

DOES THE “NEW” ECONOMY CALL FOR A “NEW” MONETARY POLICY?

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My simple one word answer to the question posed by the title of these remarks is no. Like most simple answers the devil is in the details. The details are, of course, buried in what one means by the “new” economy and by “new” monetary policy. Calling something new or different is more newsworthy than talking about underlying principles that are largely invariant. Yet sorting out what is new and what is not and understanding the relevance for the question at hand is necessary to arrive at a sensible answer. The issues facing monetary policy are not new and are largely independent of the innovations embodied in the “new” economy.

First, it is important to talk a little about the “new” economy, what it means and what it doesn’t mean because the term can mean different things to different people. One extreme view is that the economy has fundamentally changed in ways that are so profound that a new paradigm is required to understand and analyze how it performs and how policy impacts that performance. Indeed, some have even argued that we must throw out the “old, outdated” concepts of supply and demand because they are no longer relevant in the “new” information age. A less radical view, and the one to which I subscribe, is that the economy is indeed changing in response to technological innovations. These innovations change relative prices that alter resource allocations in important, but predictable ways. These changes are altering the economic landscape—creating new businesses and industries and transforming or destroying old ones. This is the same dynamic process that has been going on throughout the Industrial Revolution. The underlying principles of supply and demand and the fundamentals of market economics have not changed. In fact, it is the power and effectiveness of markets in responding to new technology and providing the right relative price signals that induce the appropriate reallocation

of resources to take advantage of the innovations. Competitive markets are dynamic and their extraordinary ability to create wealth is a testament to their dynamism. Schumpeter's description of economic growth as a process of "creative destruction" is as appropriate today as it was when he wrote it nearly 60 years ago. The technological advances we are witnessing do not signal the death of the concept of supply and demand, but are evidence of its vitality and strength.

While technological innovations are not changing the fundamentals of market mechanisms, they are certainly changing the products and services available to market participants in dramatic ways and the underlying level of productivity in the economy. This is clearly the case in the financial industry and is a source of concern by some over its implications for the conduct of monetary policy. It is legitimate, therefore to ask if these technological advances change the fundamentals or practice of monetary policy. In order to talk about these issues it is important to first talk about monetary policy objectives and the state of monetary theory. I argue that technological innovations may have important implications for the banking system but that the goals and objectives for sound monetary policy, as well as the means for achieving them, remain largely unchanged. Then I will try to show why this is the case using two examples of changes in the economy that are sometimes used to illustrate the evolution of the "new" economy. The first part will consider the impact of technology on the means of payment and the consequences for financial institutions and, perhaps, monetary policy. The second part will address the question of the implications for monetary policy of the changes in the rate of growth of productivity.

Some Observations on the State of Monetary Theory and Policy

Throughout much of its history the Federal Reserve has been faced with the curse of having too many objectives including stability of the banking system, keeping the unemployment rate at something like the “full-employment” rate, smoothing business cycles or real output, stabilizing or targeting exchange rates and maintaining a stable price level. During the past two decades, a growing consensus has emerged among economists, both inside and outside central banks, that the primary responsibility of a central bank is price stability. (Sometimes the emphasis is placed on zero inflation, which is not equivalent, but the distinction is not important for the purpose at hand and I will treat these objectives as interchangeable for convenience.)

This consensus has emerged based on theoretical developments and empirical evidence. The theoretical developments stem most prominently from the work of Milton Friedman, Edmund Phelps and Robert Lucas in the late 1960s and early 1970s. These authors, and others that followed, demonstrated in a compelling fashion that there existed no long-run and exploitable Phillips-curve type trade-off between inflation and unemployment. This is often expressed as the “natural rate hypothesis,” which says that there is no path for prices or money that can keep real output permanently above its natural equilibrium path. (The “natural rate” should not be confused with NAIRU—the “non-accelerating inflation rate of unemployment.”) In addition to the theory, the last two decades have seen a great deal of formal econometric work to support this hypothesis. But perhaps more convincing to many policymakers was the experience of the 1970s when we witnessed markedly higher rates of inflation with deteriorating rather than improving unemployment rates and output growth.

