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STAN DU PLESSIS

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STAN DU PLESSIS
DEPARTMENT OF ECONOMICS
UNIVERSITY OF STELLENBOSCH
PRIVATE BAG X1, 7602
MATIELAND, SOUTH AFRICA
E-MAIL: STAN@SUN.AC.ZA



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Assets matter: New and old views of monetary policy

STAN DU PLESSIS¹

ABSTRACT

An extraordinary consensus on the goals and conduct of monetary has been undermined by the international financial crisis and the faltering recovery in many economies. There is an evident need to pay closer attention to developments of asset markets and in the financial sector, which has opened a discussion on the appropriate goals for monetary policy. Meanwhile central banks have employed controversial balance sheet operations to restore market stability and encourage economic recovery. This paper argues that both these developments reflect earlier concerns in monetary policy: prior to the modern consensus both balance sheet policies and an emphasis on financial stability were central concerns of monetary authorities and the future of monetary policy is likely to rhyme with its past.

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Introduction

“The past three decades have seen first a sweeping revolution against previously accepted economic thought about the role of monetary factors in economic change” said a leading monetary scholar, and he continued, “... and then a sweeping counterrevolution that is still incomplete but promises to be no less sweeping”. Such sentiments are not uncommon in the wake of the international financial crisis, with the tremendously increased role taken by monetary authorities and the associated controversies in Europe and America. Despite their familiar ring these words were, however, spoken more than 50 years ago by Milton Friedman in his *Program for Monetary Stability* (Friedman, 1959: 1).

I started with this historical perspective as my goal is partly to persuade you that the nonconventional policies of today had been used in the past and can be expected to form part of tomorrow’s consensus that will help monetary authorities with the challenging task of *reintegrating* financial stability directly into the deliberations of monetary policy. ‘Reintegration’ is the right word, as financial stability with price stability and support for the government’s financial policy,² has always been the objective of monetary policy (Goodhart, 2011). This reintegration of financial stability will require an evolution of the inflation targeting approach to monetary policy, not its demise.

1. A remarkable consensus

The conduct of monetary policy was in dire straits by the late seventies. It had been a miserable decade for monetary authorities in most parts of the world, with inflation ratcheting up, volatile currencies, and economic output and employment drifting away from earlier estimates of their long-term potential. Arthur Burns, who had been the chairperson at the Fed for much of the decade spoke of the “Anguish of Central Banking” (Burns, 1979), i.e. the apparent inability of central bankers to achieve low and stable inflation and economic stability, despite their best intentions and policy efforts.

A happy combination of theoretical developments and practical experience showed the way out of these difficulties (Goodfriend, 2007). The practical lessons were first learnt at

² The Bank of England was founded in 1694 to manage the government of England’s debt, and it was only in 1998 that the management of government debt in the UK was moved from the Bank to the newly established Debt Management Office (Moore, 1988).

the Bundesbank, the Swiss National Bank and, later, at the Fed under chairperson Volcker, and involved taking explicit responsibility for stable inflation and using the tools of monetary policy in a credible and transparent strategy towards that end (see, for example, the account of this episode in Bernanke et al., 1999). The theoretical advances included the theory of inflation and monetary control, rational expectations in policy models, the dynamic theory of price setting, advances in our understanding of the transmission mechanism of monetary policy, and an understanding of how rules and increased transparency could improve the credibility of policy.

The experiment with inflation targeting that started in New Zealand embodies all of these lessons in a strategy for monetary policy with the following features: (i) an explicit empirical target for inflation, (ii) a coherent strategy for pursuing that target, (iii) a flexible approach to the implementation of the strategy, (iv) unprecedented transparency for monetary policy, and (v) formal accountability measures to accompany rising central bank independence (Du Plessis, 2006).

