Reinterpreting a famous paper in monetary economics

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In 1967 Milton Friedman presented "The role of Monetary Policy" as his presidential address to the American Economic Association (AEA). Subsequently published - as Friedman (1968) - it has become arguably the most influential paper in modern monetary economics and was recently included in the AEA's list of 20 most influential papers published in the first century of the American Economic Review. In this paper I offer a reinterpretation on Friedman's presidential address, based on his earlier work in monetary economics as well as the Chicago tradition where he identified his own work. His earlier distinction between credit policy (what is now called interest rate policy, or simply monetary policy) and monetary policy (what is now called balance sheet policies) casts new light on the goals and preferred tools of monetary policy in his presidential address. In this reading financial stability emerges as a much higher policy priority for central banks compared with the modern consensus on monetary policy. While balance sheet policies have become "unconventional" in the modern consensus, these policies held a central position in Friedman's system. The argument is supported by a careful textual analysis as well as his preceding scholarship on monetary policy and the relevance of this re-interpretation of an otherwise well known paper derives from the current interest in central bank balance sheet policies and the rising priority of financial stability as an explicit goal of monetary policy.

Key words: Milton Friedman, monetary policy, interest rate policy, balance sheet policies, financial stability

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1. Introduction

It is twenty years since I first read Milton Friedman's Presidential Address to the American Economic Association (AEA) and, though I have reread it many times since, I have never lost the sense of admiration of that first encounter. Others have found the same; both supporters and opponents acknowledge the importance of that lecture for monetary economics in particular and for macroeconomics more generally. Two subsequent Presidents of the AEA, James Tobin (1972) and Franco Modigliani (1977) used their own Presidential Addresses to respond directly to Friedman's address and to criticise it. Elsewhere Tobin (1995: 40), despite his rejection of Friedman's arguments, acknowledged that Friedman's address was "...very likely the most influential article ever published in an economics journal". More recently an illustrious committee of the American Economic Association included Friedman's address on the list of 20 most important papers in the first 100 years of the American Economic Review (Arrow et al. 2011).

My contention is that Friedman's Presidential Address is influential despite being widely misunderstood; the standard interpretation of his address exaggerates topics that were relatively less important to Friedman, to the neglect of his core message. I build this case on a critical reading of Freidman's address together with an interpretation thereof in light of his published work on monetary policy from 1948 to 1972. An interpretation of Friedman's address emerges from this effort that is not only at odds with the standard interpretation, but of contemporary interest where the debate on the appropriate goals, instruments and institutional arrangements for monetary policy in the post-financial crisis world is concerned.

2. The standard interpretation

By virtue of its extraordinary influence it is no small task to identify a "standard interpretation" of Friedman's Presidential Address, especially given the purpose of the paper which might bias the author to construct a straw man. To guard against the risk I distilled the standard interpretation from three sources: from James Tobin (1995) (perhaps the most consistent amongst Friedman's eminent critics), from Snowden and Vane's (2005) review of modern macroeconomics and from the AEA's committee that included the address amongst the twenty most influential papers in the AER's first century.

That Friedman (and Edmund Phelps) provided the intellectual foundation for the modern understanding of the Phillips curve is common to most accounts of Friedman's presidential address. Together they are given a prominent place in providing the intellectual foundational for the modern consensus that low and stable inflation is an appropriate target for monetary policy. The AEA's citation for Friedman address reads as follows:

> "This presidential address is the origin of the "vertical long-run Phillips curve," along with a contemporary paper by Edmund S. Phelps. It introduced the idea of a

> "natural" rate of unemployment as the only rate compatible with the sustained coincidence of actual and expected rates of inflation. This is the basis of the conclusion that the Phillips curve is vertical in the long run, allowing only a temporary trade-off between unemployment and inflation. From this followed possible implications for the conduct of macro-policy, especially monetary policy." (Arrow et al. 2011: 3-4)

Tobin also focusses on the natural rate of unemployment around which Friedman's Phillips curve is built and sees this as the "opening shot of new classical macroeconomics", with the message that "unanticipated monetary policy and inflation can raise employment temporarily, but only temporarily and only by fooling workers and employers" (Tobin 1995: 33). In Snowden and Vane's (2005) review Friedman's Presidential address together with Phelps' (1967; 1968) contemporaneous, but independent, research opened a new chapter in the development of monetarist theory, with a sharper division between real and nominal variables. Monetary authorities could only lower unemployment below the natural rate of unemployment in the Friedman-Phelps view of the world when they succeeded in surprising private decision makers, especially workers and over time this was only possible through accelerating inflation. Apart from the theoretical elegance of the argument its success was assured by what Backhouse (1995) called the dramatic corroboration of their predictions during the seventies.

