

## THE FED'S FAILED POLICIES

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Once upon a time, there were monetary velocity and a money multiplier. Since 2008, there has been neither monetary velocity nor a money multiplier, at least not at levels comparable to the status quo ante. Nevertheless, for all the exotic measures attempted by the Federal Reserve after 2008, none delivered expansion of bank credit, M-1, M-2, or GDP; restructuring of household or small firm balance sheets; or aggregate demand leading to greater consumption or investment, at least not on the scale reasonably expected from the quantity of new reserves created. Government spending, however, has done quite nicely. Is this scenario sustainable? If not, then why has the Fed persisted in its pursuit (quantitative easing, unnecessarily high guaranteed returns on reverse repurchase agreement transactions, etc.)? Even if the Fed finally stops creating new monetary reserves (hopefully, for a generation or so), why do other central banks take up where we left off? Have we in fact stopped creating new monetary reserves, and, if so, what should we do next (exit strategy)? Possible paths out of the wilderness are described.

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Hint: None involves quantitative easing (QE) or helicopter money. And one should be skeptical about interest rate increases until we see growth in some other major economy, *any* other major economy.

## The Breakdown of the Monetary Transmission Mechanism

In a fractional reserve banking system, whenever a bank funds a loan, it essentially is creating new money in an amount equal to the reciprocal of the reserve requirement, currently 10 percent for demand liabilities. The rate of expansion of the aggregate banking system's reserves toward the multiplier of 10 is affected by the public's desire to hold some of the proceeds of loan disbursements (viewed by the public as new cash) instead of spending all the proceeds. The more the proportion of such new deposits retained, the slower the economic expansion that the creation of new bank reserves theoretically should cause.

On its face, greater than expected retention of loan proceeds and other cash apparently is what happened after 2008. With the exception of QE1 (2Q2009 to 2Q2010), during which monetary velocity (the ratio of GDP to the money stock, M2 in this case) grew slightly, from 1.711 to 1.746, velocity has fallen ever since and reached a nearly 60-year low of 1.437 in 3Q2016. This begs the question of why QE continued to be pursued once it was clear that it was not working—that is, did not have the desired effects.

Payment of interest on banks' reserve balances at the Federal Reserve Banks (in the aggregate, the Fed) began in October 2008. Excess reserves (a reflection of the public's desire to hold a greater amount of cash or its equivalent) began to emerge above historical average levels after August 2008 (Todd 2013: 5).

Unfortunately, once the Fed started paying interest on reserves, it made no distinction between required and excess reserves. All banks maintaining reserves, whether required or excess, received the same interest rate: 0.25 percent per annum from December 2008 to December 2015, which was the ceiling rate in the Fed's target range for the federal funds rate of 0–0.25 percent. That rate increased to 0.50 percent in December 2015, still the top of the Fed's target range of 0.25–0.50 percent. From November 2015 to November 2016, most fed funds trading was greatly diminished in volume and

occurred in a trading range well below the Fed's rate ceiling, roughly 0.32 to 0.41 percent.<sup>1</sup>

The fed funds ceiling rate is comparatively generous on a safe asset for banks holding excess reserves in a zero-rate and negative-rate environment globally.<sup>2</sup> When I was in Switzerland and Austria in November 2015 for an academic conference attended by several current and former representatives of the Swiss National Bank, I was asked repeatedly, "Why is the Fed paying interest on excess reserves?" Indeed, and at the ceiling rate, not the floor rate, besides. I had no good answer for the Swiss. Anyway, paying interest on banks' balances at the Fed is the third of four tools identified by former Board of Governors Chairman Ben Bernanke in a July 21, 2009, article, "The Fed's Exit Strategy" (reprinted in Mankiw 2015: 338–39). At the time, Bernanke did not distinguish between required and excess reserves or suggest dual-rate payments. But he should have done so.

With no monetary velocity and no money multiplier, how is it exactly that monetary policy is to be transmitted to the general economy? And with zero or negative interest rates, how is interest rate targeting supposed to affect the real economy? The monetary transmission mechanism broke down and even now, eight years after the crisis, still shows no sign of working properly again.

## The Fed's Failure to Stimulate the Real Economy

For all the exotic measures attempted by the Federal Reserve after 2008, none delivered expansion of bank credit, M-1, M-2, or GDP; restructuring of household or small firm balance sheets; or aggregate demand leading to greater consumption or investment, at least not on the scale reasonably expected from the quantity of new reserves created.

