

Final Submission

Why Inflation Targeting is not Enough: Monetary Policy in the Presence of Financial Exuberance

Abstract

The paper argues that inflation targeting is an insufficient framework for monetary policy in the presence of financial exuberance. It also argues that current theoretical rationalizations of inflation targeting are flawed, being unable to explain why central banks should aim for “low” inflation. A low inflation target can be justified if monetary policy is placed in a backward bending Phillips curve model, in which case policy should target the minimum unemployment rate of inflation (MURI). However, inflation targeting cannot address the problem of debt bubbles. This suggests that it should be paired with private sector balance sheet regulations that give central banks additional instruments to tackle asset market instabilities.

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Introduction: the new context of rapid financial innovation and deregulation

The last twenty years have seen massive financial market deregulation and innovation that has changed the landscape of financial markets. One significant change has been the decline in the relative size of the banking sector, which has been persistently eroded by growth of money market mutual funds and the commercial paper market. A second has been a massive expansion in the share of private wealth held in the form of equities. These two changes are illustrated in tables 1 and 2. Table 1 shows that bank deposits have fallen from 25% of household financial assets in 1979 to 10% in 1999, while table 2 shows that the bank and thrift share of financial sector assets has fallen from 52% in 1979 to 22% in 1999. Table 1 also shows that corporate equities and mutual fund shares have risen from 14% of household financial assets in 1979 to 34% in 1999, reflecting increased household demand for equities.

From a policy perspective, the significance of deregulation and innovation is that it has changed the choice sets available to financial market participants, which in turn has generated changed behaviors and introduced new sources of disturbances and new channels of monetary transmission. In particular, the private sector is now capable of massive rapid financial asset and liability creation. As a result, monetary policy that focuses exclusively on real economic conditions – be it the unemployment rate, the potential output gap, or the inflation rate – is likely to be inadequate. This is the lesson from Japan’s asset price bubble, and it is also the lesson that U.S. policy makers are learning as the air slowly escapes from the Goldilocks bubble of the late 1990s.

The current paper outlines a framework for monetary policy that emphasizes both inflation rate targeting and financial intermediary balance sheet regulation. It is argued that both are needed in today’s financial environment. Interest rate policy should be located within a framework of inflation targeting, and used to attain the minimum unemployment rate of inflation (MURI). However, balance sheet regulation is also needed to control for the heightened possibility of financial instability resulting from the increased elasticity of private money production caused by financial innovation and deregulation.

Money supply versus interest rate targets: lessons from an earlier debate

Before engaging with discussions of contemporary monetary policy it is worth revisiting an earlier debate over whether central banks should focus on control of interest rates or the money supply. This is because the factors that foiled earlier monetarist prescriptions for money supply targets also stand to foil today's policy prescription of inflation targeting. These factors concern the endogeneity of financial asset and liability creation, which means that balance sheets can move rapidly toward conditions of financial fragility even as the real economy appears healthy.

The 1960s witnessed the great monetarist debates in which Keynesians tended to advocate an interest rate focus, while monetarists advocated a money supply focus.¹ The latter argued that the business cycle was principally driven by money supply fluctuations caused by central banks, and central banks should therefore aim to grow the money supply in steady predictable fashion. (Friedman and Schwarz, 1963a, 1963b). This debate is now largely settled in favor of focusing on interest rates. Apart from a few diehards at the Bundesbank and the European Central Bank, most central banks appear to pay little heed to the evolution of money supply aggregates. Instead, they use interest rates as their primary instrument of control, adjusting rates in response to changed macroeconomic conditions. This outcome was the result of pragmatic empiricism. First, the interest rate volatility associated with the Thatcher - Volker monetarist experiments of late 1970s and early 1980s made for a difficult business investment environment. Second, understanding the significance of monetary aggregates became increasingly difficult owing to a progressive breakdown in the empirical relations between monetary aggregates, real economic activity, and inflation. This breakdown was rationalized by Charles Goodhart in Goodhart's law, which states that every time a monetary authority tries to target a particular monetary aggregate, previously stable empirical relationships between that aggregate and economic activity will break down.

