

Intraday vs Eternal QE

Before 2008, advanced central banks enabled massive expansions and contractions of their reserve balance liabilities *every day*. That is, they engaged daily in massive intraday QE.

This note explains how and why intraday QE (IQE) was employed and compares IQE with “eternal” QE (EQE)—a permanent massive expansion of reserve liabilities. IQE is eminently sensible. EQE is nonsense.

Just before the global financial system began to fray at the edges, and a year before Lehman came close to wrecking it, US banks held about \$16 billion in overnight deposits at the Fed¹. At the same time, daily interbank transfers effected through Fedwire averaged \$2.5 trillion². That is, daily reserve balance transfers averaged 156 times average daily end-of-day balances held at the Fed. To facilitate the efficient operation of Fedwire, the Fed—as do most central banks supporting real time gross settlement systems (RTGS)—provided intraday credit to banks enabling them to overdraw their reserve accounts (aka daylight overdrafts) against the provision of high quality collateral³.

The US system average peak intraday overdraft prior to the crisis was about \$150 billion⁴, i.e. almost ten times the average daily end-of-day (and start-of-day) balance. I call this intraday provision of reserve balances against collateral “IQE”. IQE plays a vital role in enabling banks to economize on holding reserves and effectively turns high quality liquid assets into “money” during RTGS operating hours.

In the presence of smoothly functioning IQE, end-of-day reserve balances may be zero. That is, each bank would start and end the day with a zero balance. Intraday imbalances would be financed through a combination of IQE and interbank credits. At the end of the day, residual imbalances on reserve accounts would be smoothed to zero with overnight interbank loans—that is, the transfer of balances from surplus entities to deficit entities. Overnight credit from the central bank would be necessary only if there were systemic payments disruptions, such as those following the September 11 terrorist attacks, or in the event of individual entities finding themselves unable to fund themselves in the overnight unsecured interbank market. Yet both of these possibilities are temporary in nature—once resolved, the aggregate system balance could return to zero in the presence of well-functioning IQE⁵.

Since bank reserves are held at the Fed only to make payments, and payments are only made when the RTGS is “open”, there is little reason to hold them “overnight”, i.e. when the RTGS is closed.

¹ Martin and McAndrews (2007) *Why are there no intraday money markets?* The largest US bank, JPMorgan held, on average, \$ 2.2 billion at Federal Reserve Banks during 2006, Stella (2015) *Exiting Well*.

² www.frb-services.org/operations/fedwire/fedwire_funds_services_statistics.html

³ Collateral that is acceptable to FR Banks for discount window lending is generally acceptable for daylight overdrafts. www.federalreserve.gov/paymentsystems/psr_overview.htm Although the Fed did not keep data prior to 2011, the average collateralization of daylight overdrafts varied between 96 and 99 percent from Q3 2011 through Q1 2017, www.federalreserve.gov/paymentsystems/files/psr_dlodpeakqtr.pdf

⁴ Bech, Martin and McAndrews (2012), *Settlement Liquidity and Monetary Policy Implementation—Lessons from the Financial Crisis*. FRB of NY Economic Policy Review, March 2012, Vol. 18 # 1.

⁵ Most central banks have remedial regimes that effectively place chronically deficit banks in isolation.

Quantitative easing, “QE”, entails the central bank buying highly liquid short-term government⁶ securities with the primary objective to attain a quantitative target for bank reserves. The Bank of Japan introduced QE, with little effect, in the 1990s. The Fed never engaged in QE. Its large scale asset purchases were of long-duration mortgage backed securities and long-duration US Treasuries. Unlike the Bank of Japan, the Fed did not announce a target for expansion in bank reserves. Consequently, with QE, the objective is the expansion of reserves (the liability side of the central bank balance sheet) and the accumulation of assets is merely a side show—the nature of the assets does not enter into the conversation. In the Fed’s crisis-related policy—and with “Operation Twist” decades before, the objective was to alter the composition of the central banks’ assets (lengthen duration and assist the mortgage market by purchasing MBS) and the *increase in reserves* was merely a side show. The importance of the *composition* of the assets the Fed purchased, rather than the *quantity* of reserves created, was concisely stated by then Fed Vice Chairman Kohn “...the degree to which assets of different types and maturities are imperfect substitutes is central to understanding the large-scale asset purchase, or LSAP, program of the Federal Reserve.”⁷

It is facile to move from a proper understanding of the difference between QE and LSAPs to accepting that there is no contradiction between asserting that QE is/has been completely ineffective while LSAPs have been effective. Indeed, understanding the role of bank reserves in the financial system, it is similarly facile to see that QE is inane and that EQE—from a certain perspective—is insane. Eternally ensuring that banks have many times more reserves than they need every night for all eternity⁸⁹.

