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Reforming the Federal Reserve for the 21st Century

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Evolution at the Federal Reserve

The 1913 Federal Reserve Act created an institution with very limited powers. President Wilson's compromise resolved the main political obstacle to passing the act. The Reserve banks became semi-autonomous, controlled by their managements and directors. Boards of directors had the power to reject portfolio decisions. The Board in Washington had (undefined) supervisory responsibility.

The United States was on the gold standard, limiting Federal Reserve actions to the requirements of that rule. In addition, the new system authorized Reserve banks to discount commercial paper, banker's acceptances, and the like. The discounting operation was always at the initiative of the borrower. Also, the act prohibited any direct purchases of Treasury debt.

All of these restrictions ended long ago. The gold standard limped to an end in the 1930s. Discounting became an unimportant part of the Federal Reserve's activities, and a limited volume of direct loans to the Treasury replaced the prohibition. Far more important, reliance on open market operations circumvented the prohibition on direct purchases of Treasuries. Currently, and for many ears, the Federal Reserve has bought or sold unlimited amounts of Treasury securities in the market at the time of the offering or at any subsequent time.

This transformation occurred in steps, many of them in response to major crises especially the Great Depression, the Great Inflation, and the current prolonged recession and slow recovery.

The Reserve banks won the initial struggle for control. Under the leadership of Benjamin Strong, Governor of the New York bank, they dominated policy decisions in the 1920s until Strong's retirement in 1928. The Board did not have a vote at meetings of the Federal Open Market Committee. Although Board members attended at times, they were not committee members.

Within months of Strong's departure, Board members gained influence. Later, the Banking Acts of 1933 and especially 1935 shifted power toward the Board by giving the Board a majority on the new Federal Open Market Committee and eliminating the power of Reserve bank directors to decide on their bank's participation in open market purchases or sales.

During the Great Inflation, Congress amended the Federal Reserve Act by adding the so-called dual mandate. After the recent housing and financial crisis of 2007-09, Congress approved the Dodd-Frank bill containing hundreds of regulations on banks. The act further reduced the much diminished role of Reserve bank directors.

Among the many new regulations is the use of Federal Reserve earnings to allocate credit toward consumers. The Fed had previously resisted credit allocation, but it will henceforth finance it out of its earnings without any right to decide on the allocation. The right is reserved to the director of the consumer agency now embedded into the Federal Reserve Act. The director does not report to the chairman, the Congress or anyone else. And although the earnings that the director uses would otherwise return to the Treasury as receipts, Congress does not vote on the allocation. Political decision-making is now unavoidable.

This change is a startling reduction in the mandated independence of the Federal Reserve. Federal Reserve independence has often been compromised but never before by act of Congress. Earlier examples, discussed in my *History of the Federal Reserve* (2003, 2009) include financing wartime deficits, acceding to pressure from Secretary Morgenthau in the 1930s, maintaining pegged interest rates after World War II until the 1951 Accord, financing 1960s and 1970s budget deficits and recent decisions to purchase mortgage-backed securities, a fiscal operation, and to manage the debt.

Once Congress understood the importance of monetary expansion for employment, it took extraordinary effort and a strong chairman to remain independent. Paul Volcker was an independent Chairman. Alan Greenspan also remained relatively independent. Others were willing to compromise. The current Federal Reserve has engaged in such non-monetary functions as fiscal policy, debt management, and credit allocation.

To sum up the evolution, I conclude that the Federal Reserve evolved under pressure of events and political responses to crises from an independent agency with constrained powers to become the world's major central bank with nearly unrestricted ability to expand. It retains a vestige of its independence, but it pays the price of much reduced independence for its greatly expanded authority. Within the system, power has shifted from the Reserve banks to the Board of Governors, and the Reserve bank directors have a greatly diminished role.

From the start of the system, the popular view saw the Reserve banks as representatives of business and the Board as reflecting political influence. Increased power of the Board shows

increased political influence that rose with diminished independence. No one familiar with political Washington should be surprised to find that increasing Board power greatly increased political influence and much reduced independence. Looking across the Atlantic, we find that the tightly constrained European Central Bank according to its original charter has become much more responsive to political pressure also.