The above pragmatic retreat from money supply targeting was also accompanied by a

¹ . For reviews of this debate see Palley (1993) and De Long (2000).

theoretical rationalization constructed in terms of money demand.² Here, the argument was that money demand became increasingly volatile and unpredictable, thereby making monetary targets inappropriate. Such a story fit with Poole's (1970) seminal stochastic ISLM model in which money demand uncertainty is best dealt with by targeting interest rates.³ However, this theoretical account represents a case of reaching a correct policy conclusion on the basis of wrong reasoning. Money is an I.O.U., and the private sector has always been capable of creating I.O.U.s. Financial innovation and deregulation have enhanced this capacity. Interpreted in this light, money supply targeting represents an attempt by central banks to control private sector I.O.U. creation through control over either short term interest rates or the monetary base. However, such targeting is bound to fail since controlling one type of I.O.U. (eg. M1) merely induces a shift into creation of other types. This is the analytic foundation of Goodhart's law. It is also the foundation of the Post Keynesian theory of the endogenous money supply in which bank lending drives the money supply (Moore, 1988; Palley, 1987/8, 1994a).

A Post Keynesian endogenous money supply perspective provides a clear theoretical explanation of Goodhart's law and the well-documented breakdown of empirical relationships between monetary aggregates and economic activity. It also encompasses the conventional money demand story. Financial innovation and deregulation increased the elasticity of private production of money, enabling the financial system to even more easily and quickly escape quantitative monetary constraints that central banks may try to impose through money supply targets. Money demand also had to change because financial markets clear. However, the engine of change was the financial sector's creation of new liabilities and portfolio possibilities.

². The canonical paper in this line of explanation is Goldfeld (1976).

³. Poole's (1970) paper spawned a cottage industry on the optimal conduct of monetary policy. This literature distinguishes between ultimate targets, intermediate targets, and policy instruments. In a sense, it consists of two literatures. The first explores these issues in the context of Keynesian styled ISLM models, while the second explores them in the context of New Classical macroeconomic models with *ex-ante* labor market clearing and rational expectations. This literature is comprehensively surveyed in Friedman (1990).

Viewed from such a perspective, the logic of monetarism was always flawed, and financial innovation and deregulation merely further exposed the flaws. The non-viability of money supply targets is an inevitable consequence of the endogeneity of finance. The argument in the balance of the paper is that just as the endogeneity of finance compelled a shift to interest rate targeting, so too it compels a new need for monetary authorities to be able to separately address financial asset and liability production. The existing policy paradigm does not yet recognize this, and continues to focus exclusively on conditions in the real economy.

From NAIRU to Inflation targeting

The recognition that monetary policy should operate through interest rates rather than money supply targets leaves open the question of how interest rates should be set. For most of the last twenty five years monetary policy has been placed within a NAIRU framework. However, recently NAIRU has been receding as a concept for guiding policy, being increasingly replaced by the notion of “inflation targeting.”

In many regards the retreat from NAIRU driven policy to inflation targeting has parallels with the earlier monetarist debate. Just as money supply targeting proved impractical, so too has NAIRU based policy. One problem is that empirical estimates of NAIRU have proven to be extremely volatile (Staiger, Stock, and Watson, 1997), which undermines its practical usefulness for policy. A second problem is that empirical estimates of the NAIRU tend to track the actual unemployment, thereby risking a “structural unemployment policy trap (Palley, 1999a).”⁴ Such a trap emerges because policy makers are led to misinterpret cyclical jumps in unemployment as jumps in the NAIRU. Lack of a counter-cyclical policy response can then become self-validating to the extent that prolonged unemployment and demand weakness destroy human, physical, and organizational capital, thereby transforming cyclical unemployment into structural unemployment.

⁴. The concept of the NAIRU is reviewed in a symposium in the Journal of Economic Perspectives, September - October, 1997. Galbraith (1997) is especially critical of the NAIRU as a framework for policy.