Much of the confusion about QE relates to an improper understanding of the Quantity Theory of Money (QTM). As Keynes said almost a century ago, “The truth of this [the QTM], properly explained and qualified, it is foolish to deny”¹⁰. The power and simplicity of the QTM is based on several very strong—and viewed from the perspective of today’s payments systems—primitive assumptions. It would take too long here to go through the theory, but the monetarist research agenda was, in any event, always an empirical one. Those empirical relationships irrevocably broke down decades ago though the theory

⁶ We assume here that the central bank buys securities of the national government. Purchases of securities of other governments is usually considered “foreign exchange intervention”, not QE.

⁷ Kohn, Donald L.(2009), *Monetary Policy Research and the Financial Crisis: Strengths and Shortcomings*

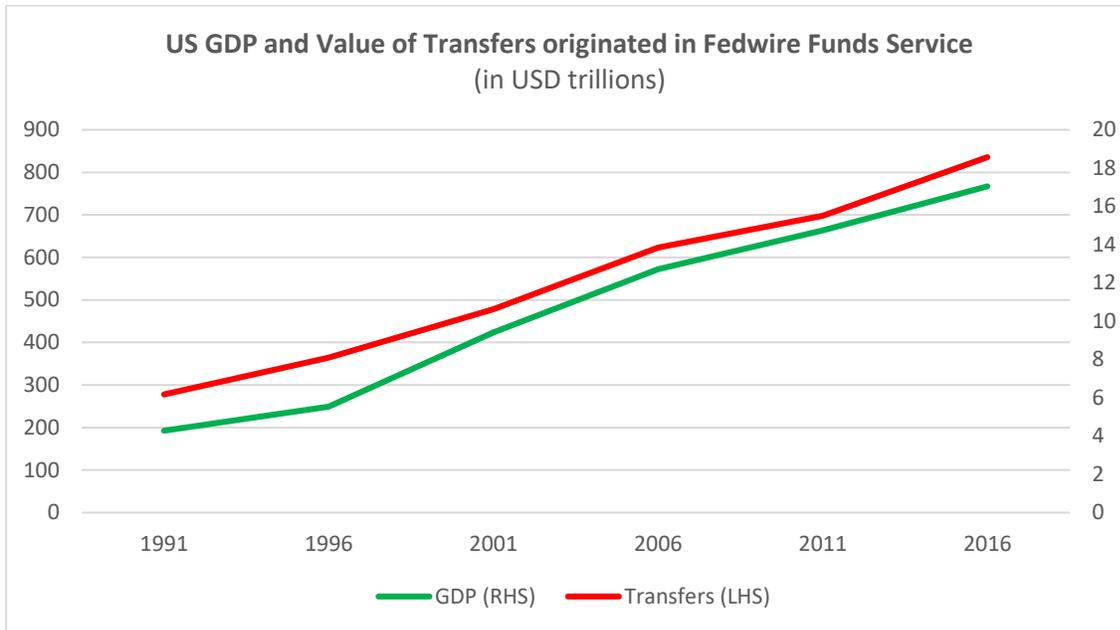
⁸ The Bank of Japan has in recent years supplemented QE by purchasing “exotic” assets including equities and even more recently adopted a long term interest rate target—implying the supply of bank reserves is now endogenous. Although it has not explicitly dropped “QE” it calls its new policy QQE.

⁹ Bech, Martin and McAndrews (cited above) provide interesting evidence that the surfeit of reserves in the US post 2008 has alleviated some difficulties with the timing of payments across Fedwire that were being independently addressed with other measures pre-crisis. Since virtually no one in the current debate is motivating a continuation of large central bank balance sheets for this reason, and since it is rather implausible that the “optimal” level of excess reserves in the US would exceed say \$ 200 billion I am excluding this point from my discussion which is about keeping excess reserves well above what is necessary for smooth operation of the payments system.

¹⁰ See chapter 2, *A Tract on Monetary Reform*, John Maynard Keynes (1924).

apparently retains its grasp on many imaginations. Furthermore, there had always been considerable uncertainty about the direction of the causality between money and prices.