To summarise the standard interpretation of Friedman's Presidential address: it provided, with Phelps (1968), the intellectual foundation for the modern understanding of the Phillips curve and with it the justification for the widely accepted focus on low and stable inflation as the appropriate goal for modern monetary policy. While Friedman lost the debate on the appropriate instrument of monetary policy in this reading, he won the debate on policy goals as well as the need for a rule-like policy procedure by monetary authorities, a case that was greatly strengthened by the next generation of macroeconomists. Friedman was doubtless happy with this legacy[1], but there is more to his address than this standard interpretation. The very success of Friedman's case against the kind of macroeconomic fine-tuning associated with the Philips curve obscured (i) his case against interest rate policies and in favour of central bank balance sheet policies as well as (ii) the priority Friedman gave to financial stability as a goal for monetary policy. The standard interpretation neglects these aspects of Friedman's lecture and with them the core of his research programme in monetary economics, which formed not just the context, but dominated the content of his Presidential address.

3. The Structure of Friedman's lecture

Friedman was a remarkably consistent scholar. He returned to the same themes and arguments repeatedly, approaching them now from a historical angle, then from a statistical angle and at other times as a theorist. His Presidential Address fits seamlessly into this body of work; indeed it is to a considerable extent a summary of his work on

[1] See his interview with Snowdon and Vane (2005, especially pages 204 and 205) and his Nobel acceptance lecture (Friedman 1977).

monetary economics over the preceding twenty years. An audience familiar with his work would have heard him summarise familiar arguments with only one real novelty, i.e. the Phillips curve argument which has since come to dominate the paper's professional legacy.

Friedman's address is only 17 journal pages long and, excluding the introduction and conclusion, comprises three sections: the first section is on what monetary policy cannot do, the second on what monetary policy can do and the third on how monetary policy should be conducted in the light of the first two sections.

3.1 What monetary policy cannot do

The first, and longest, section of Friedman's address is subdivided into two sections, the first of which is devoted to a rejection of interest rate policy as an adequate monetary policy instrument. He then extended his interest rate argument by analogy to include the rate of unemployment in the second subdivision of this first part of the lecture.

Friedman opened his address with a rejection of a particular view of monetary policy against which he had argued consistently for twenty years; a view he associated with John Maynard Keynes and which he regarded as both theoretically flawed and inconsistent with economic history. For the author of the "Essay on Positive Economics" (Friedman 1994 [1953]) the empirical success of his theory was decisive. He sincerely believed that on this point the difference between himself on the one hand and his Chicago mentor

Henry Simons and Keynes on the other was due to a "few facts, which we now know and he did not… The facts have to do primarily with the Great Depression" (Friedman 1967: 4).

His quarrel with Keynes and Simons turned on the adequacy of an interest rate as sufficient instrument of monetary policy and a sufficient guide to the stance of monetary policy. Much of Friedman's career was spent on what he regarded as the rehabilitation of monetary policy in an era where these policies were thought to have lost power, especially compared with alternatives such as fiscal policy. This rehabilitation was rooted in the re-interpretation he had given, with Anna Schwartz, of monetary policy's role in the Great Depression published in their *Monetary History of the United States* (Friedman and Schwartz 1963a).