<sup>1</sup>See Board of Governors' H.15 weekly releases for the relevant dates. The Fed increased its target range for the fed funds rate again in December 2016, and it now ranges from 0.50 percent to 0.75 percent, with interest on reserves set at the top of the range.

<sup>2</sup>The only central banks raising lending rates in 2016 or having recently raised rates are in the United States, Republic of Korea, Chile, Mexico, and South Africa. The entire eurozone and Japan post rates of flat zero, and Denmark and the Czech Republic post rates of 0.05 percent. Sweden is at  $-0.50$  percent, and Switzerland is at  $-0.75$  percent (Global-rates.com, accessed November 4, 2016).

The Board's release, "Assets and Liabilities of Commercial Banks in the United States (Weekly) - H.8," shows that bank credit barely grew during the QE era (2009–14): 1.6, 4.1, and 1.3 percent, 2011–13, for example. Loans and leases in bank credit also barely grew then: 1.5, 2.9, and 2.3 percent, 2011–13. Commercial and industrial (C&I) loans grew at what normally would have been an acceptable rate (9.9 percent on average, 2011–15), but more rapid growth was restrained by mostly negative growth in household and consumer lending during the same period. Residential mortgage lending (other than home equity lines of credit or HELOCs) was negative until 2014 and did not grow normally until 2016. HELOCs have remained a negative factor for at least eight years, but perhaps that is a good thing.

All of this restrained lending activity occurred in the face of a five-fold increase (499 percent) in the size of the Fed's balance sheet from August 6, 2008 (\$901.7 billion, the last balance sheet of normal size) until year-end 2014 (QE3 ended in mid-year 2014). The Fed's balance sheet continued to expand slightly, exceeding \$4.5 trillion in late 2014 and continuing at about that level until the present (\$4.499 trillion as of November 2, 2016).<sup>3</sup>

## Government Spending Is a Different Story

The main vehicle for the expansion of the Fed's balance sheet was the funding of large Treasury deficits in the postcrisis era. The Treasury sold securities to fund its deficits, the Fed purchased some of them at Treasury auctions, and then over time the Fed met demand for liquidity in financial markets by purchasing Treasury securities from primary dealers and other recognized holders, like foreign central banks.

The Fed also rendered the Treasury an enormous favor by funding nonbank financial entities, through securities purchases and otherwise, that the Treasury would have been called upon to fund in the absence of Fed action. For example, starting from zero just before the crisis, the Fed now holds \$1.736 trillion of mortgage-backed securities issued or guaranteed by the federal housing finance agencies, as well as \$19 billion of debt securities issued

<sup>3</sup>Sources for these data were the Board's H.8 and H.4.1 releases for relevant dates, accessed November 4, 2016.

directly by those agencies. Also, at the peak of the crisis, in December 2008, the Fed funded about \$600 billion of foreign central banks' currency swaps for dollars when, even under the most generous interpretation of existing arrangements, the Treasury's Exchange Stabilization Fund should have funded at least one-half of the cost of those swap arrangements.<sup>4</sup>

There currently are swap lines outstanding with five central banks or other monetary authorities. The only large and frequent borrower is the European Central Bank. The others are the Bank of Japan, the Swiss National Bank, the Bank of England, and the Bank of Canada. The amounts allowed are unlimited. Each swap drawing has a specified maturity date and amount, but drawings may be rolled over indefinitely, at least in part, for a fee, and there is no stated expiration date for the right to make new drawings.

### Is This Scenario Sustainable?

There is talk of "helicopter money" in central banking circles outside the United States. It is a bad idea, but it is better than either QE conducted in a manner that merely stimulates a rolling variety of asset price bubbles while enriching a few financial industry insiders or the type of fiscal stimulus pursued in the 2009–2010 federal fiscal cycle. At all stages then, restructuring the debts of households and small firms was resisted bitterly by the Fed and Treasury. Financial institutions and a few select large industries were given extensive financial assistance, but households had to be content with assorted one-off tax credits that in no way could have generated ongoing aggregate demand (or supply).<sup>5</sup>

<sup>4</sup>On November 2, 2016, the European Central Bank's website reported \$1.0 billion of swap lines outstanding on behalf of four European banks (not identified), drawing on the Fed for one week at 0.91 percent per annum.