Based on these theoretical arguments and the empirical evidence, most economists and central bankers now recognize that monetary policy's main long-run influence is on the level and rate of growth of the price level with no lasting impact on the level of real output or its rate of growth. Indeed, many central banks have formally recognized this fact including those of New Zealand, United Kingdom, the European Union, Switzerland and Canada. In some cases they have successfully adopted explicit inflation targets.

Over the past 10 years, monetary policy in the U.S. has, nonetheless, been successful by almost any standard one might choose. Most importantly, the Federal Reserve has brought inflation down from over 12% in 1980 to the 3%-5% range through the latter half of the 1980's and to 1%-3% for most of the 1990's. One of the most important challenges confronting monetary policy today is not the changes brought about by the technology advances of the "new" economy, but how to institutionalize the commitment to price stability and secure the gains achieved during the last decade. Chairman Greenspan is to be applauded for his obvious and successful commitment to price stability, but there is still no institutional mechanism in place that will ensure that a future Chairman will be as dedicated or wise.

The widespread agreement that price stability is the primary objective of monetary policy has led to analyses that focus on that objective. These monetary analyses by academic investigators (as well as those by many central bank research departments) during the last decade have largely focused on the investigation and analysis of monetary rules. The decision to focus on rules rather than discretion in policy-making flows almost directly from the same class of theoretical models that delivered the "natural rate hypothesis." The intuition is that policy rules

reduce expectational errors by market participants resulting in less variability, fewer policy mistakes and improved welfare.

The analyses of monetary policy rules can be classified into two types, those that develop and evaluate “optimal” rules and those that develop and evaluate “simple” rules that reflect the central banks’ most important concerns. “Optimal” rules require a much stronger stance on the structure of the economy since different structures will clearly imply variations in the optimal rule. Given the differences of opinion regarding the details of the underlying structure of the economy, there is not much consensus as to the optimal monetary policy rule. “Simple” rules might best be described as rules that recognize the important priorities of most central banks—price stability and secondarily keeping output close to the natural rate in the short-run. The latter priority attempts to recognize that although monetary policy has no long-run impact on real output, in the short-run there is a widely held view that a trade-off exists. Examples of these rules include the interest rate rule proposed by John Taylor and the monetary base rule suggested by Bennett McCallum. There are operational differences in these approaches that are important. For example, in typical specifications of the Taylor rule the monetary authority responds to inflation and the deviation of real output from some measure of potential output (an “output gap” measure), while the McCallum rule focuses primarily on a nominal output target. These authors and others have argued that these simple rules are robust in that they seem to generate reasonably desirable outcomes under a wide range of structural specifications and avoid some of the most egregious policy errors of the past.

So what does the desirability of rules and the focus on price stability have to do with monetary policy in the new economy? I believe there are two important implications. First, by focusing on price stability, the only innovations or changes in the economy that impact the form of monetary policy are those that might impact the central bank's ability to set the path of the price level. My view is that there is little about the "new" economy that is likely to put control of the price level by the central bank in jeopardy. Second, focusing on rules makes largely transparent and predictable how the monetary authority should respond to changes in the economic environment. Thus as changes in real productivity growth evolve, be they temporary or permanent, the rule will provide the guidance for appropriate monetary actions.

Monetary Policy and Price Level Determination

If the major role for monetary policy is control of the price level, then we first must know what determines the price level and whether the central bank can control it. It is useful to distinguish between the medium of exchange, which is a physical asset that is generally accepted as a means of payment and the unit of account. Money is the traditional physical asset that changes hands in many transactions. The unit of account is simple a way of measuring the quantity of the medium of exchange, say dollars, yen or euros. There is no logical necessity that the unit of account be directly related to the medium of exchange, although as a practical matter there are large efficiency gains in so doing and through most of monetary history it has been the case. Thus the price level is the inverse of the purchasing power of money, the medium of exchange.

A monetary economy is one in which there is a circulating medium of exchange (i.e. there is a real demand for such an asset because of the services it renders). The price level will be well defined and determined by the quantity of the medium of exchange and fixing its nominal return (typically at zero). Of particular interest is that there would be no need for the central bank to regulate the banking system or financial services industry in order to control the price level.

