It is a pleasure to have an opportunity to salute Alan Greenspan as he prepares to leave the Federal Reserve after outstanding leadership during 18 often tumultuous years. In its 92-year history, the Federal Reserve has had 12 chairmen, seven in the modern era. In my judgment, Alan Greenspan holds the top rank.

Lately, I am often asked by journalists to discuss his record. At first, I mention some of the obvious accomplishments, such as maintaining a long expansion penetrated by two brief and mild recessions with low or falling inflation. Per capita consumption in constant dollars increased 44 percent during the first 17 years of his chairmanship, and 27 million additional workers found employment.

Blinder and Reis do an exceedingly thorough job of analyzing the decisions and actions that make up this outstanding record. I will emphasize seven achievements that I believe will have a lasting influence on economic policy, the country, and the Federal Reserve. In fact, some of them have already. I have tried not to put them in order of importance.

First, think back to the 1960s and 1970s. A common belief was that a modern economy, such as ours, could not achieve full employment
with stable prices or low and steady inflation. In the Council of Economic Advisers’ *Economic Report* for 1962, James Tobin gave the reasoning and proposed wage-price guideposts as a way of improving the tradeoff. In the 1970s, Arthur Burns and many others blamed labor unions for inflation and the inability of a free economy to maintain full employment and low inflation without price controls or a wage-price board. Many economists told stories about why this was so. None of the stories explained why the alleged monopolists did not extract all the rents at once, so that prices or wages would be high but not rising excessively. And none was careful about the difference between relative prices and the price level or between relative price change and inflation.

In the 1980s, the Fed under Paul Volcker showed that with courage and perseverance, inflation could be reduced substantially without guidelines or controls. In the 1990s, under Alan Greenspan, the Fed showed that achieving high employment and low inflation was not an impossible dream in a free market economy. Controls and guidelines were unnecessary. Despite that bugaboo of all central bankers, some of the largest government deficits ever experienced in the United States came in this decade of growth and low inflation.

Second, beginning in 1994 and even more in the most recent recession and recovery, the Greenspan Fed followed a countercyclical policy. A familiar monetarist critique in the past was that falling or rising interest rates misled the Federal Reserve to misinterpret the nominal interest rate change as evidence of easier or tighter policy. It permitted money growth to decline in recession—lengthening the recession—and rise late in expansions, increasing inflation. After 1990-1991, monetary policy action avoided these errors. Blinder and Reis attribute the improvement to emphasis on real rates. Whatever the reason, improved performance by the Fed increased confidence in its ability to manage problems and avoid crises. I believe growing confidence in the Fed and other central banks increased welfare by contributing to lower variance of output and inflation in recent years. Since 1982, the United States has experienced two of the longest
expansions, interrupted by two mild recessions. And we are now again beyond the average length of postwar expansions.

Third, closely related was the monetarist’s complaint that the Federal Reserve knew two speeds—too fast and too slow. That changed, along with procyclical policy. The very large current account deficit warns that a decisive countercyclical policy by one country in a mercantilist world can have unanticipated consequences, with a final effect, which is yet unknown.

Fourth, Paul Volcker left the Fed with consumer prices rising about 4 percent a year. There was not much demand either in government or outside to reduce inflation further. Alan Greenspan’s Fed undertook the steps needed to reduce inflation to 1 to 2 percent. Reducing inflation improved the quality of money, removed the distorting effects of inflation, and induced businessmen to spend less time managing inventories and cash balances. They could devote more time to cost control, innovation, and development of new methods and products. Wealth and welfare increased.

Fifth, I agree with Blinder and Reis that slowly, almost reluctantly, the Greenspan Fed became more transparent. This change recognizes that the Fed depends upon correct interpretations of its actions by the market. It never can provide as much information as the market would like because it does not know what the future holds, the numerical value of full employment, or the natural rate of interest. But it reduces the risk of mistaken interpretations. If it is to avoid misinterpretations, its actions must be predictable. It either must announce its policy or follow a systemic policy—there must be a rule or quasi-rule.

Sixth, under Alan Greenspan’s leadership, the Federal Reserve relaxed regulation and increased freedom for financial market participants. Administration of the discount window and reserve requirements is an example. Freedom to make errors goes along with deregulation. The Greenspan Fed correctly resisted pressure to take direct responsibility for equity markets after October 1987 and later
to prevent speculators from bidding up equity prices at the end of the 1990s. Managing the equity market is not part of the Fed’s mandate. Its job is to maintain price stability and stable growth. A broad mandate, with many conflicting obligations, is an invitation to avoid its core responsibility. That was one of the problems in the 1960s and 1970s.

Seventh, the Federal Reserve’s concern for the stock market and other markets leads to action when falling asset prices threaten financial stability and the solvency of financial institutions. Alan Greenspan made a similar point about the asymmetry of the proper response to falling and rising asset prices from this podium a few years ago. Although his statement was widely criticized, it was a correct statement of a central bank’s responsibility. It is the lender of last resort to the financial system. Central banks serve the function best by permitting solvent institutions to borrow against acceptable collateral. They are not the rescue squads that prevent people from making large mistakes. It took the Fed a long time to recognize its role and develop mechanisms for implementing it. And it occasionally still makes the mistake of preventing the failure of individual institutions instead of permitting failure, but supporting the market. It should be recalled that the stock market collapse in 1987 was Greenspan’s baptismal experience as chairman.

Alan Greenspan has had an exceptional batting average as a policy analyst and policymaker. His saxophone played many more right notes than wrong. Many have speculated on how he was able to play the right tune. He left two clues.