<sup>5</sup>Helicopter money, or money distributed directly to the public by the authorities instead of through intermediation by financial institutions, was a concept introduced by Milton Friedman in 1969 and revived by then-Governor Ben Bernanke in 2002 (see also Irwin 2016). In a brilliant illustration at the beginning of Chapter 16 in Mankiw (2015: 321), the artist depicts Janet Yellen arranging the printing of sheets of new currency notes. The notes go to a landing pad, where a helicopter awaits. A workman boxes the notes and hands them to Ben Bernanke, kneeling in the helicopter, whose pilot is Alan Greenspan. In the background, a joyous public cheers a helicopter dropping a shower of currency notes into the sky.

What about negative interest rates? In speeches during and after the Jackson Hole conference period in 2016, Chairwoman Janet Yellen indicated that negative rates are at the bottom of her list of devices to use to break the current pattern of monetary policy transmission. In discussions about this point with Jerry Jordan, we agreed that artificially created negative interest rates are destructive of any hope of sustained economic recovery. However, we agreed that, if arrived at naturally, as the result of noninterference in any financial market by the central bank so that any negative rate is the product of natural market forces, then a temporary period of negative rates might prove useful to clear the markets.

My argument is that, if the economy has any vigor left, what Keynes called “animal spirits,” then it should begin to recover, with rising rates, from some negative floor. If it has no vigor, then it is unclear what is to be gained from forcing rates artificially into positive territory just to avoid the zero lower bound.

In a mid-October 2016 speech, Vice Chairman Stanley Fischer noted arguments that the United States and the world could be entering a sustained period of stagnant or even negative growth. However, he expressed the belief that such a dire scenario was not inevitable.<sup>6</sup> Still, the Fed’s efforts to raise rates since December 2015 have failed in the sense of bringing interest rates on fellow-traveler securities, like four-week Treasury securities, above the Fed’s 0.25 percent rate floor. Lest anyone think that this situation is an anomaly, it has been more or less like this with respect to the Fed’s rate floor since 3Q2014. Short-term rates have tended to rise (slightly) in advance of nearly all Federal Open Market Committee (FOMC) meetings since the second half of 2015, but soon after each meeting the rate pattern described above reemerges. Negative and near-negative rates are the curse of not just Japan and Europe, in other words.

Why does the Fed persist in refusing to sell assets, starting with the worst ones, the mortgage-backed securities portfolio? Consider also these passages from Vice Chairman Fischer’s October 17, 2016, speech:

In addition to slower growth and demographic changes, a third factor that may be pushing down interest rates in the United States is weak investment. Analysis with the FRB/US

<sup>6</sup>See Fischer (2016).

model suggests that, given how low interest rates have been in recent years, investment should have been considerably higher in the past couple of years. According to the model, this shortfall in investment has depressed the long-run equilibrium federal funds rate by about 60 basis points.

Investment may be low for a number of reasons. One is that greater perceived uncertainty could also make firms more hesitant to invest. Another possibility is that the economy is simply less capital intensive than it was in earlier decades.<sup>7</sup>

If a rate reduction of about 30 basis points (suggesting that a Fed rate range of  $-0.05$  to  $+0.20$  percent would be about right) is what the doctor would order to bring U.S. growth prospects and currency values to a point that takes account of the doldrums in which our global trading partners find themselves, then why the effort to prove that our current rate structure (or higher) is the correct prescription for the United States and the world? Does not such a position seem like the view that the United States needs to make a disproportionate sacrifice for the entire world?

### Why Do Other Central Banks Follow the Fed's Failed Policies?

Arguably, Japan preceded us in QE by nearly a generation (Cooke and Gavin 2014: 8–9, 14). Japan has been pursuing near-zero interest rates since 1995. Cooke and Gavin make their key point succinctly and well (p. 14):

From the point of view of money and bond markets, the FOMC has been replicating the ZIRP [zero interest rate program] regime of Japan. The only circumstance in which future interest rates are not likely to be a problem is if the ZIRP policy is the new normal. In our simulations, the policy rate exceeded the bond rate about 20 to 25 percent of the time in the *Credibility* regime [roughly, an analogue of a Paul Volcker-style monetary policy in the early 1980s]. In the ZIRP model, the yield curve was almost never inverted. If normalization is, as planned, a return to the *Credibility* model

<sup>7</sup>In Fischer's note 11, he cites Summers (2014, 2015, 2016), as well as Hilsenrath and Davis (2016).

with a historically “normal” sized balance sheet for the Fed, then one should plan for a scenario in which higher interest rates will complicate the normalization process.