Among the notable failures of recent years is the failure of Congressional oversight. As noted, Dodd-Frank creates a virtually unconstrained consumer credit agency. The Federal Reserve has doubled and redoubled its balance sheet in the recovery from recession without any vote of approval by members of Congress. This violates the principle of checks and balances and Congressional oversight of spending that is fundamental in our federal system.

I believe that Congress has the urgent task of asserting that the Constitution gives Congress control of money creation. To reclaim its responsibility to control its agent, the Federal Reserve, it must impose a rule that the Federal Reserve must follow. One such rule that embodies the dual mandate is known as the Taylor rule. The Federal Reserve should be required to follow that rule and should inform the Congress and the public of what it expects unemployment and inflation to be two or three years in the future. If it fails to meet its pre-announced targets, it must offer an explanation and resignations. Congress or the administration would be empowered to accept the explanation or demand resignations. That closes the large gap between Federal Reserve authority and political responsibility. In the years since 1985 when I proposed this control to the New Zealand Reserve Bank, more than 20 countries have adopted some form of the rule. The Congress should do so to maintain its constitutional responsibility under Article 1, Section 8.

Why Independence Declined

The principal reason for central bank independence is to separate money creation from the financing of government. It has long been understood that financing government by creating money causes inflation. Enforcing and maintaining independence is often difficult. Wartime is one example. Society's main interest is winning the war, so concern about inflation diminishes. Inflation rose during most wars followed by deflation or disinflation after peace returned.

After World War II governments proposed systematic monetary actions to manage unemployment and economic activity. They agreed also to maintain fixed but adjustable

exchange rates. When the United States' domestic policy came into conflict with its obligations to reduce balance of payments deficits (or a declining surplus), policy actions supported employment. In the 1960s, as inflation rose, the Kennedy and Johnson administrations adopted controls to manage the payments problem temporarily. The Federal Reserve considered the balance-of-payments to be a Treasury problem. It cooperated with the administration by lending money to the Treasury to finance so called swap arrangements that financed U.S. borrowing of foreign exchange. These direct loans to the Treasury's Exchange Stabilization Fund were called "warehousing" to hide the violation of direct lending to the Treasury. Bordo, Humpage, and Schwartz (2011), has a full account of the swap operations. (See also Meltzer 2003)

The fixed exchange rate system ended in 1971 when President Nixon stopped further gold sales. Attempts to revive the system failed; in 1973 these efforts ended. The Federal Reserve continued to intervene in the exchange market at times. The Treasury requested some of the intervention.

One of the major mistakes made by the Federal Reserve in the 1960s became known as policy coordination. The main idea was to keep interest rates from rising during periods of fiscal expansion. Coordinating policy actions meant that the Federal Reserve financed large parts of a fiscal deficit by issuing money. In principle, but not in practice, the Federal Reserve would raise interest rates when the Treasury ran a surplus to slow or stop inflation. Policy coordination in the recent recovery took the form of financing large parts of the government deficit at very low interest rates. The unwinding of that massive operation is a major economic challenge of the rest of this decade.

Two major flaws soon appeared when policy coordination occurred in the 1960s. The Treasury did not achieve surpluses and did not coordinate with the Federal Reserve to reduce inflation. The Federal Reserve sacrificed its responsibility for an independent monetary policy. And it could not, or did not, prevent inflation from rising during the 1960s and 1970s. In part, Federal Reserve failures in the 1960s reflected Chairman Martin's belief that since the Federal Reserve was part of government, it should not refuse to finance large parts of a budget deficit that Congress approved and the president signed. But it also reflected the political decisions of the Burns era.

The policy failure ended in 1979-80 when Paul Volcker, as Federal Reserve chairman, set out to reduce inflation. To succeed, he abandoned policy coordination, dismissed the Phillips

Curve relating unemployment and inflation, reduced control of short-term market interest rates, announced the Federal Reserve's intention to control bank reserves and monetary aggregates, and he adopted a medium-term strategy to reduce inflation. Like his predecessors, he had one main objective. Theirs was lower unemployment; his was lower inflation.

