Swings in the Rules-Discretion Balance

John B. Taylor Stanford University

November 2010

Prepared for the session "The Individual, the Market and the State: Rules vs. Discretion in Economic Policy"

> Conference on the Occasion of the 40th Anniversary of Microeconomic Foundations of Employment and Inflation Theory Columbia University

I am honored to join in this 40th anniversary of Ned Phelps micro-foundations volume and to participate in this panel on rules versus discretion in economic policy during the past 40 years. Though I did not attend the January 1969 conference, my research on policy rules began around that time, so perhaps I can provide some historical perspective.

Looking back at actual U.S. macroeconomic policy during this period, I see two major swings in the balance between rules and discretion, first away from discretion toward rules-based policies and then back again toward discretion. I use the word "balance" to emphasize that the ideal of a pure rule, without any discretion, is a theoretical abstraction. Evidence of the swing away from discretion is seen in actual fiscal policy and in the wide consensus among economists against the use of discretionary countercyclical fiscal policy in the 1980s and 1990s; it is also seen in the efforts to make monetary policy predictable and transparent, including through the use of inflation targets and actual policy rules for the instruments. The swing back toward discretion is found in the recent large discretionary fiscal stimulus packages and in deviations of monetary policy from the simple rules that described policy well in the 1980s and 1990s.

In these remarks I will examine these swings and examine their causes and effects. I begin with a short summary of the economic and the political rationale for rules versus

discretion, because I think that changes in people's attitudes toward those rationales are key factors in explaining shifts in the rules-discretion balance.

The Economic Rationale for Policy Rules

The easiest way for me to review the economic rationale for rules-based macroeconomic policy is to start by explaining the reasons for my own interest in policy rules which stems from the way I first learned macroeconomics. It was in an undergraduate course at Princeton given by Phil Howrey. It was my first macro course, but it was not the typical 1960s macro course. We did not study the static ISLM model or other textbook Keynesian models. Instead, we studied dynamic models using stochastic difference or differential equations and even a little spectral analysis. I had no idea at the time how unusual this introduction to macroeconomics was, but it ingrained in me a way of thinking about the economy as an evolving dynamic stochastic structure in which the impact of policy changes occurred with lags as people adjusted their behavior to these changes. The only way one could evaluate monetary and fiscal policy in such a model was with a policy rule. It was not enough to show that a one-time increase in the money supply or a one-time fiscal stimulus package would shift the LM curve or the IS curve and thereby fill a gap in aggregate demand.

So I focused on rules in my undergraduate thesis on monetary and fiscal policy, building on the work of A.W. Phillips (1954). The economic motivation continued in graduate school where I worked with my adviser, statistician Ted Anderson, to determine how much "experimentation" should be built into policy rules and found that "very little" was the right answer.

Then I moved to Columbia where my work on policy rules continued with Ned Phelps (1977). We examined the properties of policy rules in a sticky-price model with rational expectations, which had recently been introduced to macro policy evaluation by Lucas (1976) and reinforced the economic rationale for rules. From then on I concentrated virtually all of my research on policy rules as I worked with colleagues and students, moving back to Princeton and then to Stanford, incorporating staggered wages and prices, multi-country spillovers, numerical solution techniques, and, most importantly, empirically estimated parameters which brought the technical work closer to practical application as in my 1993 paper "Discretion versus Policy Rules in Practice" where the so-called Taylor rule was proposed.

At their most basic level these policy rules are statements about how government policy actions will react in a predictable way to different circumstances. They can be stated algebraically as in many monetary policy rules such as the Taylor rule, which says that the short term interest rate should be set by the central bank to equal one-and-a-half times the inflation rate plus one-half times the GDP gap plus one. So if the inflation rate is 1½ percent and the GDP gap is -5 percent, then the federal funds rate should be 1½ times 1½, plus ½ times (-5), plus 1, which equals .75 percent. But, of course, a rule does not have to be viewed as mechanical formula to be used rigidly.