The flawed nature of NAIRU as a policy framework has prompted many central bankers – especially in the U.S. – to quietly abandon it for operating purposes. Side-by-side, economists have increasingly argued for a new inflation targeting policy framework. Rather than focusing on labor markets and the unemployment rate, monetary authorities should adopt “forward looking inflation targets” that are accompanied by “significant discretion.”⁵

What is the justification for such an approach? A first possible justification rests on pragmatic empiricism. Here, the argument is that inflation targeting has resulted in good economic outcomes in those countries where central banks have adopted it as their policy framework (Mishkin and Posen, 1997; Bernanke et al, 1999). However, this pragmatic approach leaves open the theoretical explanation regarding why inflation targeting works, and it also leaves open what the target should be.

At a theoretical level, inflation targeting remains rooted in NAIRU based thinking, which is ironic given that NAIRU has been discredited as a framework for policy. Within the NAIRU framework, inflation can be thought of as a summary statistic of economic conditions. If inflation is increasing, this suggests excess demand conditions; if it is falling, this suggests excess supply conditions. Inflation movements can therefore provide a valuable signal for policy. Earlier NAIRU based policy can be thought of taking its cue from quantity signals, whereas inflation targeting policy can be thought of as taking its cue from price signals. However, interestingly, such a theoretical interpretation really emphasizes the “change” in the rate of inflation, whereas inflation targeting emphasizes a “low level” of inflation. This is an important inconsistency which has been strangely over-looked.

A second theoretical justification is in terms of information and institutions. This justification derives from the game-theoretic “rules versus discretion” approach to policy initiated by Kydland and Prescott (1977), and applied to monetary policy by Barro and Gordon

⁵. Mishkin and Posen (1997), Bernanke and Mishkin (1997), and Bernanke et al. (1999) represent early proponent presentations for inflation targeting, and have helped put it on the policy front burner.

(1983). The game theoretic approach persists with a NAIRU construction of the real economy whereby monetary policy cannot systematically impact the equilibrium rate of unemployment, but in addition it represents monetary policy in terms of a non-cooperative game between an opportunistic monetary authority and the general public.⁶ In this non-cooperative game-theoretic framework monetary policy can still impact welfare and real outcomes if (1) it increases the variability of inflation, or (2) inflation enters as a negative argument in agents' utility functions. Given these conditions, the rules approach suggests adoption of transparent, credible monetary institutions and policy arrangements that serve to bind the monetary authority and discourage it from adopting high, variable, and uncertain inflation. Inflation targeting can be viewed as such a policy arrangement, and it is in this light that I interpret Posen's (2002) discussion of the case for transparent accountable inflation targeting.

However, though NAIRU based models may be capable of providing a theoretical justification for inflation targeting, their rationale is weak. First, the incorporation of inflation as an argument in the utility function is *ad hoc*. And if a theoretical justification in terms of "shoe leather" costs is given, this suggests a positively sloped rather than a vertical Phillips curve, which would undermine the monetary authority's incentive to behave opportunistically regarding high inflation. Second, game-theoretic NAIRU models suggest that binding policy rules - such as the Taylor rule - will work better than publicly announced inflation targeting in which the monetary authority retains significant discretion. If the justification for such discretion is the monetary authority's superior information, it should simply make this information publicly available. Third, and most critically, NAIRU-based models provide no guidance as to what the inflation target should be. If dis-inflation is costly, they suggest the target should be the current

⁶. Palley (1996, 1998) discusses the political economy of this construction. The mainstream of the economics profession has focused on the distinction between "control-theoretic" and "game-theoretic" approaches to monetary policy. At the base of this distinction is the question of whether the monetary authority is "benevolent" or "opportunistic." An alternative political economy approach emphasizes "class and sectoral differences of interest." The balance of political power and institutional arrangements then determine whose interests the monetary authority tilts toward. See also Epstein (1992).

inflation rate. And if there are disutility costs to inflation, they suggest the inflation target should be zero inflation (i.e. price stability). NAIRU based models can explain why policy makers should adopt “stable” inflation targets, but they cannot explain why there should be a target of “low” inflation. Yet, low inflation targets is where the policy debate has converged, suggesting that something is amiss with the NAIRU based approach to inflation targeting.