Volcker rejected the idea that inflation rose as a trade-off for lower unemployment. He emphasized, correctly, that the two measures both rose in the 1970s and he predicted they would decline together under his policy. He was right. The anti-inflation policy that he managed reduced both inflation and unemployment in the 1980s.

Volcker gave many speeches and much testimony in Congress claiming that the way to lower unemployment was to lower inflation. This is the anti-Phillips Curve policy. It worked very well from 1985 to about 2003. The current Federal Reserve restored the Phillips Curve, a repeat of the mistakes of the 1970s.

There is much more that can be said about Federal Reserve errors that are costly to the public. Let me turn instead to the periods of greatest success. In its 100 year history, there are only two periods in which the Federal Reserve achieved both relatively stable growth and low inflation. In both periods, the Federal Reserve followed a rule, not precisely but consistently.

The first period is 1923-28, when the Fed was on a gold exchange standard and several major countries Germany, Britain, and in 1928 France restored a fixed gold price rule. Other countries joined also.

The Federal Reserve's commitment to the rule was not complete. The principal exception was that it would not inflate, so it sterilized most gold inflows. This led to the breakdown of the rule; countries losing gold had to deflate, but the principal countries receiving gold – France and the United States – chose to sterilize the inflow.

Britain was the main country required to deflate. France and the United States were the principal recipients. Nevertheless, when the rule was generally observed, from 1923 to 1928, the United States had growth, a mild recession in 1926, and low inflation.

The second rule-based period is 1985 to 2003, during which the economy had a long period of relatively stable growth, mild recessions and low inflation. The dates are not known precisely. The rule is the Taylor (1993) rule or a variant that weights unemployment and the expected inflation rate. The choice of variables are the same as in the dual mandate that

Congress adopted. Inflation has a large weight to assure that inflation raises nominal interest rates.

Discretionary policy never produced comparable results. Its best period is probably 1953-57 before the recession of the later year. I exclude wartime years from the comparison because the Federal Reserve's actions, like those taken by the other institutions, concentrated on actions that helped to finance the war.

Economic theory, following Kydland and Prescott's (1977) paper shows that central banks must follow a rule to achieve an optimum outcome. The evidence from Federal Reserve history shows that evidence supports theory. Rules help the country to achieve economic stability; but we live in an uncertain world, so I must add that surprises and disappointments will occur under rules or rule-based policy. Of course, the same is true of discretionary policies.

The Federal Reserve recently sacrificed independence by engaging in fiscal policy actions, debt management, credit allocation, and by supplying hundreds of billions of dollars of bank reserves. I believe the only way to restore independence would be to adopt a rule that the Congress accepts. Then the Federal Reserve must make rule-based policy credible by following it. If events compel departure, announce the departure and offer its analysis of the decision along with offers to resign.

The Fed's Principal Errors

Any organization that must repeatedly make judgments about future events will, at times, make errors. In an uncertain world, we expect errors of forecast and errors in the action based on those forecasts. In my history of the Fed, I compare quarterly forecast errors in real GDP and inflation to the data revisions. For the period I studied, the 1970s and 1980s, forecasting errors are substantially larger than data revisions. (Meltzer, 2009) For other years, I compared the Fed's forecast errors to forecasts by others. On average, the Fed forecast errors were about the same as others. (Meltzer, 1987)

In my 1987 presidential address to the Western Economic Association, I summarized errors reported by forecasters for quarterly values of real and nominal GNP growth rates and for inflation. Federal Reserve errors are not very different. To compare these data to a benchmark, I report the mean growth rates of the variables for 1970-85. Average real GNP growth rate was 2.7 percent, average inflation was 6.7 percent, and the growth rate of nominal GNP was 9.5

percent for 1967-82 and 9.9 percent for 1970-83.¹ Comparison of these data to the average growth rates shows that the reported root mean square errors (RMSE) are a sizeable fraction of the actual growth rates for real and nominal growth. Using twice the value of the RMSE as the range within which real GNP growth can fall during the quarter covers the range from deep recession to strong boom. As one example, the median RMSE reported by Zarnowitz for 1970 to 1983, 3 percent exceeds the 2.4 percent average growth for the period. On average forecasters do not distinguish between booms and recessions beginning in the same quarter.