This brief review demonstrates that, from my perspective, the rationale for using rules over discretion in formulating macroeconomic policy is an economic one. The same is true of Ben McCallum's (1999) survey in the *Handbook of Macroeconomics*, which carefully reviews rules versus discretion issues from Friedman (1960) to Kydland and Prescott (1977). More recently in our *Handbook of Monetary Economics* survey, John Williams and I (2010) show that

this economic focus is true of the vast modern literature on monetary policy rules. There is no mention of political factors in these surveys.

The Political Rationale for Policy Rules

There is another strand of writing on policy rules which has focused mainly on political factors, perhaps best exemplified by F.A. Hayek's work. For example, Hayek wrote in *The Road to Serfdom* (1944) in favor of rules rather than discretion as essential to limiting government and protecting individual freedom. His concept of a policy rule is quite similar to what I just described, but the motivation for that concept is much different: political rather than economic. Hayek himself stressed this in *The Road to Serfdom*, stating that it "is a political book."

Chapter 6 of *The Road to Serfdom* (1944), entitled "Planning and the Rule of Law" makes the case clear: "Nothing distinguishes more clearly conditions in a free country from those in a country under arbitrary government than the observance in the former of the great principles known as the Rule of Law. Stripped of all technicalities, this means that government in all its actions is bound by rules fixed and announced beforehand—rules which make it possible to foresee with fair certainty how the authority will use its coercive powers in given circumstances and to plan one's individual affairs on the basis of this knowledge."

Hayek adds that "Though this ideal can never be achieved perfectly...the essential point, that the discretion left to the executive organs wielding coercive power should be reduced as much as possible, is clear enough." He also indicated that rules did not necessarily have to be written down formally in a "bill of rights or in a constitutional code," arguing that "firmly established tradition" could work just as well. To Hayek, predictability was an important characteristic of policy rules: "If actions of the state are to be predictable, they must be

determined by rules fixed independently of the concrete circumstances which can be neither foreseen nor taken into account beforehand..."

By emphasizing Hayek's political views I do not mean to imply that he had did not have economic views about how government policy rules should operate; of course he did, but these are not the point of his political writings. In fact, he argues that the exact form of the rule is less important than just having some rule, because it will still limit government action. Similarly, Milton Friedman, whose economic writings on monetary and fiscal policy rules have influenced generations of economists, sometimes wrote about these political rationales for policy rules, as, for example, in *Capitalism and Freedom* (1962). In the chapter on monetary policy rules he emphasizes that "the objective is to preserve the maximum degree of freedom" in a way that is compatible with not interfering with others, and "that this objective requires that government power be dispersed."

Though I and many others have favored rules over discretion for economic reasons, when it comes to explaining shifts in the balance between rules and discretion over time, these political factors must also be considered. Because policy rules are viewed as a way of limiting government and protecting individual freedom, changes in attitudes about these political issues will shift the balance between rules and discretion.

The Swing in Balance in Favor of Rules

The general shift toward rules-based macro policy in the 1980s and 1990s is evidenced in various ways. First consider monetary policy. One indication is the increased popularity of inflation targets, either informally as with the Federal Reserve, or more formally, as with the Bank of England. The shift of Fed policy to a focus on inflation under the leadership of Paul

Volcker was a dramatic change from the 1970s. Volcker and his successor Alan Greenspan were very clearly committed to the goal of price stability. Meltzer (2009) describes these changes in detail in Volume 2 of his history of the Fed. The use of numerical inflation targets at other central banks reinforced the idea of price stability as the primary goal of monetary policy.

Additional evidence of a rules-based policy was the move toward a more predictable and transparent decision-making process with a focus on expectations of future policy actions. The Fed started announcing its interest rate decisions immediately after making them. It also started explaining its intensions about the future. Prior to the 1980s, decisions about interest rates were hidden in decisions about borrowed reserves. Other central banks also clarified their decision-making process by publishing reports on their inflation and output forecasts. The aim was to be more predictable and systematic with the instruments of policy.