Monetary policy failed during the Great Depression argued Friedman and Schwarz, but how it failed mattered for a proper understanding of the appropriate role for monetary policy. Policy can fail in two different ways (Friedman 1972). First, the policy might not have the effect we predicted from our theory and, second, the policy might be applied incorrectly. Friedman and Schwartz argued that monetary policy had failed during the Great Depression, but only in the second sense, while Keynes, Simons, and many others interpreted the events as evidence that monetary policy failed through impotence even when called on. In their view the Great Depression occurred "…despite not because of governmental monetary policy … [The Federal Reserve System] had done its best but was powerless to stop the collapse…" (Friedman 1967: 6)

By contrast, Friedman and Schwartz identified the Fed as an independent cause of the three banking crises from 1930 to 1933. By failing to use its balance sheet to prevent the contraction of the money supply in two of these, and actively tightening policy to protect the gold standard in the third, they caused and amplified the collapse of the banks. They argued that the Fed did even worse than the pre-Fed banking system had done through market based co-operation during earlier banking crises (Friedman and Schwartz 1963a: 311, 316, 328, 692), or as they summarized their case:

> "As it was, the existence of the Reserve System prevented concerted restriction, both directly and indirectly: directly, by reducing the concern of stronger banks, which had in the past typically taken the lead in such a concerted move … and indirectly, by supporting the general assumption that such a move was made unnecessary by the establishment of the system" (Friedman and Schwartz 1963a: 311).

At the core of the Fed's mistaken application of monetary policy was their misinterpretation of the short-run policy interest rate (the discount rate) as an adequate indicator of the stance of monetary policy. Having reduced the discount rate the Fed felt justified to describe the stance of their policy as one of "monetary ease' for 1930 even though they allowed financial market condition to develop whereby illiquid but solvent banks would fail with no liquidity support offered by the Fed (Friedman and Schwartz 1963a: 375). Elsewhere Friedman described this mistake as follows:

> "A constant absolute rate of interest, whether it be the yield on government securities or a discount rate, does not in any relevant sense mean a constant monetary policy. Failure to recognize this point, and a tendency to regard the absolute level of the discount rate - or its level relative to some earlier date - as a measure of 'tightness' or 'ease' has been perhaps the single most pervasive source of confusion and error in the System's experience" (Friedman 1959b: 66) .

Having misunderstood the instruments of monetary policy and the information offered by other indicators of monetary conditions the Fed misapplied the tools of monetary policy at a point where the correct application would have averted the most severe outcomes of the Great Depression, or as he wrote with Schwartz in the *Monetary History*:

> "The monetary collapse from 1929 to 1933 was not an inevitable consequence of what had gone before. It was the result of policies followed during those years.... Alternative policies that could have halted the monetary debacle were available throughout those years. Though the Reserve System proclaimed that it was following an easy money policy, in fact if followed an exceedingly tight policy" (Friedman and Schwartz 1963a: 699).

Besides this historical argument Friedman also had theoretical reasons for rejecting the interest rate as sole monetary policy instrument. Here the issue turned on the relative merits of two frameworks for monetary analysis: the income and expenditure framework on the one hand and the quantity theoretic framework on the other. In the income-expenditure framework business cycle fluctuations are fundamentally caused by non-monetary factors, with only a minor role for the interest rate via its impact on planned investment and consumption expenditure (Friedman 1952). Business sentiment (or animal spirits) were the primary causes of business cycles in this view, a view Friedman rejected on both theoretical and empirical grounds (Friedman 1967: 5).

Flows of current income dominate in the income-expenditure framework and Friedman explicitly rejected the inadequate treatment of wealth and other balance sheet effects, drawing on his own theoretical work with respect to consumption and his restatement of the quantity theory as a monetary framework for understanding the business cycle (Friedman 1956; Friedman 1970b). That the income-expenditure framework failed to account for the general case with balance sheet effects has been known since Pigou identified the real-wealth effect (Snowdon and Vane 2005: 120). In the quantity-theoretic framework balance sheet channels are critical and anchor current flows to portfolios of different assets and especially to the adjustment necessary to achieve desired portfolios (Friedman 1959a; Friedman 1961).

In the presidential address Friedman used the Wicksellian concept of a natural interest rate to anchor the expected returns on asset portfolios (Friedman 1968: 7). From Irving Fisher he borrowed the distinction between nominal and real interest rates to incorporate the effect of inflation expectations on the ability of a monetary authority to peg interest rates at particular levels indefinitely. The overriding goal of this section in the presidential address was to demonstrate that interest rates were inadequate both as a guide to monetary policy and as a policy tool. The almost exclusive modern identification of monetary policy and interest rate policy is precisely what Friedman wished to dispel with the opening argument of his Presidential address.