Table 1 here

The Federal Reserve history shows many examples of forecast errors leading to mistaken actions. When Congress in 1967 at last approved the tax surcharge that President Johnson had finally requested, the Federal Reserve and the administration forecast a recession. The Federal Reserve reduced interest rates. The temporary surcharge did not slow spending growth. Inflation rose instead of falling as forecast.

From the mid-1970s to the early 1980s, the Federal Reserve inflation forecast was below actual inflation for 16 consecutive quarters. The staff used a Phillips Curve to forecast inflation. There is considerable research showing that Phillips Curve forecasts of inflation are unreliable.²

When Paul Volcker became chairman of the Board of Governors, he told the staff that its inflation forecasts were inaccurate. He repeated the message publicly and in Congressional testimony. As chairman, Alan Greenspan told the staff that he did not find the inflation forecasts useful. Like Volcker, he explicitly rejected the Phillips Curve. Under chairman Bernanke, Phillips Curve forecasts have been restored.

Paul Volcker not only rejected use of the Phillips Curve, he developed and promoted what I call the anti-Phillips Curve. Unlike the staff approach relying on quarterly data, Volcker emphasized longer-term responses. His approach, based on empirical observation, was that during the 1970s, inflation and real growth or the unemployment rate rose and fell together. There was no tradeoff in the longer period. In a television program as early as 1979, shortly after announcing his new policy procedure of targeting reserve growth and allowing interest rates to be set in the market, he was asked what he would do when unemployment rose and his policy

¹ The percentages are computed from data reported at the time. Subsequent data version may change the growth rates.

² One reason is that the data Phillips used are mainly for the years in which Britain was on the gold standard. The gold standard restricted expected inflation.

reduced inflation. His reply cited the co-movement for the 1970s when unemployment rates and inflation rates rose together. He predicted that they would fall together under his policy. They did. His prediction was correct.

One result of his successful policy of lowering the inflation and unemployment rates was widespread acceptance of his anti-Phillips Curve analysis: the way to get a low unemployment rate was to follow policies that yielded low inflation rates. Such policies encouraged investment and growth. Reliance on the Taylor rule to guide policy from the late 1980s to the early 2000s reinforced this good result.

Unfortunately, reliance on a policy rule to guide actions ended when officials and market participants incorrectly forecast deflation after 2003. Policy shifted to discretionary action that helped to finance a housing boom. By keeping interest rates low, the Federal Reserve financed much of the housing boom. Federal Reserve policy was not the main cause of the housing boom and collapse. Housing policy by both political parties endorsed no down payment mortgages for buyers with no credit rating. Government agencies bought a large share of the risky mortgages and offered bankers and mortgage broker's large profits for supplying mortgages to the government mortgage companies.

Volcker knew that policy would not lower the inflation rate quickly. He adopted a longer-term strategy. He did not ignore current data, but he continued to also act to achieve his longer-term goal.

When reading transcripts of open market meetings through 1986, I was surprised to find little attention or discussion of expectations of medium-term results of the actions decided at the meeting. No statements are found such as "if we take this action today, I expect growth and inflation to be in the following range next year." Members see Board staff forecasts of future events made before policy action is selected. Most have their own staff forecasts. Rarely do the members explore differences. Members submit quarterly forecasts of future economic conditions, but these also do not appear to be influenced by the action taken at the meeting.

The result is that current events, market and administration or Congressional pressures drive decisions to focus heavily on near-term events over which monetary actions have little effect and too little on achieving medium-term stability with low inflation and relatively stable growth. As I have emphasized here and elsewhere, in the two periods when the Fed more or less followed rules, policy was more successful than under discretion. A main reason, I believe, is

that following rules stabilizes policy actions by forcing more attention on achieving medium- and longer-term outcomes based on the rule. The very successful Deutsches Bundesbank combined short-term market information and medium-term objectives by choosing a monetary growth rate to indicate that policy actions tightened or eased too much or too little to maintain medium-term price stability or low inflation.