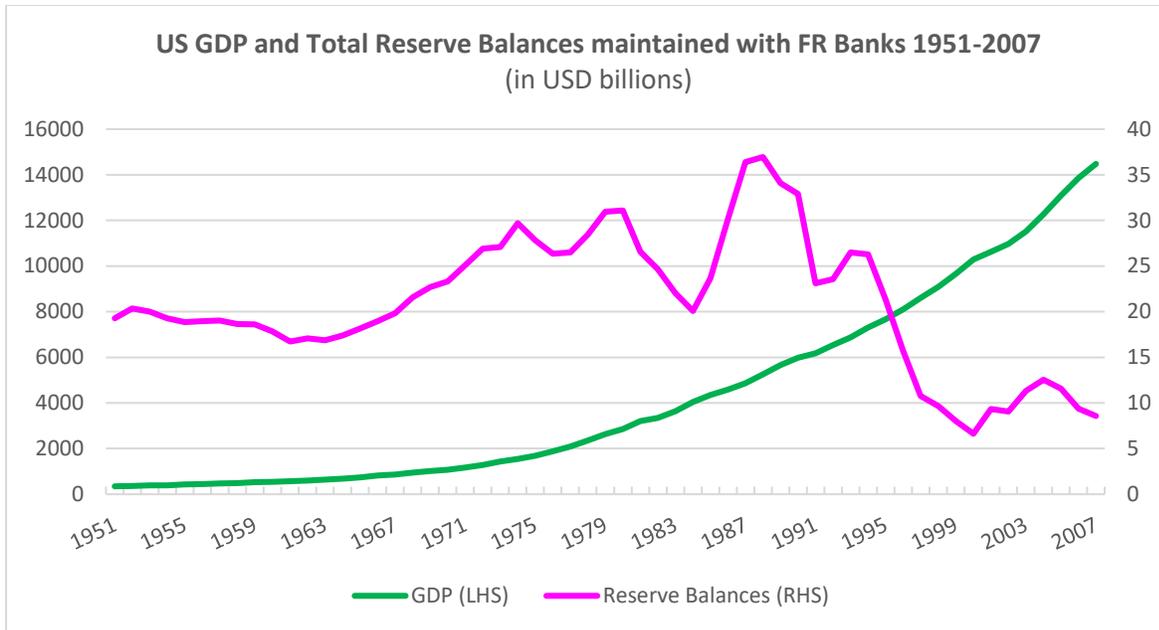
There continues to be much confusion about the causal relation—or lack thereof—between money, income and payments. The value of national income, production (GDP), and payments tend to be related—correlated—even though many payments are associated with transfers of assets (securities and foreign exchange trading) which in and of themselves contribute to neither national income nor production¹¹. See below the co-movement of Fedwire transfers (payments) and GDP:



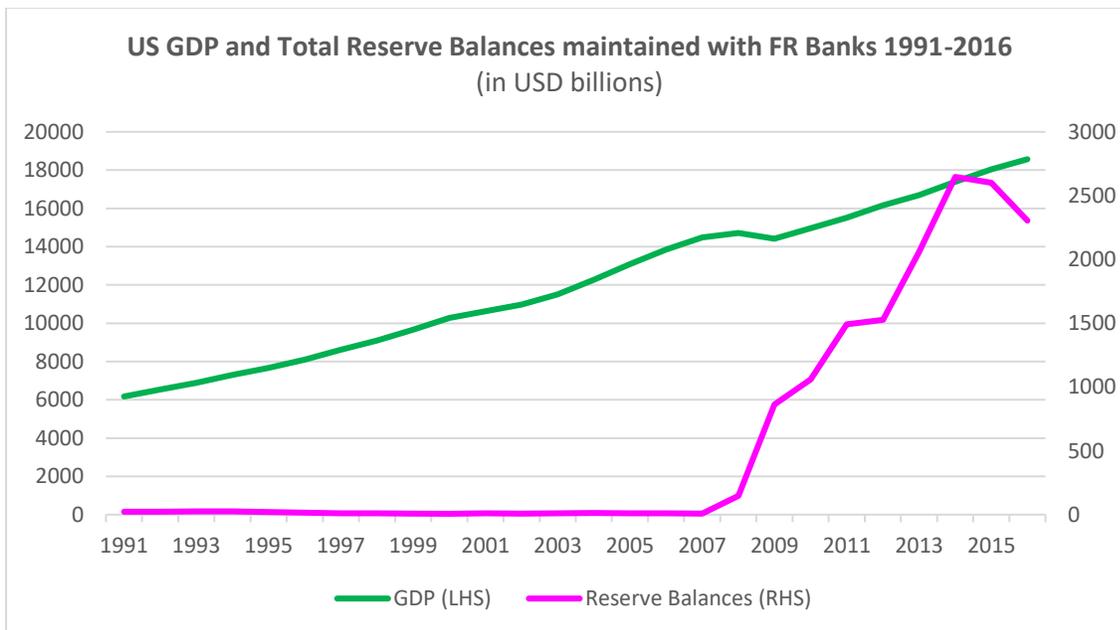
Yet the value of the most important transactional money—bank reserves—is not positively correlated with income, nor production, nor, perhaps most surprisingly, with the value of payments.

The lack of a relation between bank reserves and GDP is evident below.

¹¹ Annual transfers originated in Fedwire Transfer Services alone are about 40 times GDP.



More recent years were omitted above for visual reasons. They are included below.



In sum:

1. There is no statistical relationship between the quantity of bank reserves and key macroeconomic variables¹².
2. IQE facilitates the execution of trillions of dollars of payments every day with virtually zero reserves.

¹² See, e.g., Stella (2013) *Bank of Japan Theater: Is this Kabuki after Noh?*

3. Massive QE is inane, massive EQE insane.

4. While there may be good reason to keep the Fed balance sheet larger for longer, there is scant justification for continuing to finance the asset portfolio with reserve liabilities.

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