Meanwhile, non-inflation targeting central banks had converged, in practice, on much the same system, as Alan Greenspan argued some years ago, in his words:

“... the actual practice of monetary policy by inflation targeting central banks now closely resembles the practice of those central banks, such as the European Central Bank, the Bank of Japan, and the Federal Reserve, that have not chosen to adopt the paradigm.” (Greenspan, 2004: 39)

This remarkable consensus supported economic policy in an era of both high growth and considerable stability internationally. Of course, not all questions had been answered, and chief amongst the open questions was how, if at all, to respond to potentially destabilising asset price movements. From a monetary policy perspective, our interest in asset prices derives from the risks they pose to financial stability and, although I have not said anything about that yet, the pre-crisis consensus included the maintenance of financial stability as a core component of monetary policy (see, for example, Mishkin, 2007).

Though financial stability remained on the plate of monetary policy, it was agreed that the pursuit thereof was not the policy's direct task. The happy fact was, so argued Bernanke and Gertler (1999), that financial and macroeconomic stability (stable inflation and stable output growth) were highly complementary goals for monetary policy, and a framework such as flexible inflation targeting would help the authorities do as much as they reasonably could to prevent financial imbalances from emerging. Their argument carried the day and became a central plank of the pre-crisis consensus, with the added expectation, that should an asset bubble nevertheless emerge and eventually collapse, the inflation targeting central bank would have the flexibility to "mop up afterwards" with an appropriately accommodating policy to avoid lasting economic fallout (Mishkin, 2011).

The consensus also recognised a role for financial regulation, but these regulations were designed and implemented separately from the interest rate deliberations of the bank. As a practical matter, monetary policy had become interest rate policy focussed on a narrow and complementary set of macroeconomic stability goals (Buiter, 2012: 1), with one exception: foreign exchange market intervention. Even in countries with floating exchange rates, it is understood that the central bank might use its balance sheet to smooth extreme fluctuations. In those countries with a fixed nominal exchange rate, the central bank has to maintain the target rate with direct market intervention. However, it is not unusual to talk of a loss of monetary independence for countries with fixed exchange rates, terminology that shows the close association between interest rate policy and monetary policy in the consensus view.

2. Balance sheets matter

There are a number of famous irrelevance results in economics with respect to balance sheets. Given an extremely unlikely set of assumptions, the initial distribution of assets and rights would be irrelevant from an efficiency perspective, argued Ronald Coase (1960). And Modigliani and Miller (1958) showed that the structure of a firm's balance sheet also does not matter for the firm's value without distortions and frictions in capital markets. But these authors were simply marking out theoretical reference points: since their assumptions did not match the circumstances in actual economies, they all argued that assets and, accordingly, balance sheets mattered greatly (Goodhart, 1975: chapter 5; Buiter, 2012).

It is because balance sheets matter that there is a role for a differentiated financial sector in a market economy. Financial institutions offer different methods for transforming balance sheets, both for the private and the public sectors. Financial intermediaries achieve this by offering a range of services: they lower the information cost associated with investment and saving, and they provide insurance, and crucially, intermediaries can issue liabilities (such as deposits or interbank loans) and use the financial resources acquired in that way to purchase higher-yielding assets issued by borrowers. This is the process we know as intermediation.

In principle, as Goodhart (1975) observed, the public sector can provide all of these intermediary services although, in practice, they have been left largely to the private sector in market economies. Nevertheless, the ability of a government to issue liabilities through a central bank provides an instrument for that government to influence private sector intermediation. I am not referring to what earlier scholars called credit policy, which is what we call interest rate policy (for example, Friedman, 1964). The central bank, as a bank, has the ability to influence private sector balance sheets directly when the bank issues its own liabilities. These central bank liabilities include not only notes and coins, but also bank reserves: they are instruments of monetary policy. Additionally, these instruments affect the transmission channels of interest rate policy through their impact on private sector balance sheets.

The impact of balance sheet operations on monetary conditions in the economy can be divided broadly into signalling and portfolio balance effects.

It is well known that the level of the policy interest rate is not sufficient to identify the stance of monetary policy: a given level of the policy rate is consistent with a potentially wide array of monetary conditions, depending on the shape of the yield curve and asset market conditions. Friedman's central claim about the role of monetary policy in the Great Depression was that monetary policy, as experienced on asset markets and in the banking sector, had tightened dramatically, despite the belief of Keynesian economists at the time that policy had been eased aggressively. This is why the same episode that provided Friedman with his strongest evidence of the importance of monetary policy was interpreted by contemporaries as evidence of its impotence (Friedman, 1968).

