Why Does Countercyclical Monetary Policy Matter?

BY SATYAJIT CHATTERJEE

Modern capitalistic economies use stabilization policies to minimize fluctuations in the unemployment and inflation rates. In the United States, the Federal Open Market Committee (FOMC) lowers the target interest rate for interbank loans as economic activity slows or when a financial crisis looms (as in the fall of 1998) and raises it when inflation threatens to accelerate (as in late 1999 and early 2000).

Such countercyclical monetary policy is one example of a stabilization policy. Other examples of U.S. stabilization policies include the federal insurance of bank deposits (and the concomitant supervision and regulation of banking) and income-maintenance programs, such as unemployment insurance.

Macroeconomists have devoted much effort to understanding how countercyclical monetary policy affects the volatility of the unemployment and inflation rates. In contrast, macroeconomists have directed much less effort to understanding why countercyclical monetary policy is beneficial. This neglect reflects the fact that, until recently, macroeconomists of very different persuasions agreed that policies aimed at reducing the volatility of unemployment and inflation are desirable. Of course, economists disagreed about what form those policies should take, but no one questioned the premise that a less volatile macroeconomic environment was a desirable policy goal.

That is no longer the case. During the last dozen years or so, an influential minority of macroeconomists has questioned the supposed benefits of reducing volatility and, by implication, the supposed benefits of countercyclical monetary policy.

The source of this development is the same as that which underlies most major developments in macroeconomics in the last half-century, namely, the desire to ground macroeconomics in sound theoretical foundations. As in the other sciences, "sound theoretical foundations" means explaining macro-level phenomena in terms of micro-level phenomena; for example, using theories of household and business behavior to explain the behavior of, say, aggregate consumer spending or aggregate business investment.

The desire for microfoundations also means that macro-level policies (such as countercyclical monetary policy) need to be justified in terms of micro-level effects — how such policies ultimately benefit households. Surprisingly, the link between less macroeconomic volatility and improved household well-being has proven weaker than many macroeconomists might have supposed.

Concerns about the benefits of countercyclical monetary policy (and of stabilization policies in general) are obviously of great importance to the Federal Reserve System. My purpose in this article is to accomplish two tasks: to state clearly the mainstream view of the supposed benefits of countercyclical monetary policy and the challenge posed to it by recent microfoundations-oriented research; and to consider how this challenge may alter our views about the benefits of countercyclical monetary policy.

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A PRIMER ON MAINSTREAM MACROECONOMICS AND ITS POLICY IMPLICATIONS

Let's begin with a brief account of how mainstream macroeconomics makes sense of countercyclical monetary policy.[1] In the mainstream view, the actual unemployment rate can deviate from the *natural*, or long-term, unemployment rate. This natural rate is determined by factors that change slowly, such as demographics, technology, laws and regulations, and social mores. Because markets don't work perfectly, there can be extended periods when the actual unemployment rate exceeds the natural rate. During such times, mainstream macroeconomic theory predicts that the inflation rate will fall because aggregate demand for goods and services will tend to fall short of aggregate supply. At other times, the unemployment rate can fall below the natural rate, and during those times, theory predicts that the inflation rate will rise because aggregate demand will tend to exceed aggregate supply. According to mainstream macroeconomics, business cycles are a manifestation of these deviations between the actual and natural unemployment rates.

This mainstream view of business cycles provides the rationale for countercyclical monetary policy. Suppose that the monetary authority uses monetary policy to eliminate the gap between the actual and the natural unemployment rates. In practice, the monetary authority would lower short-term interest rates whenever the actual unemployment rate threatened to exceed the natural rate and raise them whenever the opposite happened. If this policy were successful, the actual unemployment rate would track the natural unemployment rate closely. Since the natural unemployment rate changes only gradually over time, the result would be a less volatile actual unemployment rate. Without persistent gaps between the actual and natural unemployment rates, the inflation rate would also be less volatile. Generally speaking, households and businesses do not care for volatility in the unemployment rate or inflation rate, so such a policy would enhance public well-being.