Evidence is also found in the transcripts of the FOMC in the 1990s. They show a large number of references to policy rules and related developments, as Asso, Kahn, and Leeson (2007) have shown. Meyer (2004) emphasizes a systematic framework for policy, which contrasts with Maisel's (1973) emphasis on the lack of a strategy in earlier periods. Moreover, if you compare actual U.S. monetary policy with policy rules at the time, you see a much tighter correspondence between the two as Judd and Trehan (1995) at the San Francisco Fed and Poole (2007) at the St. Louis Fed pointed out. Judd and Rudebusch (1998) and Clarida, Gali, and Gertler (2000) showed that the Fed's interest rate moves were less responsive to changes in inflation and to real GDP in the 1970s than in the 1980s and 1990s. Levin and Taylor (2009) show that responses of the Fed to inflation were unstable over time in the 1970s and not very rule-like compared with the 1980s and 1990s.

Next consider fiscal policy. While in the 1960s and 1970s Keynesian countercyclical policy was viewed very favorably in much of academia and policy circles, actual fiscal policy shifted away from discretion in the 1980s and 1990s. Early signs of the shift are found in the economic and statistical analyses of the stimulus packages during the Carter Administration which transferred funds to state and local governments for infrastructure and other government spending. Ned Gramlich (1979) concluded that "the general idea of stimulating the economy through state and local governments is probably not a very good one."

By the early 1990s cyclical movements in the budget deficit were dominated by the automatic stabilizers not by discretionary policy. For example, in the early 1990s the Bush Administration proposed a stimulus package, but it was very small, including such items as moving \$10 billion in government purchases from the future to the present, and none of the items in the package that required legislation actually passed the Congress. Similarly, the Clinton Administration proposed a stimulus which would have added \$16 billion to government purchases, but this too did not pass the Congress.

By the late 1990s there was about as much a consensus among economists as there ever was about an issue. In an assessment of fiscal policy in 1997, Eichenbaum (1997) concluded that "there is now widespread agreement that countercyclical discretionary fiscal policy is neither desirable nor politically feasible." In a paper in 2000, I concluded that "in the current context of the U.S. economy, it seems best to let fiscal policy have its main countercyclical impact through the automatic stabilizers....It would be appropriate in the current circumstances for discretionary fiscal policy to be saved explicitly for longer term issues, requiring less frequent changes." And Feldstein (2002) wrote "There is now widespread agreement in the economics profession that

deliberate 'countercyclical' discretionary policy has not contributed to economic stability and may have actually been destabilizing in the past."

Did the shift from discretion to rules have a beneficial effect? It is impossible to know for sure what caused what, but the shift was closely correlated with the Great Moderation in the United States which began in the early 1980s. Not only did inflation and interest rates and their volatilities diminish compared with the experience of the 1970s, but the volatility of real GDP was also very low. Economic expansions became longer and stronger while recessions became shorter and shallower. The variance of real GDP growth, the variance of the real GDP gap, the frequency of recessions, and the duration of recessions were all lower. There was also an improvement in price stability with the inflation rate much lower and less volatile than the period from the late 1960s, through the 1970s, into the early 1980s. Statistical techniques can help assess causality. Stock and Watson (2002) found that the change in monetary policy had an effect on performance, but they also found a reduction in shocks to the economy due to supply factors.

Another measure of the benefit of the more predictable behavior was the response of the private sector. Recognizing that the central bank's interest rate settings followed more rule-like responses to inflation and real GDP, the private sector took these responses into account in projecting future variables and in developing their own rules of thumb for making decisions. An important example is the formation of expectations of future short term interest rates, which affect long term interest rates. The private sector and other public sector institutions developed rules of thumb that depended on the rule-like behavior of the monetary authorities. These rules of thumb improved the operation of the economy.