Adopting and following a rule would induce the policymakers to give more weight to medium- and longer-term objectives. An explicit rule provides information to markets, investors and consumers that they use to make their plans. In the absence of a rule markets are more volatile. They have less information about the path to be followed, so they interpret statements by the chairman and other members. The excess variability generated is costly and wasteful.

A problem closely related is the excessive attention given to short-term data. Standard economic theory distinguishes between temporary or transitory and permanent or persistent changes. To gain confidence that policy distinguishes between persistent and transitory events, policy actions must of necessity allow enough time to pass to avoid over-response to transitory changes. Many economic variables of interest are noisy. Real GDP growth and unemployment rates are examples of particular interest.

The Federal Reserve responds to temporary changes in reported inflation rates by removing volatile changes in the prices of food and fuel. All such changes are not transitory, so this procedure is flawed. A better way to separate temporary price changes would use the procedures developed in Muth (1960).

Some Federal Reserve officials deny my claim that their actions overweight relevance of current and near-term data. It is true that the chairmen and many others talk about medium- or longer-term objectives. Statements about future inflation, emphasizing determination to prevent it, are familiar. But statements differ from actions.

Minutes or transcripts during the period of rising inflation in the 1970s contain many statements about the importance of acting to reduce rising inflation. When unemployment rose, anti-inflation policy ended, replaced by actions to lower interest rates in response to higher unemployment. A main result was that both inflation and the unemployment rate rose. Market participants and the public learned that reducing unemployment had priority. Expected inflation did not decline as it had in 1966.

In the summer of 2010, many traders reported slowing growth, warning that the economy faced renewed recession and deflation. The Federal Reserve promptly responded by announcing an additional \$600 billion of purchases of long-term securities. Within a few months, it became clear that the country did not face renewed recession and deflation. The forecast error cannot be explained by the additional stimulus. Stimulus had not started or been approved; and when adopted had little if any effect. \$500 billion of the additional \$600 billion of new reserves went to idle excess reserves.

Alarmed by reports of low job growth and a failure of unemployment rates to decline, Chairman Bernanke and other members of FOMC called for additional stimulus in the summer of 2012. Initial reports of job growth for July and August 2012 showed 141,000 new jobs in July and 96,000 in August. These data heavily influenced a decision to begin a large scale expansion of reserves to lower interest rates, especially mortgage rates.

Shortly after the Federal Reserve announced the stimulus, job growth data changed. The revisions added 86,000 jobs, 40,000 for July and 46,000 for August. No one can be certain that the revised numbers are correct. Muth's (1960) model does not ignore current data. To separate permanent from transitory changes, it applies weights based on the relative variance of permanent and transitory changes.

Higher future inflation is a likely cost of the Fed's over-reaction to noisy employment data. Staff and officials dismiss this problem saying that they have only to raise interest rates enough to stop inflation. This response is extremely misleading for several reasons.

One reason is that banks have more than \$2 trillion of excess reserves, so they can ignore small changes in interest rates. Interest rates are lower than at any time in history, so small increases will not be sufficient. And larger changes will put pressure on the Federal Reserve. Members of Congress, the administration, business groups, labor unions, and many of the public will object that after a long recession and years of slow growth, urging the Federal Reserve should not permit a new recession.

Further, the U.S. Treasury debt held by the public outside government sector (including the Federal Reserve) reached more than \$12 trillion dollars at the end of July 2013, and it continues to rise rapidly. Average maturity is about 5 years, but 40 percent has less than 2 years to maturity. Each one percent increase in interest rates increases interest payments within two years by at least \$36 billion for each percentage point of interest rate increase, so a 3 percentage

point rise in bond rates adds more than \$100 billion to government spending. Using the average share held by foreigners at this maturity, about 1/3, implies that the balance of payment deficit rises by almost \$50 billion a year. This is a conservative estimate because it neglects guaranteed debt that adds to both deficits and privately issued debt partly owned by foreigners.

