to sell dollar assets at fire sale prices and, possibly, default, leading other banks to cut lending and hoard safe assets.

Such contagion puts the entire financial system at risk, making the U.S. dollar everyone's problem. By lending to solvent but (temporarily) illiquid banks, a central bank can limit a liquidity crisis. Indeed, it was the frequent banking panics of the late 19th and early 20th century that led to the creation of the Federal Reserve System as the U.S. lender of last resort, the role already played by the European central banks of the day.⁸

Yet, today's two dollar-based financial systems differ in one critical respect: Banks operating or based in the United States have access to the Federal Reserve's discount window, so when they suddenly need dollars they can easily get them, provided that they are solvent. Other solvent banks, those in the parallel Global Dollar financial system, have no such access.

As Tucker (2014) so aptly puts it, we assign banks the task of providing liquidity insurance both by offering demand deposits and callable lines of credit. If we are going to have a liquidity insurer, Tucker goes on to say, then we need a liquidity reinsurer. This is a role that we normally assign to the central bank. So long as commercial banks offer liquidity insurance in domestic currency, we are fine. What about transactions in foreign currencies? What if an intermediary issues demandable deposits in a currency other than their domestic money? Who provides the reinsurance then?

Had the Federal Reserve merely accepted that dichotomy, the crisis of 2007-2009 would have gotten much deeper much faster as leading European banks dumped assets or defaulted! Instead, in December 2007, the Fed introduced one of its most successful crisis mitigation tools, offering to lend U.S. dollars to foreign central banks that they could in turn lend to their banks. Recognizing that fire sales and defaults of these foreign banks posed a systemic threat back home, the Fed eventually provided 14 other central banks with large (in some cases, unlimited) dollar swap lines to meet the surge in funding dollar needs.⁹ At the height of the crisis in December 2008, the amount lent peaked at nearly \$600 billion.

Countries without access to the Federal Reserve swap lines had to find other alternatives. Some, like Argentina, Brazil, and the Philippines, offered banks access to the U.S. dollar portion of their foreign

⁸ According to Jalil (forthcoming), from 1870 to 1910, there were 4 major and 8 minor banking panics in the United States. This, even though banks appeared to have capital of in excess of 20%. (See the Tables C158 to C237 of the Historical Statistics of the United States.)

⁹ The official announcements are on the Federal Reserve's website at http://www.federalreserve.gov/monetarypolicy/bst_liquidityswaps.htm.

exchange reserves. Others, including Colombia and Poland, obtained insurance from the IMF through its Flexible Credit Line.¹⁰

Policy innovation in the heat of a crisis is one thing. With the crisis over, we can now look forward a bit more calmly and ask what mechanisms should we put in place to guard against future stresses? How should we manage the system's needs and risks of the Global Dollar system?

I see five possibilities:

- 1) use prudential regulation to ban or restrict issuance of U.S. dollar liabilities;
- 2) make dollar supply the responsibility of the authorities where the activity is taking place;
- 3) supply dollars through regional pooling of foreign exchange reserves;
- 4) obtain dollars from a supranational institution such as the IMF; or,
- 5) make the supply of dollars to the Global Dollar system the responsibility of the Fed.

Banning intermediaries from offering foreign currency accounts is not only naïve, it is foolish. It is naïve because people will find ways to transact in foreign currency regardless of the rules we might make; and it is foolish since it would dramatically reduce cross-border financial activity. Short of an outright ban, domestic prudential measures definitely have their place. But, in the end, restrictions of this sort will be limited to the degree that a country wishes to benefit from participation in the global system.

Moving to the second possibility, if the Banco Central do Brasil lets intermediaries in Rio de Janeiro create liabilities in U.S. dollars, or the Bank of Korea allows banks in Seoul to do the same, isn't it their problem? Having sufficient foreign exchange reserves on hand to manage such a systemic event is surely one reason for the very dramatic accumulation over the past decade. As of mid-2014, aggregate foreign exchange reserves stood close to \$14 trillion, or nearly 20% of global GDP. The cost of this is extraordinary. For each percentage point that the real return on these reserves is below the global marginal product of capital, someone is paying 0.2% of global GDP per year! And, those that are paying are primarily low-income countries.¹¹

It is in an effort to reduce these costs that countries have worked to form regional reserve-pooling arrangements like the Chang Mai Initiative.¹² But it is hard to see how the size of such a fund can be big enough without the ultimate support of the Fed.

The fourth approach is to have supranational institutions manage dollar shortages. The IMF's Flexible Credit Line (FCL), which provides qualified countries with guaranteed access to financing for a fee, is just such an arrangement.¹³ But again, the question is one of size. Could the IMF have supplied the nearly \$600bn that was drawn through the Federal Reserve swap facilities in late 2008? Unless there is a way to ensure resources that are nearly unlimited – as the swap lines are – it is hard to see how a

¹⁰ See <http://www.imf.org/external/np/exr/facts/fcl.htm> for a description.

¹¹ Granted that countries hold foreign exchange rates for a number of reasons, including defending their exchange rate. But in the end, these are held to manage capital outflows that will occur when their economies and financial systems are under stress.

¹² Initiated in 2000 and enhanced in 2007, the Chiang Mai Initiative is a multilateral swap agreement among 10 countries in East Asia – the ASEAN + 3 – that draws on a reserves pool that is currently \$240bn.