The Swing in the Balance in Favor of Discretion

In the past few years, there has been a dramatic shift back toward discretionary macroeconomic policy. Examples¹ of such policy actions in the fiscal and monetary policy areas include, the deviation from monetary policy rules followed during the Great Moderation during 2003-2005, the U.S. discretionary fiscal stimulus of 2008, the on-again/off-again interventions of financial firms by the Fed in 2008, the money market mutual fund liquidity facility of 2008, the commercial paper funding facility of 2008, the discretionary fiscal stimulus of 2009, the Cash for Clunkers program of 2009, QE1 (the large scale asset purchase program of the Fed) in 2009, and QE2 in 2010. During the past three years I have empirically examined the impact of many of these programs and can briefly summarize them and their effects.²

First consider the decision by the Fed during 2003-2005 to hold its target interest rate below the level implied by monetary rules that had describe policy well for the previous 20 years. One can characterize this decision as a deviation from a policy rule, such as the Taylor rule. Without this deviation, interest rates would not have reached such a low level, and they would have returned much sooner to a neutral level. The deviation was large—on the order of magnitude seen in the unstable decade of the 1970s. One does not need to rely on the Taylor rule to conclude that rates were held too low for too long: The real interest rate was negative for a very long period, similar to what happened in the 1970s. The Fed's statements that interest rates would be low for a "prolonged period" and that interest rates would rise at a "measured pace" is evidence that this was an intentional departure from a policy that was followed in the 1980s and 1990s. The low interest rates added to the housing boom and led to risk taking and eventually a

¹ While the first fiscal policy example in this list occurs in 2008, the shift may have started earlier, perhaps in 2001 with the tax rebates in the 2001 recession at the start of the Bush administration. Indeed, Milton Friedman was quite critical of those rebates. When asked about them, he said "Keynesianism has risen from the dead" and called the move toward discretion "a serious mistake." See Pine (2001).

² For a more detailed summary see Taylor (2010a) and the references there.

sharp increase in delinquencies, foreclosures, and toxic assets at financial institutions. My research shows that a higher rules-based federal funds rate would have prevented much of the boom and bust.³

Next consider the discretionary countercyclical fiscal package—the Economic Stimulus Act of 2008—passed in February 2008, in which checks were sent to people on a one-time basis. The objective was to jump-start consumption demand and thereby jump-start the economy. However, aggregate personal consumption expenditures did not increase much at all when disposable income rose at around the time of the stimulus payments. Of course, this is what the permanent income theory or the life cycle theory predicts.

Continuing down the list, next consider the on-again/off again rescues of financial firms and their creditors. These interventions started when the Fed used its balance sheet to rescue the creditors of Bear Stearns in March 2008. The Fed's interventions were then turned off for Lehman, turned on again for AIG, and then turned off again when the TARP was proposed. These interventions clearly did not prevent the panic that began in September 2008, and in my view were a likely cause of the panic, or at least made the panic worse. Could the unpredictable nature of these interventions have been avoided? In my view, the Fed and the Treasury could have stated more clearly the reasons behind the Bear Stearns intervention as well as the intentions of policy going forward. If they had done so, people would have had some sense of what was to come. But no such description was provided. Uncertainty was heightened and probably reached a peak when the TARP was rolled out. Panic ensued with the S&P 500 falling by 30 percent. The original purpose of the TARP was to buy up toxic assets on banks' balance

³ Borio and Lowe (2004) argued early on that the Fed and other central banks did not tighten enough during this period. Though not part of the macroeconomic focus of this paper, the problem was greatly exacerbated by the failure to follow rules-based regulations of banks, which were allowed to have large off balance sheet operations containing many of the toxic assets.

sheets, but there was criticism and confusion about how that would work. After the TARP was changed to inject equity into the banks rather than to buy toxic assets, uncertainty was reduced, and conditions began to improve. The panic stopped when uncertainty about the TARP was removed on October 13, 2008.

Two other monetary policy interventions taken during the panic in late September and October 2008 were the Fed's programs to assist money market mutual funds and the commercial paper market. In my view these interventions were helpful in rebuilding confidence. So not every discretionary intervention was harmful, but these would not have been necessary had the earlier interventions been avoided.

The end of the panic did not end the interventions. The American Recovery and Reinvestment Act of 2009 was enacted into law in February 2009. The amount paid in checks was smaller and more drawn out than the 2008 stimulus, but the impact was about the same: no noticeable effect on consumption. In addition, my analysis of the parts of the stimulus which aimed at infrastructure spending suggests they were ineffective as described in my paper with Cogan (2010).