In its 100 year history, the Federal Reserve never agreed on the model of the economy. I do not find much evidence that they try to reconcile differences about how the economy works. The Board staff has a model of the economy, but Reserve banks use different models. When members of the Federal Open Market Committee offer forecasts, the forecasts are based on different models often modified by judgments. I have not found any serious effort to reconcile differences or to explain their source. There is nothing that can properly be called the Federal Reserve forecast.

In the past, the Federal Reserve used several different models or paradigms. It has a history of mistakes. At first, the Board relied on the real bills doctrine and the gold standard. Later, free reserves and tone and feel guided actions, then a simple Keynesian model with an unconstrained Phillips Curve that accepted a permanent trade-off of higher inflation for reduced unemployment rate. None of these guided actions to achieve low inflation and relatively stable output growth. Guidance based on the Taylor rule substantially improved performance.

Recently, the Board staff and principal members used a model based on Woodford's (2003) elegant modeling. This, too, is deficient. In the model, money and credit do not matter for monetary policy. And prices of assets are not part of the transmission mechanism. Only short-term interest rates and rational expectations are relevant. How could we have a credit crisis? Could anyone believe that the decline in housing prices was a rationally expected response to policy?

I find it incredible that a central bank ignores changes in money and credit. Simply put, that is a mistake that not only ignores much that economist have learned about monetary economics from analysis and history. No less surprising is the total neglect of the role of asset prices in the transmission of monetary impulses. Earlier work by Brunner and Meltzer (1993) and by Tobin (1969) did not neglect asset prices or credit.

A perennial issue in many countries is the choice between domestic price stability and exchange rate stability. No country acting alone can achieve both domestic price stability and stability of its currency. International agreement must supplement domestic policy.

For many years I have proposed an international arrangement that achieves both ends for countries that choose to participate. The arrangement is voluntary and requires no meetings to coordinate policy. Countries that participate achieve low inflation and greater stability of exchange rates.

Major countries agree to follow domestic policies to hold their inflation rates between zero and two percent. The United States, the European Central Bank, and the Bank of Japan have accepted this policy objective. If China removes exchange controls, it could choose to be a fourth member by adopting the common inflation rate. The three or four main currencies would float to adjust to changes in relative productivity and demand.

All other countries that chose to peg to one or more of the major countries would import price stability and maintain a fixed exchange rate. Their decision to peg their exchange rate permits major countries to trade with them at a fixed exchange rate. The world gains a public benefit.

There is no organized coordination arrangement. Like the gold standard discipline is enforced by markets. If one of the major countries runs large budget deficits, markets will depreciate the currency. As Bordo and Schwartz (1984) showed, the system will not work without error or deviations, but it will increase stability.

If major countries adopt and announce a rule for monetary policy, such as the Taylor rule, market monitoring will be more effective and uncertainty about monetary policy will be reduced. Further, of major importance, a monetary rule that limits central bank financing of government deficits requires increased fiscal discipline.

Discretionary policy produced the Great Depression the Great Inflation and many periods of inflation and recession. Exchange rates have varied over a wide range. Rule-based policy will not be perfect. The future is uncertain and unanticipated changes occur. But uncertainty about policy will be lessened.

I have often proposed that the Federal Reserve announce its provisional targets for two or three years ahead. If it fails to achieve its targets, it would offer an explanation and resignations. The political authorities could choose. This proposal reduces the gap between authority for policy decisions and outcomes and responsibility to the public when policy errors occur. The Federal Reserve has authority to act, but elected officials are punished when the economy falters.

Finally, following the recent financial crisis and in its aftermath the Federal Reserve has engaged in fiscal actions, debt management, and has quadrupled the size of its balance sheet. I believe no agency of government should have as much independent authority. We profess to have a limited government. The Federal Reserve has acquired unlimited authority. Congress should not permit that power to continue without oversight and prior agreement.

Financial Stability

The 2007-09 financial crisis concentrated attention on financial stability. Here, again the Fed failed to prevent the crisis, then responded appropriately to prevent collapse of the economy.