The first, written several years ago, expressed his view of the role of economic models in policymaking. Although written about his position as chairman of the Council of Economic Advisers, it applies to the way he approached policy problems at the Board of Governors.

*The only way you can be effective in this area is to have a very extensive institutional understanding of the way the system*
functions…. For example, in the energy area, our staff people from the university are very good in labor policy, if they fundamentally get to the data and see what’s happening. They are relatively poor in basic industrial analysis, forecasting, financial analysis because they don’t know those institutions…. A surprising problem is that a number of economists are not able to distinguish between the econometric models we construct and the real world…. [T]heir ability to go outside the modular structure is remarkably deficient. We really have a major effect on policy questions when we go outside the system (Alan Greenspan in Hargrove and Morley, 1984, p. 426).

This is an argument for judgment about the relevance of models in any particular policy decision. In Greenspan’s view, the model, if it is a good model, can tell you what to expect on average. Knowledge of institutional detail and close examination of the data tell you what to expect in the particular case. As Greenspan put it, he would ask the staff member to show him the equation that he used. Then he would ask, “Do you seriously believe that this captures what is going on now?” (ibid, p. 427).

It is not hard to see in these statements why Alan Greenspan rejected explicit, preannounced inflation targets or any other rule or quasi-rule for monetary policy. Two years ago, he explained why he rejected policy rules. Although he recognized that over long periods, inflation and money growth per unit of output were the same, the long-term average did not provide a useful guide for current monetary policy decisions.

He gave several reasons. Uncertainty, in Frank Knight’s sense, is not a central problem; it is the central problem. The job of the central banker is to judge and manage risk. He starts from a small, dynamic model. As above, this is informative about average relationships. But the model is linear and markets in a dynamic economy are forever changing. Therefore, the policymakers should use the model to generate not just the model’s expected path after a change in policy but “the distribution of possible outcomes about that path. They then
need to reach a judgment about the probabilities, costs, and benefits of the various possible outcomes under alternative choices for policy” (Greenspan, 2003, p. 3).

He then offers some examples of correct judgments made during his chairmanship. No one can fail to appreciate Alan Greenspan’s excellent record of making these (and other) judgments. If the case for risk management rested on a comparison of any of the often proposed rules and Greenspan’s discretionary actions, discretion would have a strong case.

I offer three reasons for skepticism. First, several of his correct judgments about risks concerned events like the Russian default or the failure of long-term capital management (LTCM). These are short-term or temporary shocks that require broadly interpreted lender of last resort actions. Bank runs, insolvencies, financial crises, and the like call for responses by the central bank. At least as far back as Walter Bagehot, economists and central bankers recognized the need to suspend the gold standard rule temporarily under these circumstances. It is important to recall that Bagehot’s criticism of the Bank of England was not that it failed to serve as lender of last resort. He was, so to speak, an early rational expectationist. He wanted the Bank to announce its rule in advance. Ordinary policy was the gold standard rule; exceptional policy, call it risk management, suspended the gold standard rule and used the lender of last resort rule. Timing of decisions required judgment or risk management.

Second, Knightian uncertainty means that the probabilities are unknown. We simply do not know what is likely to happen or when. As Bagehot argued 150 years ago, a rule, including the lender of last rule, removes the uncertainty about what the central bank will do. I agree that Knightian uncertainty is present. I do not agree that it makes a case for discretion except as to timing.

Third, the history of the Federal Reserve is dominated by two enormous mistakes called the Great Depression and the Great Inflation.
Both resulted in considerable part from errors of judgment. A rule that called for price stability, if followed, would have improved economic welfare. Members of Congress proposed rules for price stability in both cases. Federal Reserve officials preferred discretionary action and opposed the price stability rule. Not unimportant, but of lesser magnitude, is the loss from maintaining discretionary interest rate changes under Regulation Q.

Alan Greenspan might well have avoided these major discretionary errors, but his predecessors did not. I believe that policy during the Greenspan years was as good as or better than under inflation targets or other rules. However, countries like the United Kingdom that use inflation targets have done well also. More generally, the desire for rules is a way of preventing large crises.

It would not be enough to prop him up and keep him, as Sen. McCain once proposed. We need his brain, judgment, courage, and leadership. Since the law does not permit him to have another term, rules may be the best substitute for avoiding large policy errors.

I have three final points. First, if a central bank announces that it will raise the interest rate from 1 percent to the neutral rate, has it not informed the market about the rule, quasi-rule, that it follows? Generally, how can a central bank be transparent about its policy and not follow a quasi-rule? Needless to say, this is not a fixed rule, but it strikes me as strange that Blinder and Reis regard this as discretion. There is certainly an element of choice when the FOMC sets the policy. But once it announces its intention to (say) raise the funds rate by $\frac{1}{4}$ percent at every meeting and the market responds to its announcement, anticipations are set. Long-term rates don’t change with the funds rate. Anticipations have been built in.

Second, Blinder and Reis raise a question that deserves more discussion than it has received. The next chairman likely will face the unwinding of the large current account deficit. Some, perhaps much of the deficit reflects the decision to sustain consumption after 2000
by strongly countercyclical monetary policy. The current account deficit rose as countries, especially in Asia, maintained exchange rates and exported to the United States. Is this the right policy for the United States?

Third, Blinder and Reis declare an end to money as an object of central bank attention. Perhaps this is wishful thinking on their part. The role of money has had its ups and downs in monetary history. It is too soon to write the last chapter.
References