Cash for clunkers was an attempt to bring purchases of automobiles forward in order to increase consumption demand. Mian and Sufi (2010) have examined the impacts using regional data. In Figure 1 I have scaled up their results to show the impact on total consumption, which are very small. There was a shifting forward, but the negative offsetting effects occurred while the economy was almost as weak as when the positive effects took place.



Figure 1 Estimated Impact of Cash for Clunkers on Total Consumption

Other interventions were introduced by the Fed in the period following the panic, most significantly the large quantitative easing, now called QE1, which involved large scale asset purchases including the \$1.25 trillion Mortgage Backed Securities (MBS) purchase program and the Treasury securities purchase program. My view is that the MBS program had at most a small effect on mortgage rates once prepayment risk and default risk are controlled for.

Most recently QE2 has started in which the Fed plans to purchase another \$600 billion in Treasury securities and also reinvest maturing MBS securities hoping to drive interest rates down. It is too early to evaluate the effect of this newest discretionary stimulus action, but Figures 2 and 3 shows that neither government nor private sector long-term interest rates have come down after strong hints that the purchases would occur were given on August 27, 2010 in a speech by Ben Bernanke.



Figure 2. Changes in the Long-Term Treasury Rate, May-November 2010



Figure 3. Changes in Corporate Bond Rates, May-November 2010

Other possible impacts of these programs may occur over the longer term. Many have helped to increase government debt and monetary overhang. The Fed interventions raise questions about central bank independence, because many of the interventions are not monetary policy as conventionally defined, but rather fiscal policy or credit allocation policy. Unwinding the programs creates uncertainty, and there is a risk of inflation if they are not unwound.

Others have different views of the impact of the programs. Bernanke (2010), for example, argues that the low interest rates in 2003-2005 were not a deviation from rules-based policies if you use a modified policy rule with *forecasts* of inflation rather than actual inflation. But the Fed's forecasts of inflation were too low in this period, which suggests that such a modified rule is not such a good one.

Explaining the Swings

While some may disagree with my assessment of the impacts of these swings in the rulesdiscretion balance, it is hard to deny that the swings occurred. But what caused them?

Was It Simply an Emergency? One explanation for the shift back to discretion is that the financial panic of 2008 and the Great Recession were so large that they required the large discretionary packages; the unprecedented actions were necessary because of the emergency. But the first three items on the list of discretionary interventions were taken before the panic in the fall of 2008.

Moreover, if the emergency was the explanation one would expect to see a return to rules-based policies now that the panic has been over for more than two years. But instead another large discretionary stimulus program, QE2, has been undertaken. During the debate over QE1, I worried that the emergency argument would be replaced by another excuse once the

unprecedented actions were undertaken. Early in 2009 I wrote that "The danger I see is that as the recovery begins, or after we are a couple of years into it, people may feel that it's not fast enough, or there is an unpleasant pause. Either could generate heavy pressure on the Fed to intervene.... Why would such interventions only take place in times of crisis? Why wouldn't future Fed officials use them to try to make economic expansions stronger or to assist certain sectors and industries for other reasons?" See Taylor (2009). Fed officials dismissed concerns about such a scenario, saying that it was an emergency. Yet this is exactly the scenario that has played out. The recovery paused, and now there is a QE2.

A closely related explanation for the shift back towards discretion is that policymakers tried to do more than the underlying economics suggested was possible. After two decades of the Great Moderation, policymakers wanted to do even better. So they kept interest rates extra low and intervened in other ways trying to reduce downside risks.

This is a common problem in decision making, as Milton Friedman pointed out many years ago in a debate with Walter Heller (1969) over rules versus discretion: "The available evidence...casts grave doubt on the possibility of producing any fine adjustments in economic activity by fine adjustments in monetary policy—at least in the present state of knowledge...There are thus serious limitations to the possibility of a discretionary monetary policy and much danger that such a policy may make matters worse rather than better...The basic difficulties and limitations of monetary policy apply with equal force to fiscal policy....Political pressures to 'do something' ...are clearly very strong indeed in the existing state of public attitudes. The main moral to be had from these two preceding points is that yielding to these pressures may frequently do more harm than good. There is a saying that the

best is often the enemy of the good, which seems highly relevant. The attempt to do more than we can will itself be a disturbance that may increase rather than reduce instability."