The minimum unemployment rate of inflation (MURI): a new approach to inflation targeting

The above observations point to the need for a different theoretical justification for inflation targeting. Traditional Keynesian Phillips curve theory says that there exists a permanent systematic policy-exploitable trade-off between inflation and unemployment that allows policymakers to buy lasting reductions in the unemployment rate at the cost of higher inflation.⁷ However, within the Keynesian model the issue of what constitutes the optimal inflation rate is left hanging on policy maker preferences.⁸ Recently, Akerlof et al (2000) have suggested that the Phillips curve may be backward bending if workers have near-rationality about inflation that leads them to ignore it at low levels. Their model is similar to that of Rowthorn (1977) who

⁷. Tobin (1972), Palley (1994b) and Akerlof et al. (1996) provide a micro-founded explanation of the traditional negatively sloped Keynesian Phillips curve that rests on the presence of downward nominal wage rigidity. In this Keynesian approach to the Phillips curve, nominal wages are downwardly rigid. This contrasts with the downward wage “stickiness” of contracting models, such as those by Fischer (1977) and Taylor (1980), in which wages adjust each contract period and are therefore only temporarily downwardly rigid. Taylor’s model obscures this feature by having inflation expectations that have a significant backward looking component, which makes expectations (rather than wages) a source of more lasting stickiness.

⁸. The standard neo-Keynesian approach to optimal inflation worked via a public policy welfare function in which lower unemployment and inflation rates are both goods, so that policy makers have convex indifference curves in unemployment rate - inflation space. The optimal inflation rate is then determined by the tangent of the policy maker’s indifference curve with the Phillips curve. Palley (1996) presents an alternative model in which inflation - unemployment rate preferences differ by economic class, so that the optimal inflation rate differs by economic class. Which inflation rate prevails depends on the degree of influence of each class over the central bank.

argues for a backward bending Phillips curve because workers ignore very low inflation. Palley (2000a) provides a different explanation of the backward bending Phillips curve, reasoning that workers in depressed industries and firms are willing to accept inflation induced real wage reductions so as to increase employment, but they do so only as long as the reductions are not too severe. Once inflation rises above a threshold level, workers resist real wage reduction, causing inflation to lose its labor market grease effect. The backward bending Phillips curve is shown in figure 1, and it generates a Minimum Unemployment Rate of Inflation (MURI) denoted by P^* which is associated with an unemployment rate of U^* . The argument is that the monetary authority should set the MURI as its inflation target.⁹

It is worth comparing the difference between a MURI approach to inflation and a NAIRU approach. In the NAIRU framework inflation is an outcome “summary statistic” that describes the state of economic balance. If inflation is increasing, this indicates that the economy is overheating (below the NAIRU), and the monetary authority should tighten. The reverse holds if inflation is falling. Contrastingly, in a MURI framework inflation is an “adjustment mechanism” that facilitates labor market adjustment. If inflation is below the MURI, an increase in inflation will lower the equilibrium unemployment rate. If it is above, it will raise it. Inflation is therefore a mechanism of adjustment - rather than an information variable - that needs to be calibrated optimally.

Just as the NAIRU is an unobservable concept, so too is the MURI. My own hunch is that within the U.S. the MURI lies in a 2 - 5% range, which should serve as the range for guiding inflation targeting. Such targeting should be forward looking, and capable of adjusting to

⁹. Palley (1998) provides an alternative public finance rationale of why the Phillips curve might be backward bending. The logic is that the distortionary “sand” effects of inflation on money demand and the tax system may come to outweigh the nominal wage grease effects. These sand effects have been emphasized by Feldstein (1979, 1983).