In the United States, the Dodd-Frank law brought nearly 400 new regulations according to one count. The law is a poor substitute for a program that increases financial stability by providing proper incentives.

The Dodd-Frank law and Federal Reserve regulation is unlikely to achieve its stated objectives. Skepticism is warranted because the law shifts responsibility from bankers to policy agencies. We know that regulators had agents in all the major banks prior to the 2008 crisis. The agents observed all transactions; they did not reject any.

Further, regulators permitted financial institutions to increase leverage and ignore capital requirements. Regulatory capture is well-known and ever present.

In its first 100 years, the Federal Reserve has never announced a rule governing its role as lender-of-last-resort. The absence of a rule prevents banks from anticipating policy action and preparing portfolios to prevent failure. The proper way to increase stability is to increase banks incentive to avoid excessive risk-taking. To do that the law should require banks to hold considerably more equity capital.

A major mistake in regulatory policy is the decision to protect bank failures. A proper policy would protect the public by preventing collapse of the payment mechanism. The threat to the economy comes from the collapse of the payments system and the spread of panic from one lender to others.

In its first 100 years, the Federal Reserve has never announced a lender-of-last-resort policy. Every banking crisis brings some actions, but there is never an announced rule. Bagehot's famous criticism of the Bank of England's policy did not fault its actions. Bagehot's

(1873) criticism was that the Bank did not announce its policy in advance. My proposals for financial stability remove the nearly 400 regulations in the Dodd-Frank law and adopt four rules.

1. A clearly stated rule governing the lender-of-last-resort. Bagehot's rule, lend freely against good collateral at a penalty rate remains appropriate.
2. Protect the payments system, not the bank, banks, or bankers.
3. Implementing the first two rules, prevents the problem from spreading to other banks and financial institutions.
4. Require regulated large banks to hold at least 15 percent equity capital against all assets.

When these rules were in force, they prevented bank crises.

Bagehot's criticism of the Bank of England applies to the Federal Reserve. By announcing and following a policy rule, the Federal Reserve would notify banks about what it will and will not do. It gives them an incentive to hold collateral acceptable for discount at the Reserve Banks. It reduces uncertainty, surely a gain during crises. It also reduces the expected gain from failing banks asking Congress to press the Federal Reserve or others for bailouts. And if banks follow the rule by holding collateral and larger equity reserves, fewer fail.

A policy rule for too-big-to-fail should not be the main way to prevent failures. Far more important is a rule that prevents most failures. Congress should enact equity capital standards for banks. I propose that beyond some minimum size, equity capital requirements should increase with asset size up to a maximum of 20 percent of assets. Losses would be borne by stockholders. The Federal Reserve and other regulators would monitor capital requirements. Outside auditors would certify that the requirements are met. Equity capital of 15 to 20 percent would restore capital for large banks to where it was in the 1920s. (Meltzer, 2012)

As the Federal Reserve reaches its one hundredth anniversary, it seems appropriate to consider its strengths that should be maintained and its weaknesses that should be corrected. Its greatest strength are its strong esprit de corps and the fact that it has adapted from the very restricted agency created in 1913 to the world's most powerful central bank. And to its great credit, it has not had a major scandal or impropriety. A few examples of "leaks" ended when the Fed started to announce its decisions.

Several of the Fed's failures are well-known. The Great Depression and the Great Inflation are part of its record. The Fed has many other flaws. One of its major mistakes is the

excessive attention it gives to current data about which it can do little. It rarely acts to change the medium and longer-term over which it has much more influence. When writing Fed history, I was surprised, and dismayed, that one hardly ever sees statements about what the members expect to happen a year from now as a result of the actions taken at its meeting. True, the staff provides forecasts about the future, but these are made before policy action is decided. I did not find much useful discussion of the forecasts. Both Paul Volcker and Alan Greenspan told the staff several times that its inflation forecasts based on the Phillips Curve were not useful. But the Phillips Curve is still central to the inflation forecasts that Chairmen Volcker and Greenspan found useless.