Was There a Great Awakening? Another explanation for the shifts lies in the economic analysis of policy rules. I argued in Taylor (2010b) that improvements in our understanding of rules-based policies, through study and experience with particular rules, could have been a reason for the shift toward rules-based policy, at least in the case of monetary policy. Reviewing the academic and policy literature I argued that there was a "great awakening" in monetary theory closely associated in time with the shift toward an actual monetary policy in a rules-based direction.

One problem with this explanation is that it does not provide such a straightforward explanation of the shift back toward discretionary policy. While there was no major reversal in economic theory, there were some new ideas that could have taken policy away from rules, or at least away from the relatively simple rules that characterize rules-based policy in practice. In fact, the idea that a fully optimal policy conducted in real time could do better than simple rules seemed to gain some favor even within the context of modern rational expectations modeling. For example, Giannoni and Woodford (2005) showed that the optimal policy can be characterized by an equation with leads and lags of target variables, such as the inflation rate, and argue that the optimal policy takes into account all relevant information for monetary policy and is thereby superior to simple policy rules. There is debate about how great this informational advantage is, but a disadvantage is that the optimal rules are very complicated and difficult to explain and communicate compared with simple rules. In a sense they verge on a more discretionary approach.

For example, Mishkin (2007) used optimal control methods to find paths for the federal funds rate, and then contrasted these paths with simple policy rules. He argued that for the optimal policy "the federal funds rate is lowered more aggressively and substantially faster than with the Taylor-rule....This difference is exactly what we would expect because the monetary authority would not wait to react until output had already fallen." The implication is that simple policy rules are inadequate for real world policy situations and that policymakers should deviate from them as needed.

Such doubts about the practical relevance of research supporting policy rules were expressed earlier, but they did not take account of developments in research on active policy rules. For example, in 1992, the same year I presented the first paper that contained the Taylor rule, I commented on a paper by Bernanke and Mishkin (1992). Their paper raised doubts about the use of rules for the policy instruments and made the case for using a considerable amount of discretion in monetary policy making. They said that "Monetary policy rules do not allow the monetary authorities to respond to unforeseen circumstances."

Did Political Swings Change the Rules-Discretion Balance? Finally let me consider the possibility that changes in political attitudes about the roles of the individual, the market, and the state (to use the words of the title of this session) were a factor in the swings in the rulesdiscretion balance. Without taking a position one way or the other, there was clearly a political change in the 1980s in the United States and in the United Kingdom in which attitudes favoring more limited government and a corresponding encouragement of free markets were on the rise. This shift was maintained through the 1980s and into the 1990s as Reagan was followed by Bush '41and then Clinton, while Thatcher was followed by Major and then Blair. That the swing toward more limited government coincided with a swing toward more rules-based policy is what

one would expect given the stress placed on the role of rules in limiting government and preserving individual freedom and free markets. That the economics was moving in the same direction meant that the economics and the politics were reinforcing one another.

Does this political explanation fare any better than the economic in explaining the swing back in favor of discretion in the past few years? While there were political changes in the US presidency in 2009 which would appear to place less emphasis on limiting the role of government, many of the examples of increased discretion mentioned in this paper occurred before 2009, though they continued into 2009 and 2010 at a greater intensity. Although much more research is needed, a conjecture is that factors like the 9/11 attacks in the United States and the policy responses tended to reduce the sentiments toward limited government and, with the terrorist threats, place less emphasis on individual freedom. The rise of government spending as a share of GDP from 2000 onwards is some evidence in favor of this view.