The European monetary authorities tried to maintain a “credibility” regime as long as they could after the 2008 crisis but, after a brief flirtation with higher interest rates in 2011, reversed course about six months later. Still, it was that spurt of higher interest rates that set the stage for the emergence of debt crises in Greece and other southern European countries—and the rise of the U.S. dollar to a new plateau about 20 percent above its postcrisis level (see Krugman 2011).

Later, the European Central Bank succeeded in reducing the excess reserves problem that emerged in the aftermath of its emergency lending and easier monetary policy that followed the crisis. The following passage illustrates what happened in the last phases of the European credibility regime (Todd 2013: 8–9):

The ECB raised its required reserve during the second week of July 2012, when excess reserves stood at 1.006 trillion euros. At that point, the ECB’s balance sheet also was much larger, 3.085 trillion euros. Initially, about one-half of the excess was absorbed into the pool of required reserves, and the overall balance sheet then began to shrink toward the current level [about 2.6 trillion euros].

In January 2015, pressured by the slow emergence from the European recession that followed the ECB’s initial rate increases (as high as 3 percent in early 2011) and reversal, Mario Draghi, the new head of the ECB, led the way to an expanded quantitative easing program, including purchases of government obligations of the member nations of the Euro Zone, a form of fiscal deficit financing. The target was to add 60 billion euros per month to the ECB’s balance sheet until a September 2016 review. That review continued the program at 80 billion per month until March 2017 (Jones 2016).

Meanwhile, the European QE program revived the excess reserves problem, albeit at a lower level than in July 2012. The public sector purchase program now amounts to 1.131 trillion euros. Required reserves are 813 billion euros, and excess reserves (channeled into an ECB deposit program) are 384 billion. Total assets are 3.507 trillion euros. If the purchase program continues at current levels until March 2017, 400 billion more euros will be added to the balance sheet.



At the current exchange rate of 1 euro = \$1.1145 (November 4, 2016), the ECB's balance sheet would be \$4.35 trillion, only slightly smaller than the Fed's current balance sheet (about \$4.5 trillion). At current proportions of new reserves flowing into excess reserve deposits at the ECB, which charges its members 0.40 percent to hold those deposits (−0.40 percent “paid” on reserves), the final excess reserves total should be about 512 billion euros. That is a large number (13.1 percent of total assets or liabilities) but proportionally much smaller than in the United States, where excess reserves stood at \$1.986 trillion (44.1 percent of total assets or liabilities) on October 26, 2016, the last reported date. The Fed pays holders of excess reserves 0.50 percent positive interest (\$9.9 billion annually at current values).

The United Kingdom has not yet entered negative territory for interest rates, the June 23, 2016, Brexit vote and subsequent reduction of the exchange rate for the pound having spared the United Kingdom that necessity (1 pound = \$1.2514 at current rates, down from \$1.42 a week ahead of the Brexit vote, a 12 percent reduction). The Bank of England's lending rate has been 0.25 percent since August 4, 2016.

The Bank of Japan reduced its lending rate from 0.1 to 0 percent on February 1, 2016. It has been pursuing an off-and-on QE strategy since 1995 (Cooke and Gavin 2014). Its balance sheet now stands (end-October 2016) at 463.392 trillion yen (\$4.495 trillion at current rates, \$1 = 103.089 yen), a surprisingly large amount (about the same size as the Fed) for a much smaller economy. U.S. GDP = \$18.651 trillion as of 3Q2016; Japanese GDP = \$4.123 trillion.

Back to Vice Chairman Stanley Fischer's October 17, 2016, speech again:

Fourth on my list are developments abroad: Many of the factors depressing U.S. interest rates have also been working to lower foreign interest rates. To take just one example, many advanced foreign economies face a slowdown in longer-term growth prospects that is similar to that in the United States, with similar implications for equilibrium interest rates in the longer run. In the FRB/US model, lower interest rates abroad put upward pressure on the foreign exchange value of the dollar and thus lower net exports. FRB/US simulations suggest that a reduction in the equilibrium federal funds rate of about 30 basis points would be required to offset the effects in the United States of a reduction in foreign growth prospects similar to what we have seen in the United States.