¹³ As noted earlier, during the crisis Colombia (\$6.2bn), Mexico (\$73bn) and Poland (\$33.8bn) have obtained committed lines of credit through the FCL. None of the credit lines were drawn.

supranational institution would be able to meet the demand for foreign currency in the case of a truly systemic event.

This brings me to the final option: the Federal Reserve itself provides the dollars through swap facilities. This is not only feasible, but given the enormous benefits accruing to the US from the Global Dollar system, there is a sense in which it is just. To understand why I say this, we can do a rough accounting of the benefits and costs the U.S. faces.

The benefits are a combination of reduced financing cost and the ability to run very large current account deficits to meet demand. On the first, the current consensus is that the United States receives a financing benefit in the range of 0.5% of GDP per year.¹⁴ While, based on some rough calculations, it is possible to show that a current account deficit of between 2% and 2½% of U.S. GDP for years to come.¹⁵ Adding these together, I conclude that the U.S. gross benefit from being the issuer of the reserve currency is on something like 2½ to 3% of U.S. GDP per year. Since the United States represents 23% of world GDP, this equals something in the range of 0.6 of global GDP.

Turning to the costs, the first and foremost is that this demand for reserve currency assets tends to push the value of the currency up and encourage borrowing from abroad. This flip side of the current account deficit has distortionary effects on the domestic economy. It creates sectoral imbalances, disadvantaging both export industries and domestic import competitors; and, in the process, it encourages borrowing from abroad. As we saw during the recent financial crisis, the latter can be particularly damaging if and when the leveraged asset prices turn from boom to bust. But it is difficult to see these as being even the same order of magnitude as the benefits.¹⁶

In fairness, the rest of the world does gain from the existence of a reserve currency. The easiest benefit to see comes from the fact that the dollar is the de facto international numeraire. What this means is that, instead of having $n(n-1)/2$ currency markets, we only need $(n-1)$ with the U.S. dollar as the other side of each. For a world with at least 150 currencies, that's the difference between 149 markets and 11,175. This is why the U.S. dollar accounts for one side of nearly 90% of foreign exchange transactions. Even if there were no reserve currency, the market would create one simply as a way to reduce transactions costs. But it is hard to see these benefits as being anything close to the costs.

The natural conclusion is that, so long as the dollar remains in widespread use outside of the United States, the central bank liquidity swaps should be part of the Federal Reserve's permanent tool kit.¹⁷ But, if that is to be the case, we will need to address a number of problems analogous to those faced by the domestic lender of last resort: moral hazard, adverse selection and overstepping of one's mandate. On the first, if they have a backstop, countries will be tempted to allow their banks to provide too much

¹⁴ This number is in substantial dispute. I have used the very conservative estimate of 50bps from Curcuru, Thomas and Warnock (2013). Dividing foreign holdings of \$14.6 trillion from the TIC data by 2014 GDP of \$17.1 trillion and multiplying by 50bps yields 0.5%.

¹⁵ See Cecchetti and Schoenholtz (2014a).

¹⁶ A few years ago, a group of researchers at the McKinsey Global Institute put everything together and concluded that the net benefit to the US is in the range of 0.5 percent of GDP. Their estimate seems quite small as a consequence of the fact that they treat the current account deficit as a primarily a cost to exporters and import-competitors who supply less rather than a benefit to households that can consume more (for a very long time). See Dobbs et al. (2009).

¹⁷ For a summary of the debate, see Truman (2013).

foreign currency liquidity insurance to facilitate trade and capital flows. Controlling moral hazard will require a combination of international standards that restrict activity and a sufficiently high price charged by the Fed for the dollars – a penalty rate a la Bagehot. On adverse selection, there will have to be some mechanism for ensuring that the least creditworthy countries aren't the ones at the head of the line asking to swap their compromised currencies for dollars. Something similar to the IMF's prequalification mechanism may ultimately be required. And, since relying on an external organization is likely to be even more politically charged than doing it at home, one of the costs of being the supplier of the reserve currency may be that the Fed will have to employ a small staff of people who evaluate whether a country qualifies for a swap line. As for stepping on other people's toes, the U.S. President may well view providing dollars to a foreign central bank, and hence to a foreign country, as foreign policy. Some people already view swap lines as beyond the bounds of the Fed's agreed activities. Political support for a broader extension of dollar liquidity provision is not in evidence.¹⁸

Among the many lessons that we learned from the events of the last decade is that a financial system requires a lender of last resort. Domestic financial stability requires having a central bank that can provide domestic currency to ensure the system remains liquid. By the same token, if we are to continue to benefit from the movement of goods, services and capital across borders, then we need a system that efficiently allocates the foreign exchange risk arising from the transactions that support these activities. And, the facilitation of cross-border transactions and the allocation of the associated risks inevitably requires that banks provide liquidity insurance in foreign currency. In the vast majority of cases, this means dollar liabilities. Ensuring financial stability in such circumstances requires that, when they face a liquidity crisis, banks outside the United States have access to dollars. So long as the global financial system runs on dollars, something that is likely for some time to come, it is to the benefit of the United States that the Federal Reserve finds a way to provide such access.

¹⁸ There is also what I would consider to be a legal detail. The swap lines are the responsibility of the FOMC, and they require annual reauthorization as a matter of law, so permanence cannot be assumed.

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