> "How much would an average person in the U.S. pay to avoid all cyclical volatility in aggregate U.S. consumer spending?"
>
> *Robert E. Lucas, Jr.*

However, the mainstream view acknowledges some important limits on the scope of countercyclical monetary policy. First, countercyclical monetary policy cannot change the level of the natural unemployment rate directly. As noted earlier, the natural unemployment rate is determined by factors such as technology, demographics, laws and regulations, and social mores. Effective countercyclical monetary policy may provide an environment that is conducive to innovation (and therefore the advance of technology), but it does not have a direct effect on the natural unemployment rate.

Second, the natural unemployment rate is not directly observable; it can only be inferred from long-term trends in the economy. Thus, policymakers will sometimes judge a change in the unemployment rate to be a deviation from the natural rate when, in fact, it reflects a change in the natural rate itself, or vice versa. In such situations, countercyclical monetary policy will make the inflation rate more volatile, not less. For instance, a persistent attempt to reverse a decrease in the natural unemployment rate will lead to deflation, and a persistent attempt to reverse an increase in the natural unemployment rate will lead to inflation — both of which reduce public well-being. Thus, misperceptions concerning the natural rate may lead to policy errors.

Third, mainstream macroeconomics recognizes that the effects of monetary policy actions are felt with long and variable lags. Uncertainty about the length of time it takes for policy to have an effect on the economy is another potential source of policy errors.

STANDARD OF LIVING AS A CRITERION FOR EVALUATING MACROECONOMIC POLICY

The fact that countercyclical monetary policy has both benefits and costs suggests that it's important to find out whether the benefits exceed the costs to determine if such policies are worth pursuing. University of Chicago economist and Nobel laureate Robert E. Lucas, Jr. was the first to explore this issue in the context of the U.S. economy. Lucas observed that cyclical volatility in the unemployment and inflation rates per se is not important to people. What really matters is the resulting cyclical volatility in people's standards of living. Since consumer spending is one of the most commonly used indexes of living standards, Lucas posed the question: "How much would an

[1] Some textbooks call this theory the New Keynesian or IS-LM approach to macroeconomics. But labels can be misleading; for instance, Bradford De Long calls the same theory a subspecies of monetarism. To avoid confusion I call it the "mainstream view" because it is the view that characterizes a broad swath of academic macroeconomics and virtually all of policy-oriented macroeconomics.

average person in the U.S. pay to avoid all cyclical volatility in aggregate U.S. consumer spending?" From the perspective of mainstream macroeconomics, an answer to this question provides an estimate of the maximum potential benefit from the Fed's pursuit of countercyclical monetary policy.[2]

As one would expect, the answer depends on how much households dislike random fluctuations in their standard of living (i.e., on their degree of risk aversion), and Lucas experimented with a variety of estimates, some more plausible than others. What he found was that a person would be willing to pay rather small amounts to avoid all fluctuations in the aggregate standard of living. One estimate, based on a plausible amount of risk aversion, implies that a person would pay no more than $23 per year for such a benefit! Such a paltry sum makes it hard to build a case for countercyclical monetary policy.

Of course, Lucas's finding that cyclical volatility is not very painful was (and remains) controversial. For one thing, economists were quick to note that the degree of risk aversion can be judged in a variety of ways, and some of these alternative ways suggest that the gains from eliminating all cyclical volatility in consumer spending are several hundred-fold larger than Lucas estimated. Also, as Lucas himself noted, his calculations assumed that all households share the burden of business cycles equally. In reality, the burden falls disproportionately on people who become unemployed during recessions. Taking this fact into account is likely to raise estimates of the maximum potential benefit of countercyclical monetary policy.