One always should consider the possibility that, in citing constantly the Board staff's FRB/US model, Fischer is giving us a wink and a nod and implying that he does not really believe it either. But if that model's projections hold in this case, it is difficult to argue that continued pegging of the federal funds rate (up to 0.50 percent), the guaranteed or floor rate on the Fed's reverse repo operations (now 0.25 percent), and the payment of interest on excess reserves make any sense in light of the rate structures now prevailing in our major trading partners. I conclude that Fisher's observation here makes sense even if the exact number derived from the FRB/US model is wrong.

### What Is the Fed's Exit Strategy?

I certainly hope that we have stopped. At historic, precrisis reserve ratios (measured as Fed balance sheet versus GDP), the Fed was about 6 percent of the total economy. Today, it is just below 25 percent of the economy. In development finance in the 1980s and 1990s, a rule of thumb for World Bank economists was that a ratio of central bank assets to total economy greater than 25 percent indicated that one was dealing with a thoroughly corporatist economy. Think crony capitalism. It is hard to examine the official handling of the 2008 crisis and conclude that anything other than the observed outcome was intended from the very beginning, as far back as 1992, when many fundamental principles of central banking, bank supervision, and personal ethics began to be forgotten in the aftermath of the enactment of FDICIA, the last emphatically "no bailouts" (or no crony capitalism) banking statute passed by Congress.

The Dodd-Frank Act of 2010 has so many loopholes that one could staff an army of cronies on the other side of its supposed barriers between financial institutions on one side and taxpayers on the other side (Barth and Kaufman 2016, Phillips 2016). Especially unfortunate was how Dodd-Frank left largely intact the whole Federal Reserve Act Section 13(3) emergency lending mechanism when that section should have been repealed altogether. Yes, a lot of new restrictions are built into such lending by Dodd-Frank, but willing minds will evade or ignore those restrictions when the moment is deemed sufficiently dire.

It is important that emergency lending backed by taxpayer resources be prohibited for unelected government officials. Any such lending should be approved explicitly by Congress, which should be

willing to take the political heat for passing appropriations bills to fund it. And it is important that no central bank emergency lending occur because the political difficulty of funding it properly inevitably leads to gamesmanship and excessive cuteness like QE and the buildup of excess reserves, expanded reverse repurchase agreement facilities, and foreign exchange swap lines unlimited in duration or amount. All of these things would have been unthinkable in U.S. and German central banking circles 40 years ago, and yet here we are today. It is for these reasons that, in a recent speech (Todd 2016), I referred to “Emergency Lending: The Gateway Drug to Quantitative Easing and Other Monetary Disorders.” Exit strategies are needed on a number of fronts.

The Fed has not added significantly to its securities holdings for over a year, but it has not disposed of very much, either. Because of funding pressures in Europe and elsewhere that emerged this year, foreign banks’ excess reserves at the Fed have been drawn down about \$400 billion from levels of a year ago. They are still large (about \$800 billion) and still constitute about 40 percent of the total of excess reserves. Think of it as \$4 billion of the \$10 billion annual cost of paying interest at 50 basis points on excess reserves.

Meanwhile, and quite interestingly, the following puzzle has emerged this year.

### A Mystery and a Possible Solution

The Treasury’s General Account balance at the Federal Reserve Bank of New York averaged \$417.665 billion during the last reported week ending November 4, 2016, an increase of \$387.870 billion from the same week a year earlier. Current reported balances for the Treasury’s accounts are the largest since the Treasury and Fed created the Supplementary Financing Account during the 2008 crisis (\$558.851 billion in the first week of November 2008).<sup>8</sup>

The Supplementary Financing Account essentially was just having the Treasury issue to the Fed a special, nonmarketable security to offset the loss of Treasuries from the FOMC’s portfolio while the Fed still was trying to sterilize its emergency lending activities in the fall and winter of 2008–09. The security apparently was commingled

<sup>8</sup>Comparable amounts from earlier years were \$111.872 billion from 2014; \$34.358 billion from 2013; and \$53.905 billion from 2012 (Board, H.4.1 releases for relevant dates, accessed November 4, 2016).

with the rest of the Fed's holdings of Treasuries and could be pledged to secure the currency issue.<sup>9</sup>

Since September 2014, the Fed has offered an expanded reverse repurchase agreement (reverse repo) facility to designated nonbank financial institutions, many but not all of them connected to primary dealers, to absorb and immobilize part of the excess reserves in the monetary system. In that facility, the Fed essentially lends out its own securities holdings (Treasuries are the ones most in demand) and holds cash (excess reserves) tendered to it by those approved counterparties. To minimize the actual movement of the securities, they are placed with approved triparty repo custodians, and all subsidiary transactions occur on the custodians' books (Federal Reserve Bank of New York 2014). Prior arrangements for reverse repos with foreign central banks, official international entities, and U.S. government agencies continue.