The lesson was well learnt. For the duration of the modern consensus, the need to link the current stance of policy with conditions on forward-looking asset markets more broadly was accepted and achieved via the expectations of future monetary policy. Woodford articulated this argument with great clarity in *Interest and Prices*, from which the following lines have been quoted:

“For successful monetary policy is not so much a matter of effective control of overnight interest rates as it is of shaping market *expectations* of the way in which interest rates, inflation, and income are likely to evolve over the coming year and later Not only do expectations about policy matter, but, at least under current conditions, very little *else* matters” (Woodford, 2003: 15).

During the international financial crisis, the management of these expectations became increasingly explicit as the Fed (and other central banks) committed themselves to very low interest rates over long horizons, in what has become known as “forward guidance” (Woodford, 2012). My intention is not to examine here whether Woodford is correct in his optimistic evaluation of “forward guidance” or whether Goodhart (2012) is right to be sceptical thereof. The topic at hand concerns those cases, which we have also seen during and since the crisis, where central banks have used their balance sheets to work with forward guidance along this signalling channel.

In addition to the signalling channel, balance sheet operations also affect monetary conditions through their impact on private sector portfolios, along what are usually called “portfolio balance channels”. The most obvious channel is called the portfolio balance effect and refers to the impact on relative asset yields following balance sheet operations, due to imperfect substitutability on the asset side of private balance sheets (Borio and Disyatat, 2009: 13; Goodhart, 2012: 126).

The credit channel refers to the impact of balance sheet operations via the liability side of private sector balance sheets. Here too, imperfect substitutability and asymmetric information provide a lever for the central bank, by affecting asset values and hence collateral to influence the volume of credit extended to the private sector (Borio and Disyatat, 2009: 14).

In addition to these channels of influence, balance sheet policies might also influence the more familiar channels of interest rate policy. For example, the ECB's President Draghi recently argued that balance sheet operations were required to stabilise conditions on capital markets that were undermining the interest rate channel; in his words:

“To the extent that the size of the sovereign premia hamper the functioning of the monetary policy transmission channels, they come within our mandate” (Draghi, quoted in: Wilson et al., 2012: 1).

Draghi's argument is in the spirit of the accumulating evidence that the balance sheet strengths of banks are important bank lending channels of monetary policy and that they are influenced by capital market disruptions such as are currently being experienced on some sovereign debt markets in Europe (see Disyatat, 2010, for a review of the evidence). At the same time, his argument implies that forward guidance had been unequal to the task and that direct asset market intervention was now required. Prior to the international financial crisis, the direct use of the central banks' balance sheets as policy instruments had fallen so definitively out of use that their reintroduction during and after the financial crisis was experienced as “nonconventional” or “unconventional” monetary policy³ (Borio and Disyatat, 2009; Mishkin, 2011).

It was not always so. In an earlier era, central bankers and scholars of monetary policy regarded balance sheet policy as central to monetary policy, and financial stability was its explicit objective. Milton Friedman (1964), for example, distinguished between what he called credit policy, i.e. policies to influence interest rates and credit conditions, on the one hand, from monetary policy, on the other, by which he meant policies that changed the size and composition of central bank liabilities, especially money balances.

His distinction was not just semantic: Friedman argued that monetary policy mistakes were causal to the Great Depression and that the specific mistake was to focus narrowly on interest rate policy to the neglect of the Fed's balance sheet: the neglect of monetary policy (Friedman and Schwartz, 1963; Friedman, 1964). From the analysis and the historical evidence, Friedman deduced that “...the central problem is not to construct a

³ These developments and the theory that support them has been called Neo-Wicksellian by Michael Woodford (Goodhart, 2012) in honour of Knut Wicksell an early proponent of, inter alia, monetary policy as interest rate policy.

highly sensitive instrument that can continuously offset instability introduced by other factors, but rather to prevent monetary arrangements themselves becoming a primary source of instability” (Friedman, 1959: 23).