temporary supply side shocks. Thus, it should focus on the core underlying rate of inflation generated by the underlying level of macroeconomic activity. This is where discretion enters. The target should also be public and credible, and all of the arguments discussed above for a transparent credible inflation targeting regime continue to apply in principle within a MURI framework. Monetary policy should avoid creating inflation uncertainty which only generates additional risk premia in financial markets. Finally, a last advantage of the MURI is that it steers clear of the deflation trap and provides an inflation margin that allows for negative real interest rates should the nominal interest rate ever get pushed to zero (Summers, 1991)

Why Inflation targeting is insufficient: the problem of asset price and debt bubbles

The concept of the MURI provides an alternative theoretical framework for situating discussions of inflation targeting, and it shows how interest rate policy should be guided. However, in recent years there has been fairly sizeable asset price inflation which is not accounted for in standard measures of inflation such as the consumer price index. This has raised questions of whether monetary policy should respond to asset price inflation in an inflation targeting regime. This section addresses this question, and identifies three possible responses. (1) The monetary authority should leave its inflation target unchanged. (2) The monetary authority should modify its measure of inflation to reflect the impact of asset price inflation. (3) Asset price inflation poses an additional problem in monetary control that calls for additional policy instruments. The section argues that this third response is the right one.

The case for leaving inflation targets unchanged is discussed by Bernanke and Gertler (2000). Interestingly, their theoretical approach emphasizes the macroeconomic significance of asset prices which operate through collateral effects. Despite this, asset prices should not influence either the inflation target, and nor should asset prices be a target. The logic of their model is that asset prices impact aggregate demand (AD), and fluctuations in AD drive

fluctuations around the NAIRU that in turn drive fluctuations in inflation. Asset prices are therefore only important to the extent that they help predict AD, thereby helping to predict inflation. In effect, asset prices and all the other factors impacting AD, flow into a common funnel that then impacts inflation. The monetary authority should therefore watch AD, and asset prices are useful to the extent that they provide information on the future level of AD. But that is all, and they do not constitute a separate target.¹⁰

A second response, advocated by Goodhart (2001), is that the measurement of inflation needs to be adjusted to reflect the impact of asset price inflation. This theoretical conclusion fits with earlier work by Alchian and Klein (1973) that reached a similar conclusion. At an empirical level, Bryan et al. (2002) show that the exclusion of asset prices from the U.S. consumer price index understates inflation by about one-quarter percentage point. Goodhart (2001) and Goodhart and Hofmann (2001) then show that asset prices - especially house prices - matter for future price inflation, and they therefore argue that this merits monetary policy responding independently to asset prices.¹¹ However, such a policy recommendation is potentially problematic in that the monetary authority may now find itself with two targets (asset prices and the output gap) but only one instrument - the interest rate. These considerations point to the need for additional policy instruments.¹²

A third response is that neither inflation nor the change in the rate of inflation are sufficient to guide monetary policy. This is because economies can incur significant balance-sheet disorders that may build without any immediate effect on inflation, yet these balance-sheet

¹⁰. Mishkin (2001) reaches a similar conclusion.

¹¹. Case et al. (2001) also report the significance of housing prices for consumption.

¹². This is the classic policy problem identified by Tinbergen (1952).

disorders can have huge employment and output costs when they ultimately come to be resolved.¹³ Such disorders are short-hand for asset price and debt bubbles, and they are more likely in today's environment of innovation and deregulated financial markets. This is because innovation and deregulation have increased the elasticity of production of private money, allowing rapid and large changes in balance sheets and debt positions the sustainability of which only becomes clear later.

The problem for policy is that balance sheet disorders are likely to be over-looked if inflation is the sole target or indicator. And if interest rate policy is directed toward asset market and balance sheet management, then it is akin to using a policy blunderbuss that inflicts significant collateral damage on the rest of economy. Moreover, there are also significant distributional asymmetries regarding who benefits from asset price bubbles and who bears the cost of higher interest rates.