The regular overall volume of reverse repo transactions has grown so large (\$414.938 billion as of November 2, 2016) that it causes a large amount of Treasuries and other securities to be held outside the physical custody of the New York Fed. These securities are the collateral in tri-party repo transactions (reverse repos for the Fed). The Federal Reserve Agent's Statement at the end of the H.4.1 release now contains a new note showing a deduction from securities available to pledge as collateral for Federal Reserve notes for the amount of securities out on reverse repo. That amount was \$388.186 billion as of November 2, 2016.

Apparently, it was the need to cover the amount of securities tied up in reverse repos that triggered the Treasury's new issuance of an offsetting security to the Fed, which might explain the great increase in the Treasury's General Account balance this year. However, when this practice last was followed in 2009, for example, the Fed's liability account for this entry was given a separate designation, the Supplemental Financing Account. At present, these funds appear to be held in the Treasury's General Account.

There may be an alternative explanation for the growth of the Treasury's account at the New York Fed, but thus far, this seems most likely. Another possibility is that the Treasury issued an equivalent amount of securities in the market and deposited the proceeds

<sup>9</sup>See Federal Reserve Agent's Statement at end of Board's H.4.1 release for relevant dates.

in order to offset the withdrawal of excess reserves by foreign banks over the same period, holding the Fed's balance sheet constant. But in the absence of such a deposit, the Fed's balance sheet would be shrinking, which ordinarily would be deemed a good thing. If the latter explanation is the reason, it bears a public explanation of why the Fed would not seize upon a comparatively benign means of shrinking the balance sheet. We patiently await other official explanations.

We need an exit strategy, and it may be that actions like those just described are impeding exit, or at least shrinkage.

## Conclusion

Monetary transmission mechanisms through traditional and reasonable channels have stalled. The main choice is to attempt to bring back the former economy, at least the financial part, so that the traditional methods might work again, or to accept the new, Fischerite economy (and I do not disagree with his description) and to devise new methods of dealing with it. Unfortunately, I think we are dealing with Fischer's economy using traditional monetary methods. That is a formula that simply will not work, as the generation-long experience of Japan has shown.

More accurately, I think we need to observe what the new economy (low growth/slow growth due to slowing productivity growth and increased global competition) requires us to do and then choose either to dig in to force it to compromise with accepted standards of human behavior or to decide to join it and see how we can exploit the little gains that it produces for our own advantage, and phooey on standards of behavior. I'd like to be in the former camp myself.

To that end, I hereby recite a list of things to do and not to do:

1. The central bank absolutely should not lend to anyone whose books it does not examine. If such loans have to be made by somebody for political reasons, then let the politicians (Treasury and Congress) make those loans through established channels.
2. The Fed needs to give up its extraordinary methods as soon as possible if it is to be preserved in anything like its present form. We already have the New York Fed behaving as an investment banker (Maiden Lane and Maiden Lane II and III). Apparently it also fancies itself Lender of Last Resort to the entire world through the dollar swap lines.

3. There needs to be a bipartisan or nonpartisan study commission to review the entire monetary policy operational structure of the Fed. The first question of each witness should be to ask by what warrant of authority that person does what he or she does, with the same warrant of authority question for the counterparties with whom transactions occur. The same goes for collateral acceptability at the discount window and eligibility for purchase by the Open Market Trading Desk.
4. The Open Market Trading Desk should be redivided into its traditional areas of responsibility, with persons of equal rank heading each division. The concept of a balance of powers and checks and balances needs to be reestablished in the monetary policy areas. Traditional divisions included Discount Window (for lending), Domestic Open Market Operations, Foreign Exchange Operations, Foreign Relations (nonoperational dealings with foreign central banks and operation of the gold vault), Credit Analysis and Legal Divisions (separated), and Treasury Operations (this latter division should not have authority over any of the other divisions). Supervision and Regulation needs to inspect the books of any entity to whom the Fed is expected to lend or whom the Fed is expected to list as a counterparty in open-market operations. The Audit Committee of the Directors of each Reserve Bank should be charged with seeing that these divisions and proper lines of accountability are maintained.

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