Friedman was reacting to a shift in monetary policy during the immediate aftermath of the Second World War, which he thought was caused by the evolution of macroeconomics along Keynesian lines (Friedman, 1948: 245). It was the rising concern with short-term instability and the design of macroeconomic policy to counter such instability that motivated the shift in policy practice and policy objectives at central banks. The policy reforms he proposed in this era were aimed at refocussing the monetary policy framework towards the achievement of the long-term goal of financial stability⁴. This package of reforms anticipated many of the modern insights about the relative scope for anti-cyclical fiscal policy and the risks of fiscal dominance for monetary policy.

Meanwhile, the Keynesian theory of monetary policy was moving in a different direction. From the start, Keynesian macroeconomic policy was model-based, and in the decades after the War, that meant, especially, versions of the IS-LM model. The culmination of this evolution, by which balance sheet policies became unconventional, was William Poole’s solution to the so-called instrument problem for monetary policy in 1970 (Poole, 1970). The question on Poole’s table was whether central banks should use (i) balance sheet policy in the form of the money stock, (ii) a short-term interest rate, or (iii) a combination of the two as policy instruments.

His important result, derived with a stochastic IS-LM model, was that the structural parameters of the model (the slopes of the IS and LM curves), and the relative sizes of the stochastic disturbances in the real economy and the asset markets determined the most efficient policy tool. Accordingly, our view of the structural characteristics of the economy will affect our choice of policy instrument. Poole (1970) showed that, in his model, the interest rate was the preferred instrument when shocks to the monetary

⁴ The major components of Friedman’s programme were:

1. Firstly, curtailing private sector money creation, or bank leverage (a theme that sounds familiar today).
2. Secondly, curtailing the discretion of the central bank with respect to the monetary policy by adopting a balance-sheet rule.
3. At the same time, fiscal policy would have to be reformed to remove the possibility of discretionary anti-cyclical fiscal policy, but would include automatic fiscal stabilizers and a transfer programme (2003).

sector were relatively large compared with shocks to aggregate expenditure. The money stock was preferred when shocks to the monetary sector were relatively smaller.

Poole's argument and our knowledge of the disturbances of modern economies did much to shift modern central banks to a convention of monetary policy as interest rate policy. Conventional monetary policy would, henceforth, be a system for setting the interest rate path to ensure economic stability (for inflation and output relative to long-term potential) over business cycle horizons. In this way, balance sheet policy, which had earlier been used to pursue financial stability, became unconventional.

However an IS-LM model has no role for balance sheets, whether private or public, and therefore cannot be used to judge their role in financial stability. From this perspective, it is regrettable that Poole's enormously influential analysis framed the instrument problem in monetary economics in such a way as to effectively eliminate the role that balance sheet policies could and had played in the past. Goodhart, Sunirand and Tsomocos (2011) recently returned to Poole's question, but in a model updated for the post-financial crisis world. In order to include financial stability as a goal of monetary policy, they used a general equilibrium model with heterogeneous banks, and the possibility of default, incomplete markets and a role for money. But the question is the same as Poole's, i.e. is an interest rule better or worse than a money supply rule in maintaining financial stability?

Their answer is clear: the interest rate rule still emerges as the preferable policy tool because it avoids the inadvertent monetary policy tightening during a financial crisis that vexed Friedman so much. This is not the end of the matter though. Goodhart et al. (2011: 72) treated the monetary base as the dual of the policy interest rate in their model, i.e. they assumed a one-for-one mapping between the policy interest rate and the monetary base. Modern operational procedures at central banks have broken this one-for-one mapping though (Disyatat, 2008), if it ever existed, and with it, the confidence we might have in the result of Goodhart et al (2011).

3. Conventional balance sheet policy in the future

The academic literature, until recently, has treated a central bank's interest rate decision as interchangeable with the choice of a level for the money supply. Charles Goodhart has

been a notable exception to this rule, but even he used it in his paper with Sunirand and Tsomocos (2011) that I discussed earlier.