One question about this explanation is how the politics can cut through the economics. In other words, if the economic case for rules-based policies was so strong and convincing, how did it lose out to political pressure? One way is through what I call "discretion in rule's clothing." One interested in a discretionary policy move might argue that the traditional policy rule has become outdated, or was wrong in the first place, and needs to be changed. One can justify just about any discretionary intervention in this way. One example of how this may have happened recently is through the argument that the parameters of policy rules should be replace with recently estimated parameters. In fact, some have argued that a statistically estimated policy rule is an improvement over the rule I proposed in 1992. Such estimated rules frequently have a larger coefficient on the output gap and therefore give interest rate settings in the current slump lower than the 75 basis points suggested at the start of this paper; indeed some have suggested

minus 6 percent! This then justifies discretionary actions, such as QE2, or suggests that the interest rate should remain at zero for a very long period, which may be what advocates of discretion actually want. But curve fitting without theory is dangerous. In the case of policy rules, it can perpetuate mistakes: the large coefficient on the gap may be due to periods when the federal funds rate was too low for too long.

If advocates of higher coefficients on the output gap can show why the higher coefficient improves performance, then they may have a case for such a change. But studies show that a higher coefficient is not robust, and some argue that the coefficient on the output gap should be lower, not higher, than in the Taylor rule because of uncertainty of measuring the output gap.

Conclusion

This paper documents two major swings in the balance between rules and discretion in actual U.S. economic policymaking in the past four decades. One swing was in favor of rules and the other in favor of discretion. In my view, the swing toward rules improved macroeconomic performance and the swing back toward discretion worsened it. If so, the policy implication is clear: we should go back toward more rules-based policies.

The paper also examines several possible reasons for these swings. It rejects the explanation that the recent move toward discretion was due to the emergency of the recent crisis because the swing started before the crisis. Instead the paper focuses on two other explanations: economic and political.

According to the economic explanation, the swing toward rules was the result of extensive theoretical and empirical research on policy rules—especially in the monetary area—that began in the 1970s and is continuing today. This research showed the benefits of simple and robust rules through model simulations and historical studies of actual policy. This explanation is less straightforward as an explanation of the swing back toward discretion. However, recent research on optimal policy, which suggested that much more complex rules for the instruments were necessary, may have encouraged the swing back: When policy rules become highly complex and hard to explain, they are likely to shift the rules-discretion balance toward discretion. But more research is needed on this possibility.

The political explanation is based on the rationale for rules as a way to limit government and protect individual freedom. Though not a factor in the research on policy rules described in the previous paragraph, including my own research, it may have been a force moving toward rules in the 1980s as attitudes toward government changed. It too is less straightforward as an explanation of the swing back toward discretion, because the swing started before the obvious political realignments in early 2009. It requires that some other event—perhaps 9/11—changed attitudes about role of the individual, the market and the state. More research is needed on this possibility too.

References:

- Asso, Francesco, George Kahn, and Robert Leeson (2007) "Monetary Policy Rules: from Adam Smith to John Taylor," presented at Federal Reserve Bank of Dallas Conference, October, 2007
- Bernanke, Ben and Frederic Mishkin (1992), "Central Bank Behavior and the Strategy of Monetary Policy: Observations from Six Industrialized Countries" in Oliver Blanchard and Stanley Fischer (Eds.) NBER Macroeconomics Annual, MIT Press, Vol. 7, 183-227.
- Borio, Claudio and Philip Lowe (2004) "Securing Sustainable Price stability: Should Credit Come Back from the Wilderness?" BIS Working Paper, 157
- Clarida, Richard, Jordi Gali, and Mark Gertler (2000), "Monetary Policy Rules and Macroeconomic Stability: Evidence and Some Theory," Quarterly Journal of Economics (February), 115, 1, 147-180.
- Cogan, John F. and John B. Taylor (2010), "What the Government Purchases Multiplier Actually Multiplied in the 2009 Stimulus Package," NBER Working Paper, October
- Eichenbaum, Martin (1997), "Some Thoughts on Practical Stabilization Policy," *American Economic Review*, 87(2): 236–39
- Feldstein, Martin. 2002. "The Role for Discretionary Fiscal Policy in a Low Interest Rate Environment." National Bureau of Economic Research Working Paper 9203
- Friedman, Milton (1960), A Program for Monetary Stability, Fordham University Press, New York

Friedman, Milton (1962), *Capitalism and Freedom*, University of Chicago Press, Chicago
Friedman, Milton and Walter Heller (1969), *Monetary vs. Fiscal Policy: A Dialogue*, W.W.
Norton, New York.