Are there innovations that would make it impossible for the central bank to control the level? One line of argument is that as technology advances, transactions will be accomplished electronically through an accounting system that will simply represent bookkeeping entries. This sort of economy is not new to economists. Eugene Fama and Fischer Black have written about just such a world. They discuss an environment with a completely unregulated banking system that operates an accounting system of exchange. In the limit, one might imagine that this accounting system would become so sophisticated and technologically advanced that it would completely replace the medium of exchange. Bennett McCallum has pointed out that this would no longer be a monetary economy and talking about monetary policy in a non-monetary economy makes little sense.

In reality it seems highly unlikely that a hand-to-hand medium of exchange will vanish. First, fiduciary money is nearly costless to produce and second, it is hard to imagine that there will not be a demand for currency in some form. For example, anonymity is one clear reason why individuals may prefer currency to the accounting system. Thus, as long as there is a separate demand for the medium of exchange (i.e. the accounting system of exchange does not represent a perfect substitute for it), central bank control over its supply will result in a

determinate price level that can be stabilized. Even if currency were to disappear, the accounting system would probably still require a settlement mechanism of some kind. For example, liabilities at the central bank could perform this function much as reserves do today. These settlement balances could then become the tools of monetary policy in place of a physical medium of exchange. In fact, this is almost precisely how it is done in New Zealand and in Canada even though there are no formal reserve requirements. The “new” economy is, therefore, unlikely to fundamentally alter the ability of the central bank to stabilize the price level.

Productivity Changes and Monetary Policy

Much has been written about the potential implications of a shift in productivity growth for the behavior of monetary policy. In most macroeconomic models, the long-run impact of a sustained increase in the productivity growth rate is a slowdown in the rate of growth of prices, i.e. a lower inflation rate, other things held constant. This follows, for example, from a simple quantity theory framework and from the “natural rate” models discussed above. Thus, in principle, if potential output growth or the “natural rate” of output growth was higher, a higher rate of monetary growth would be required to maintain a stable price level.

Does this present a problem for monetary policy? Not really. Under policy rules such as described above, there are built in mechanisms for signaling the appropriate response of policy. In particular, estimates of the long-run average real growth would most likely be computed based a continuously updated sample. As experience dictated a higher average growth rate it would automatically and gradually get reflected in policy. It is also true that in an environment where

real growth was anticipated to remain high, real interest rates would rise and under an interest rate rule, this would signal an easing of policy. Thus, monetary policy under these rules would gradually and predictably adjust to a changing growth rate in productivity, whether temporary or permanent. The evolution of the “new” economy would, therefore, not require any special adjustment in the approach to monetary policy.

As a practical matter, this is even less of a problem than it appears. While there is much debate about whether the recent spurt in productivity growth is permanent or temporary, few contend that the permanent change is likely to be more than about 1.0 percent per annum. If so, then the impact on inflation is only about 1 percent, which is well within the margin of error that we can measure inflation. Thus, the productivity debate is mostly inconsequential for the conduct of monetary policy in the long run and in the short-run variations in real growth can be handled adequately by a policy rule.

Summary

The arguments sketched out in this short comment can be summarized as follows. First, the “new” economy is less new than it is sometimes made out to be. Technological innovations are changing many of the products and services available to consumers and business, but the fundamental market mechanisms that allocate resources and determine policy choices have not changed. This means that the fundamentals of monetary policy have not really changed either. Second, modern views of monetary policy are generally converging on two broad propositions: (1) price stability should be the primary objective of monetary policy, and (2) using rules to guide

monetary policy is likely to result in desirable outcomes and would avoid many of the major policy mistakes of the past. This view of monetary policy suggests that central banks, and the Federal Reserve in particular, should seek to institutionalize the achievements of the past decade to ensure the continued success of future policy-makers. Finally, given this current state of monetary policy analysis, the ways in which the economy is changing are unlikely to have significant impact on the ability of central banks to achieve these objectives.