Central bankers have a very different view. The open market operations associated with the implementation of the target level for the policy interest are entirely endogenous in those central banks, such as the Fed, that still use them. As Woodford (2003) has argued, the interest rate decision is primary, and is taken at a completely different level in the central bank compared with the operations desk, where liquidity operations are conducted. What is more, the Bank of Canada and others have shown that there is no need to use any open-market operations to implement a target level for the policy interest rate. The “channel” or “corridor” method used at these central banks employs private sector arbitrage to ensure that the policy rate remains in a narrow band around the target level for the policy rate⁵ (Disyatat, 2008). This approach has the added advantage of much tighter control over the actual policy rate (Woodford, 2003: 31).

While a central bank’s balance sheet will adjust passively as the private demand for its liabilities evolves, the bank does not intentionally adjust its balance sheet to implement its interest rate policy, a point my colleague Basil Moore made persuasively many years ago (e.g. Moore, 1988). Borio and Disyatat (2009) are correct in saying that the bank’s balance sheet policies can be decoupled from the bank’s interest rate policy (see also Disyatat, 2008). This decoupling leaves space even for the pursuit of different goals under the banner of monetary policy, of which Goodhart (2011: 147) has provided an example: the authorities might use interest rate policy to lean against a currency’s depreciation while using their balance sheet to maintain domestic monetary accommodation. It also means that the Fed would not have to unwind its currently expanded balance sheet before raising the Federal Funds rate from its current low level (Borio and Disyatat, 2009: 6).

The scope for separate balance sheet policy has implications for the stability of the banking sector, although the full impact is only evident when we realise how modern private sector banks are funded, i.e. not with deposits. Modern banks finance their

⁵ There is some discussion amongst scholars of monetary economics about the ultimate foundation for the central bank’s ability to set the policy interest rate, with some emphasising the final settlement of payment through the central bank and others the network advantage for central bank liabilities derived from it being the government’s bank. The common ground in this debate is that the foundation for interest rate policy lies in the central bank being the government’s bank (Goodhart, 2000).

lending activity by borrowing, in turn, on wholesale markets at a different and typically shorter maturity, and on more favourable terms than they charge their clients. It follows that neither cash reserves nor liquidity constrains the size of private bank balance sheets, though these will affect the cost of loans offered by private banks (Borio and Disyatat, 2009: 19). Reserves can be borrowed to the amount required at the central bank, and the same is true for liquid assets on the wholesale market⁶.

The stability of the banking sector depends critically on the continued access to these sources of funding by private sector banks. In the 19th century, when retail deposits funded commercial banks, stability was ensured by the Bagehot rule, whereby the central bank would step in as lender of last resort to prevent the collapse of currently illiquid, but fundamentally solvent, banks. A modern run-on-the-bank occurs not at bank tellers though, but in the same wholesale market where banks borrow most of their funding (Blanchard, 2009). Since 2008, central banks have demonstrated their capacity to prevent this collapse by their unique and discretionary ability to expand the liabilities on their balance sheets and shore up the wholesale markets. They did this by helping banks transform the asset side of their balance sheet. This was the start of the nonconventional monetary policies that have caused so much controversy.

However, there is very little that should be controversial here. When the central bank uses its balance sheet towards preserving private sector financial stability, it is doing what central banks have always done and is doing this in the manner that only a central bank can, i.e. as a special kind of bank. The distinguishing feature of a central bank is, on the one hand, the fact that its liabilities “...define the unit of account in a wide range of contracts that other people exchange with one another”, as Woodford (2003: 37) said,

⁶ Since the liability side of their balance sheets cannot curtail the expansion of assets at private banks, the only cap on that expansion is their capital. The implicit guarantees offered by governments to deposit holders (often explicitly under deposit insurance schemes) and bond holders under the expanded interpretation of the Bagehot rule (Du Plessis, 2012) means that the Modigliani-Miller theorem does not hold for modern banks and biases them towards holding much debt and little capital (Goodhart et al., 2011). Bank leverage rose and with it the macro-prudential risks that have become a major policy challenge at this time.

This is also why the Basel Accords on bank regulation internationally have focussed on capital-adequacy ratios. The way in which Basel I and II tried to encourage safer balance sheets was controversial and, in the event, unsuccessful (Goodhart, 2010). The case for much higher owned equity – to reduce bank leverage and, with it, the associated macro-prudential risks of the current banking system – was recently made by Admati, DeMarzo, Hellwig, and Pfleiderer (2012).

and on the other hand, that it has the power to create such liabilities at its discretion (Goodhart, 2011).