To emphasise this point Friedman often distinguished between monetary policy (i.e. the use of the central bank's balance sheet) and what he called credit policy (i.e. the use a short-term policy interest rate) (Friedman 1962; Friedman 1964). The distinction between interest rate and balance sheet policies has largely disappeared from the modern analysis of monetary policy, partly under the influence of William Poole's (1970) highly successful solution of the "instrument problem" in monetary policy. Poole identified the structural conditions under which interest rate policy would be superior to balance sheet polices and in modern economies sealed the case for interest rate policy. But Poole's (1970) income-expenditure model is precisely the theoretical framework that neglects balance sheets and asset markets and consequently does not address the instrument problem as Friedman saw it.

Following his rejection of the interest rate as an adequate tool or target for monetary policy Friedman presented the now famous Phillips curve argument as an analogue to his interest rate argument. He introduced a Wicksellian "natural" rate of unemployment and the distinction between real and nominal wages to mirror the argument he previously made with respect to the interest rate. Though this was not the core of Friedman's message he was later pleased to have won a scientific debate on the nature of the Phillips curve (Friedman 1977). Nevertheless, when an opportunity arose in 1970 to summarise the main points of his work in monetary economics, (Friedman 1970a), in the context of the monetarist movement he did not so much as mention the Phillips curve.

3.2 What monetary policy can do

Having dismissed both interest rates and the unemployment rate as proper targets for monetary policy Friedman turned to his case for the positive role of monetary policy in the second section of his Presidential Address. Friedman had long since argued that there is a positive role for a monetary authority to offer "...effective insurance major monetary disturbances" (Friedman 1959b: 99), or to "…prevent money itself from being a major source of economic disturbance" as he expressed the idea in the Presidential address (Friedman 1968: 12). The primary aspect of this is task is concerned with financial stability, i.e. effective insurance against the adverse externality of a crisis in the fragile financial sector. Indeed, this was a major reason for having a monetary authority at all in Friedman's (1959b: 9, 37) view and in the view of the founders of the Federal Reserve system (Friedman and Schwartz 1963a: 692).

This concern with financial stability reflects the importance of the lesson Friedman was convinced he had learnt form studying the Great Depression, i.e. that misguided monetary policy had failed in its primary duty when it was most urgently needed. This error was compounded, so Friedman argued, by the incorrect interpretation of these events by Keynes and others, whom had collectively undermined the case for a monetary theory of the business cycle.

Friedman had spent enormous energy to rebuild the theoretical case and empirical evidence in favour of a monetary theory of the business cycle (e.g. Friedman and Schwartz 1963b). When monetary policy is conducted in such a manner as to avoid "money itself from becoming a disturbance" Friedman argued it would go a long way towards stabilising the business cycle as well. This brings us to the second positive task for monetary policy as Friedman saw it, namely to "provide a stable background for the economy" (Friedman 1968: 13).

In a modern fiat money economy this is a positive task for the monetary authority to which end they must exercise their powers deliberately (Friedman 1968: 13). By contrast, the gold standard offered a stable background for the economy more or less automatically in an earlier period. But Friedman had rejected the possibility of a return to the gold standard earlier in his career (Friedman 1951), and consequently turned to the question of how monetary policy could be conducted deliberately to achieve an adequately stable monetary environment.

The priority for low and stable inflation in the long run, which has also become a derivative of Friedman's Phillips curve argument, is a secondary result from his emphasis on a monetary framework that delivers a stable background for the economy. If monetary disturbances are an independent causal factor in the business cycle and if inflation is caused by excess money growth, then the same policy that ameliorates the monetary causes of the business cycle will also deliver low and stable inflation.

The final positive task for monetary policy, and it was a modest one in Friedman's assessment, was to offset major non-monetary disturbances to the economy. These disturbances might be external to the economy, or from fiscal policy, and in some cases there might be a role for monetary policy to provide an offsetting balance.