- Giannoni, Marc P. and Michael Woodford (2005), "Optimal Inflation Targeting Rules," in Bernanke, Ben and Michael Woodford (Eds.), *The Inflation Targeting Debate*, University of Chicago Press, 93-162.
- Gramlich, Edward M. (1979), "Stimulating the Macro Economy Through State and Local Governments," *American Economic Review*, Vol. 69, No. 2, (May), pp. 180-185

Hayek, F.A. (1944), The Road to Serfdom," University of Chicago Press. Chicago

- Judd, John P. and Bharat Trehan (1995) "Has the Fed Gotten Tougher on Inflation?" The FRBSF Weekly Letter, March 31, 1995.
- Judd, John P. and Glenn D. Rudebusch (1998), "Taylor's Rule and the Fed: 1970-1997." Federal Reserve Bank of San Francisco Economic *Review* 3, pp. 1-16.
- Kydland, Finn and Edward Prescott (1977), "Rules rather than Discretion: The Inconsistency of Optimal Plans," *Journal of Political Economy*, 85, 473-491.
- Levin, Andrew T., and John B. Taylor (2009), "Falling Behind the Curve: A Positive Analysis of Stop-Start Monetary Policies and the Great Inflation," NBER Working Paper.
- Lucas, Robert E. Jr. (1976), "Econometric Policy Evaluation: A Critique," *Carnegie-Rochester Conference Series on Public Policy*, 1, 19-46.
- Maisel, Sherman J. (1973), Managing the Dollar, W.W. Norton, New York
- McCallum, Bennett (1999) "Issues in the Design of Monetary Policy Rules," *Handbook of Macroeconomics*, John B. Taylor and Michael Woodford (Eds.), Elsevier
- Meltzer, Allan H. (2009), A History of the Federal Reserve, Volume 2, University of Chicago Press, Chicago
- Meyer, Laurence (2004), A Term at the Fed: An Insider's View, HarperCollins, New York.

- Mian, Atif and Amir Sufi (2009), "The Effects of Fiscal Stimulus: Evidence from the 2009 'Cash for Clunkers' Program," September, 2010
- Mishkin, Frederick (2007), "Housing and the Monetary Policy Transmission Mechanism," Federal Reserve Bank of Kansas City, Jackson Hole Conference
- Phelps, Edmund and John B. Taylor (1977), "Stabilizing Powers of Monetary Policy under Rational Expectations," *Journal of Political Economy*, 85 (1), February, 163-190
- Phillips, A.W. (1954), "Stabilization Policy in a Closed Economy," *Economic Journal*, 64: 290-323
- Pine, Art (2001), "Friedman Boos, Stiglitz Cheers ad Keynes Returns to Washington," Bloomberg News, October 18
- Stock, James and Mark Watson (2002), "Has the Business Cycle Changed," in Monetary Policy and Uncertainty: Adapting to a Changing Economy, Jackson Hole Conference, Federal Reserve Bank of Kansas City, 9-56.
- Taylor, John B. (1993) "Discretion versus Policy Rules in Practice," Carnegie-Rochester Conference Series on Public Policy, 39:195-214.
- Taylor, John B. (2000), "Reassessing Discretionary Fiscal Policy," Journal of Economic Perspectives, 14(3): 21–36
- Taylor, John B. (2009) "The Need for a Clear and Credible Exit Strategy," in John Ciorciari and John B. Taylor (Eds.) *The Road Ahead for the Fed*, Hoover Institution Press, Stanford, 85-100
- Taylor, John B. (2010a), "Assessing the Federal Policy Response to the Economic Crisis," Testimony before the Committee on the Budget, United States Senate, Sept 22.

Taylor, John B, (2010b), "Better Living through Monetary Economics," in John Siegfried (ed.) *Better Living Through Economics*, Harvard University Press, 146-163.

Taylor, John B. and John C. Williams (2010), "Simple and Robust Rules for Monetary Policy," *Handbook of Monetary Economics*, Benjamin Friedman and Michael Woodford (Eds) forthcoming, Elsevier