Regarding the inadequacy of inflation indicators, there are a number of reasons why the build-up of balance sheet and asset price disorders may have little impact on inflation. First, asset prices are not counted as part of inflation measures, and the CPI includes neither equity nor home prices. This can be corrected by adding these prices to the CPI, but would in turn complicate the process of wage setting and inflation indexation for purposes of real income protection.¹⁴ Second, in an increasingly globalized economic environment, increased spending

¹³. Concerns with balance sheet disorders leads to the debt-deflation hypothesis of Irving Fisher (1933) and the financial instability hypothesis of Hyman Minsky (1982). Palley (1994c) presents a speculative consumer debt-driven model of the business cycle. Bernanke, Gertler and Gilchrist (1996) presents an investment deb-driven model of the cycle. Kiyotaki and Moore (1997) present an investment model in a similar spirit. Palley (1999b) explores the problem of deflation in a fix-price Keynesian temporary disequilibrium model with debt.

¹⁴. Bryan et al. (2002.) Show that including the impact of asset prices on the CPI would raise the rate of inflation by one-quarter percentage point. Since CPI indexation is often used to protect real incomes (as with Social Security), augmenting the CPI to include asset prices could reward

generated by asset price and debt bubbles can be accommodated via the trade deficit.

Consequently, there may be no impact on the domestic price level, and instead private agents may incur debts to banks who in turn borrow from foreign lenders. Third, the economic dangers of asset price bubbles may be unrelated to aggregate demand and inflation. For instance, increased asset values may be applied as collateral to incur debt which is used to purchase additional assets that pushes asset prices up further. In this case, the result may be an unsustainable debt pyramid that pulls down the entire financial transactions system when it crashes. Fourth, the negative spending impacts of asset price bubbles may be compositional rather than aggregate. Thus, asset price bubbles may spur investment spending booms that are founded on distorted perceptions, and when these investments fail there may be significant negative blow-back into the financial system that negatively impacts overall economic activity.

Inflation targeting and the danger of asset market moral hazard

In addition to failing to address the problem of balance sheet disorders, reliance on just inflation targeting risks creating policy moral hazard in asset markets. The underlying cause of the moral hazard is that asset prices may rise considerably during periods of expansion without necessarily inducing inflation and a tightening response from the monetary authority. However, once the expansion comes to an end, asset prices stand exposed. At this stage a significant downward correction of asset prices risks significant negative consequences. First, falling asset prices could freeze markets to the extent that they create negative net equity positions that make it impossible for debt-burdened asset holders to sell. Second, by reducing collateral values, falling asset prices also make it harder to get new loans. Third, falling asset prices make it harder

persons twice in that they would benefit from the underlying asset price inflation, and they would then get an income adjustment on top of this. Moreover, this double rewarding would of course be skewed toward the wealthy.

to assess the value of new investment projects, particularly those in areas such as construction. Fourth, falling asset prices may strike at consumer confidence just when maintaining confidence is critical to aggregate demand.

All of these considerations suggest that the monetary authority will have an interest in actively preventing asset prices from falling. Thus, whereas the monetary authority may pay little explicit heed during the upturn, it steps in to protect values during the downturn. Indeed, this may well characterize Federal Reserve policy during 2001. *Prima facie*, the mildness of the recession and the relative stability of inflation did not call for as rapid and dramatic interest rate reductions as actually happened, suggesting that the Fed may have been guided by a desire to maintain asset prices and avoid an equity market melt-down.

The Fed was almost certainly right to pursue this policy, since under the existing system the Fed needs to keep asset prices up in a downturn. However, it is suggestive of the ultimate expression of “too big to fail,” and the moral hazard is clear. Under inflation targeting the Fed may have no cause to actively prevent asset price inflation on the way up, but then find itself compelled to limit asset price declines on the way down. The message to investors is take advantage of this asymmetric policy posture and hold flex-price assets, which sets the stage for bigger future asset price bubbles.