Two main reasons explain why the Fed should give more attention to the medium- and longer-term. First, many changes are transitory. The economic data in the 2012 winter are one of many examples. Data do not tell us immediately whether the reported improvement was temporary or would persist. We didn't learn the answer until weaker data returned in the spring.

Yes, the high, current unemployment rate is a serious human and economic problem. But the Fed can permanently reduce unemployment only if the problem is monetary. The very expansive monetary policies of the past four years helped during the crisis of 2008-9, but not currently. Our problems are mainly, real- and long-term. With mortgage rates lower than ever before and housing showing very sluggish recovery until recently, what can be gained by dropping the mortgage rate another small fraction? Business investment is held back by massive uncertainty. No one can reliably calculate the tax rates, health care costs and regulatory burden. How can corporate officers calculate expected return when they cannot know these future costs? That's a REAL problem, not a monetary problem. More Fed stimulus cannot permanently reduce real problems.

From about 1985 to 2003 the Fed achieved relatively stable growth, short, mild recessions and low inflation by more or less following a Taylor rule. That's the only long period in postwar economic history when it achieved the dual mandate ordered by Congress. Rule-based policy brought much better outcomes than discretionary ups and downs. The Fed should commit to that quasi-rule and follow it.

Again, the United States has serious long-term problems. Instead of more short-term stimulus, we need a government that puts us on a path toward a balanced budget over time, mainly by reducing spending, and gets the Fed to start gradually reducing the massive pile of

excess reserves. Instead of denigrating and then ignoring Paul Ryan's courageous efforts, the administration should put a program on the table to control our funded and unfunded deficits.

Evidence is growing that many think higher inflation is in our future. One sign is the premium that investors pay to hold index-linked Treasury bonds that protect against inflation. Another is the amount of borrowing to buy agricultural land. A third is the shift by asset owners from holding money to holding equities and real assets. What many call "bubbles" cannot occur without a shift from holding money to owning real assets or claims to such assets.

One of the many costs of the Fed's excessive attention to the near-term is that it will wait until after the inflation is upon us before they do anything to stop it. Their view is that by raising interest rates enough, they can stop any inflation. True, but not entirely relevant. Will the politicians, the public, business and labor accept the necessary level of interest rates? Much past history says: "Don't count on it." Better to adopt a 21st century rule and begin gradually reducing excess reserves now. And for the first time announce and follow a rule for the lender-of-last-resort.

You, the members of this committee can play a more effective role. Adopt a rule that the Federal Reserve must follow. Require the chair to explain why they departed from the rule. Enforce the rule by requiring offers of resignation along with statements explaining departures from the rule. That will make oversight meaningful and will help you to fulfill the responsibility the Constitution assigned to the Congress.

Following announced rules is the best way to restore Federal Reserve independence.

Table 1
Quarterly Root Mean Square Forecast Errors, United States
Per cent Per annum

Variable	Time Period	Range	Median or Actual	Source
Real GNP Growth	1980/2-1985/1	3.1 – 4.4	3.8	McNees (1986) ^a
	1970 – 73		2.1	Lombra and Moran (1983)
	1970/4-1983/4	2.8 – 3.6	3.0	Zarnowitz (1986)
	1970/1-1984/4	4.4 – 5.4	4.7	Webb (1985)
Inflation	1980/2-1985/1	1.4 – 2.2	1.6	McNees (1986) ^a
	1970/4-1983/4	2.0 – 2.6	2.2	Zarnowitz (1986)
	1970/1-1984/4	1.8 – 2.1	1.9	Webb (1985)
Nominal GNP growth	1967-82		5.5	Federal Reserve ^b
	1973/82		6.2	
	1970/4-1983/4	3.5 – 4.3	3.8	Zarnowitz (1986)

^a12 forecasts early in the quarter. Median values for 3 late quarter forecasts: real GNP, 2.4, inflation, 1.4.

^bFederal Reserve “green” books, various issues.

1. Forecasts for other data that we have reviewed include interest rates, money growth, investment, trade balance and balance of payments. Forecast errors are usually larger for these variables relative to mean values.