To be a central bank requires taking responsibility for the balance sheet operations just described. By contrast, determining the level of a policy interest rate is not a necessary function of the central bank (Goodhart, 2011), although it has become conventional. “A Central Bank is a bank” said Lord Cobbold, a former governor of the Bank of England, “...not a study group” (quoted in Goodhart, 2011: 146). The reference to a “study group” need not be derogatory. It refers to a group of people engaged in a common analytical activity and captures what modern monetary policy committees do: they study the current condition and likely unfolding of the economy to determine a proper interest rate path, given the goals of monetary policy.

However, as Goodhart (2011) has observed, the work of a monetary policy committee is not connected in any logical way with the necessary responsibility for a central bank’s balance sheet. It is possible for a private committee, a research bureau or a government department to form the required study group, after which the central bank will implement their decision and retain its responsibility for using its liabilities to provide for financial stability. When one asks “whether a central bank that sets interest rates should also manage financial stability”, you are questioning the wrong way around argues Goodhart (2011: 146). The argument developed here suggests that the appropriate question should be: “... whether a central bank that manages both liquidity and financial stability should also be given the task of setting interest rates” Goodhart (2011: 146).

Balance sheet policy is not sufficiently described by an expansion of the liability side of a central bank’s balance sheet though. To complete the description, we need to discover the market where these liabilities will be deployed and the assets that will be added to the central bank’s balance sheet. The latest round of quantitative easing announced by the Federal Reserve Board will entail, for example, the creation of central bank liabilities with which to purchase short-dated government debt. Meanwhile, the ongoing “operation twist”⁷ is a scheme under which the short-dated government debt on the Fed’s balance sheet is traded for longer-dated debt, to drive down interest rates further along the yield curve.

⁷ The Fed pursued a similar strategy under the name “operation nudge” in the early 1960s (Beard, 1964).

Irrespective of the market chosen for the balance sheet policy intervention, there will be distributional consequences which have to be considered and, in most cases, there will be fiscal consequences as well (Goodhart, 2011). These fiscal consequences of monetary policy decisions have always existed (Sargent and Wallace, 1981), but are more explicit when balance sheet operations are used. These policies will affect the terms for government debt and also expose a central bank to interest rate and even credit risk, the financial consequences of which will ultimately be carried by the tax payer. Accordingly, it is useful to view the central bank's balance sheet as part of the consolidated public sector balance sheet (Borio and Disyatat, 2009).

The expectation of a need for closer co-operation between fiscal and monetary authorities in the future, based on the more frequent use of balance sheet policies, taxes on banks, and expanded financial regulation, led Goodhart to one of the most surprising conclusions in monetary economics for some years, i.e. that "...the idea of a central bank as an independent *institution* will be put aside" (Goodhart, 2011: 154). The italics are in the original and they are important. With reference to Lord Cobbold's argument, Goodhart identifies the institution of the central bank with its balance sheet, which has never been, and will never be, independent from fiscal policy. What has been called central bank independence for a generation refers to the scope for the monetary authorities to set interest rate policy without fiscal dominance⁸. It would be possible to retain such independence for interest rate policy in a central bank that is also collaborating with fiscal authorities in the management of its balance sheet.

The argument developed here has run far ahead of the known intentions of central bankers though. During the crisis policy interest rates were pushed close to the zero lower bound in a number of developed countries, and balance sheet policies emerged as a "poor man's" policy response, to use Buiter's (2012) words. However, there is no reason to suspect that these policies were only effective once the scope had run out for interest rate policy. The earlier discussion of their impact on the transmission mechanism

⁸ There are also aspects of fiscal policy that benefit from independent assessment analogous to the interest rate policy at the central bank. As a specific example, one might think of the task of identifying the structural budget balance, with which to determine the underlying stance of fiscal policy. Chile uses an independent fiscal council to this end, and it is to this kind of example one might look if the required balance sheet co-ordination of the central bank undermines the independent ability to set the policy interest rate.

suggests, on the contrary, a role for the central bank's balance sheet at all levels of the policy interest rate. Balance sheet policies may even provide extra degrees of freedom for an inflation targeting central bank that faces, for example, unexpected international capital flows (Goodhart, 2012).