Conclusion

This paper has argued that inflation targeting provides a sensible but incomplete framework for monetary policy. Interestingly, existing theoretical justifications of inflation targeting are inadequate, being unable to justify why policy makers should choose a “low” inflation target. This failing can be remedied by placing the inflation targeting debate within a MURI framework. However, even then, inflation targeting is an incomplete framework because it pays inadequate attention to asset markets and balance sheets. This failing suggests that it

should be paired with private sector balance sheet regulations that give central banks additional instruments to tackle asset market instabilities.¹⁵

¹⁵ . Palley (2000b) proposes a system of asset based reserve requirements that would apply across all financial intermediaries. These reserve requirements would vary by asset class, and the central banks could adjust the reserve requirement ratio at their discretion. Raising the reserve requirement ratio would raise the cost of holding certain asset categories, and discourage their creation. The reverse holds for lowering of reserve requirement ratios.

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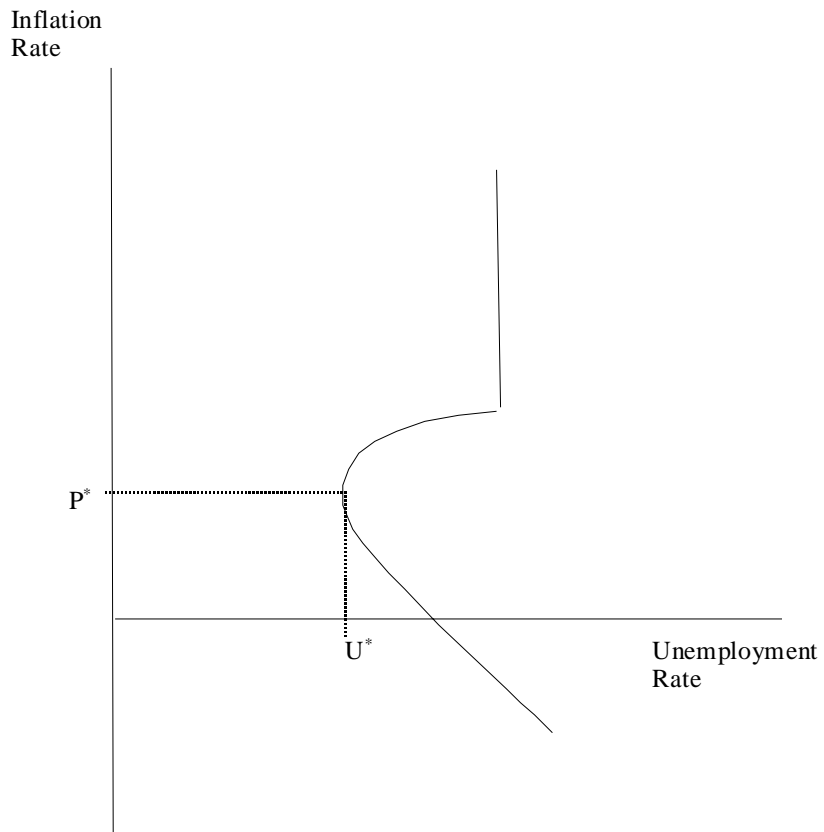


Figure 1 The backward bending Phillips curve showing the Minimum Inflation Rate of Unemployment (MURI).

Type of Holding	1979	1999
Deposits	25%	10%
Life Insurance Reserves	4%	2%
Pension Fund Reserves	14%	30%
Mutual Fund Shares	1%	11%
Corporate Equities	13%	23%
Equity in Non-corporate Businesses	30%	13%
Bonds & Notes	8%	6%
Other*	5%	5%

Table 1. Composition of Household Financial Assets. Source: Financial markets Center, Philomont, VA, based on Federal Reserve Flow of Funds Data, cited in Palley (2000). * Includes security credit, bank personal trusts and miscellaneous.

Industry Segment	1979	1999
Banks & Thrifts	52%	22%
Insurance Companies	11%	8%
Pension Funds	17%	26%
Mutual Funds	3%	18%
Non-bank lenders	5%	3%
GSEs & Federally Related Mortgage Pools	6%	12%
Other *	6%	11%

Table 2. Composition of Financial Sector Assets. Source: Financial markets Center, Philomont, VA, based on Federal Reserve Flow of Funds Data, cited in Palley (2000). * Includes security brokers & dealers, bank personal trusts, ABS issuers, REITs and funding corporations.