3.3 How monetary policy should be conducted

In the final section of his presidential Friedman discussed two principles to guide the conduct of monetary policy, i.e., that the authorities should be guided by magnitudes they can control, and that they should avoid sharp swings in policy. With these principles to guide him Friedman considered three candidate magnitudes according to which the Fed might direct monetary policy, they were: the exchange rate, the price level and the quantity of money. In this part of the lecture he is again covering ground he had covered many times in the previous twenty years, and he summarises results he had long since developed: that the exchange rate was ill-suited for an economy with the structure of the USA (Friedman 1951) and that the price level was a desirable, but inappropriate target because the central bank could not control it directly (Friedman 1968: 15).

Friedman's case against the price level target built on this now famous expression that the monetary transmission mechanism works with a "lag that is both long and variable" (Friedman 1961: 447). By contrast, the money supply was both desirable and would be under the control of the central bank of the necessary institutional reforms were carried out, including the institution of a 100% reserve ratio on deposits. This reform had ben on Friedman's platform at least since 1948 (e.g. Friedman 1948: 247) and he attributed it to his mentor Henry Simons (e.g. Simons 1936: 17).

Earlier in his career, e.g. Friedman (1948: 250-252) , favoured a fiscal basis for the annual expansion of the central bank's balance sheet, which would also be an extension of the money stock. This reflected his view that the central bank's balance sheet policy and the financial policy of the fiscal authorities overlapped significantly, e.g. Friedman (1959b: 56), and could not be conducted independently in any meaningful sense (Friedman 1963). He later favoured a simpler rule whereby the central bank would expend its balance sheet by a fixed percentage every year and the fiscal authorities would have to align their financial policy with the parameters set by the monetary authorities.

Friedman's money growth rule was intended to achieve the following objectives: first, and foremost, to prevent a tightening of monetary conditions and contraction of the money stock in the face of a financial crisis; second, to mitigate the monetary causes of the business cycle and to remove the source of inflation. While Friedman did not expect this policy to remove all causes of the business cycle, nor to prevent the intermittent emergence of financial fragility, he did believe that it would go a long way to prevent financial collapse and to mitigate the business cycle to the extent that it was possible given the instruments of monetary policy. As he had argued elsewhere: "…the major argument for the [money growth] rule has always seemed to me to be far less that it would moderate minor cyclical fluctuations than that it would render impossible the major mistakes in monetary policy that have from time to time had such devastating effects" (Friedman 1966: 84).

4. Lessons for contemporary monetary policy

Milton Friedman's Presidential Address followed more than twenty years of remarkably consistent scholarship in monetary economics during which period he tried to revive a monetary theory of the business cycle and to show the tremendous power monetary policy had to prevent financial collapse. As so many other economists of his generation the Great Depression left an indelible mark on his economics; but he learnt nearly the opposite lesson from those, such as Keynes, for whom the salient lesson of the unhappy thirties was the monetary policy had but little power to restore an economy to robust growth during a severe slump. For Friedman the lesson was that monetary policy was itself the major cause of the slump through the neglect of monetary condition beyond the narrow confines of interest rate policy. These are Friedman's major lessons: that monetary policy matters, that it matters for financial stability, that financial stability matters for economic prosperity and that the transmission of monetary policy occurs chiefly through what we now call balance sheet channels rather than expenditure channels.

These lessons as remarkably prescient in the wake of the international financial crisis, since central bank balance sheet policies have re-emerged after decades of neglect and financial stability has returned to the top of the monetary policy agenda. Some of the world's leading central banks have also encountered the limits of interest rate policy (Woodford 2012) and have realized that there is no equivalence between interest rate policy and balance sheet policies and that these two dimensions of monetary policy might well be used to pursue different, though complementary, goals (Borio and Disyatat 2009). The return of explicit balance sheet policies has also opened a new debate on the meaning and desirability of central bank independence (Goodhart 2011) and that remains a largely unresolved question at the time of writing.

Finally, it is remarkable that these lessons can be traced to one of the most widely known and influential papers in modern macroeconomics. Despite its fame the central lessons of this paper had largely been forgotten prior to the crisis, while only the Philips curve subsection remained influential. In the light of the crisis and the challenges facing central banks with respect to goals, instruments and the appropriate degree of central bank independence a revisionist reading of Friedman's Presidential address may be in order.

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