This does not imply that it will be easy to use balance sheet operations in the normal course of business. Central banks are just one participant in assets markets and cannot move them with anything like the precision it has over the policy interest rate. This problem of control is compounded by an epistemological problem: we know far less where econometric estimates are concerned about the potential impact of balance sheet policies. It is not implausible to argue that their best work might well be done, as during the crisis, when markets are thin or liquidity risk is high. Balance sheet operations at such a time and in the right market can bring the private sector back in and restore market stability (Borio and Disyatat, 2009: 14).

4. Conclusion

By way of a summary, I will offer a new reading of Milton Friedman's "The Role of Monetary Policy" (Friedman, 1968), an academic cornerstone of modern monetary policy⁹. The standard interpretation is that Friedman undermined the belief in an exploitable Phillips curve and macroeconomic fine-tuning. In this way, he paved the way, so the story goes, for the adoption of systematic monetary policy focussed on the maintenance of low and stable inflation over the long run. Of course, the policy instrument was soon changed from Friedman's recommended money growth rule to an interest rate rule, following William Poole's (1970) reasoning.

For the last generation, monetary policy has meant interest rate policy, set by a "study group" in an instrument-independent central bank and focussed on a macroeconomic stability goal, such as flexible inflation targeting. Expectations about the future direction of policy provided the unique identification of the policy stance in this project. The central bank's balance sheet, that part of the institution that is truly unique, played little more than a reactive role in this configuration. As the international financial crisis drove

⁹ A committee of the American Economic Association, the Top 20 Committee, recently included Friedman's paper in the list of top 20 articles in the *American Economic Review's* first, "The First 100 Years" (Arrow et al., 2011).

policy interest rates to the zero lower bound in the developed world though, the balance sheet policy re-emerged from its decades-long dormancy.

Friedman would have been concerned with precisely this neglect of the central bank's balance sheet. Recall that monetary policy meant, in the first instance, balance sheet policy to him and that he thought the appropriate goal was long-term stability, to which financial stability, and not the business cycle, posed the greatest threat. Here is how he formulated these points in his 1968 paper:

“The first and most important lesson that history teaches about what monetary policy can do ... is that monetary policy can prevent money itself from being a major source of economic disturbance. This sounds like a negative proposition: avoid major mistakes. In part it is. The Great Contraction might not have occurred at all, and if it had, it would have been far less severe if the monetary authority had avoided mistakes ...” But he continued with a positive role for policy: “The monetary machine has gotten out of order even when there has been no central authority with anything like the power now possessed by the Fed. In the United States, the 1907 episode and earlier banking panics are examples of how the monetary machine can get out of order largely on its own. There is therefore a positive and important task for the monetary authority – to suggest improvements in the machine that will reduce the chances that it will get out of order, and to use its own powers so as to keep the machine in good working order” (Friedman, 1968: 12-13).

The goal of price stability comes only after this focus on long-run financial stability in Friedman's argument, and he expected the central bank's balance sheet to play a central role in the pursuit of these goals. In the wake of the international financial crisis, central bank balance sheets have re-emerged as important policy tools, although initially as a “poor man's” monetary policy, to be used only when interest rate policy and forward guidance have been exhausted.

I have argued that the imperative to guard financial stability more directly creates room for central bank balance sheet policy to return to the conventional role it played in earlier years. This is not simply a “poor man's” policy instrument, but can become a powerful,

permanent tool of monetary policy, with an influence on the transmission mechanism of interest rate policy. It can also be useful at positive levels of policy interest rates. A reconsideration of balance sheet policy as a permanent tool of monetary policy seems warranted as we search for a platform and configuration of instruments to confront the challenges of macro-prudential policy. This development of the policy tools will not undermine inflation targeting as the guide for interest rate policy, but it will broaden our perspective on the scope of monetary policy.

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