However, such criticisms miss a deeper point: Lucas's insistence that the benefits of countercyclical monetary policy be judged from the effect such policies have on the welfare of individual households. As he put it: "[A]n economic system is a collection of people and serious evaluation of economic policy involves tracing the consequences of policies back to the welfare of the individuals they affect." This quote succinctly expresses one of the core principles of microfoundations-oriented research: volatility in the unemployment and inflation rates should concern policymakers only if it results in unacceptable volatility in the standard of living. As I explain in the remainder of this article, evaluating policies based on the standard of living has surprising implications for the benefits of countercyclical monetary policy.

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SELF-INSURANCE AS A SUBSTITUTE FOR COUNTERCYCLICAL MONETARY POLICY

Let's examine how reducing the volatility of the unemployment rate affects the volatility of consumer spending. Fluctuations in the unemployment rate affect members of a household in two ways: the probability of job loss for employed members and the probability of job gain for unemployed members. For instance, during a recession, when the unemployment rate is relatively high, the probability of job loss for employed workers is also relatively high, and the probability of job gain for unemployed individuals is relatively low. Thus, all individuals face a higher risk of lost earnings. Conversely, during an economic expansion, the probability of job loss for employed workers is relatively low, and the probability of job gain for unemployed workers is relatively high. Thus, all individuals face a lower risk of lost earnings. If countercyclical monetary policy successfully keeps the unemployment rate equal to the natural rate over time, the probability of job loss for employed individuals and the probability of job gain for unemployed individuals would be less variable. So an effective countercyclical monetary policy reduces the volatility of household earnings by reducing fluctuations in the risk of unemployment.

How does a reduction in the volatility of earnings affect fluctuations in a household's standard of living? Suppose that a household always spends the full amount of its monthly earnings and does not borrow or save. In this case, fluctuations in consumer spending will exactly match fluctuations in household earnings, and a policy-induced reduction in the

[2] The answer provides only an estimate of the maximum potential benefit for two reasons. First, it ignores the costs of policy errors. Second, it ignores the fact that some portion of the volatility in consumer spending should be excluded from the benefit calculation because it stems from fluctuations in the natural unemployment rate and cannot be eliminated by countercyclical monetary policy.

volatility of household earnings will have a direct and equal effect on the volatility of consumer spending.

But what if households save or borrow? Then, consumer spending may not fluctuate as much as earnings. If a member of the household becomes temporarily unemployed, the household may draw on a pool of savings (built up over the years for such an eventuality) to protect its standard of living. So, consumer spending will not fall as much as earnings. When the member regains employment, household spending will not rise as much as earnings because a portion of the earnings will be used to replenish the savings drawn down during unemployment. Building up and maintaining a stock of savings to protect oneself from temporary spells of unemployment or unanticipated expenses is called *self-insurance*.[3]

A surprising implication of self-insurance is that it weakens the ability of countercyclical monetary policy to improve public well-being because, from a household's point of view, self-insurance is a *partial substitute* for countercyclical monetary policy. To see this, suppose the monetary authority introduces a new countercyclical policy that lowers the volatility of household earnings. Faced with lower volatility of earnings, a household will have an incentive to lower its stock of savings. Recall that these savings were accumulated, in part, to protect living standards from shortfalls in earnings; however, lower earnings volatility means that such situations arise less often.

Thus, improved countercyclical policy will have two effects: it will reduce the volatility of a household's earnings, and it will induce households to reduce the savings built up to protect against such volatility. These two effects have *opposing* consequences for the volatility of consumer spending. The first effect lowers the volatility of consumer spending while the second raises it.[4]

What will the combined effect be? Theory predicts that the first effect will dominate and the volatility of consumer spending will decline. But theory also suggests that this decline will be minor. In other words, private stocks of savings are a partial substitute for the beneficial effects of countercyclical policies: an improved countercyclical policy partly substitutes for actions that a household takes to deal with the ill effects of earnings volatility.[5]

The significance of self-insurance for assessing the benefits of countercyclical policy was first recognized in an article published in 1989 by Ayse Imrohoroglu. Imrohoroglu simulated an economy in which individuals could borrow and save to protect their living standards in the face of temporary spells of unemployment. Her simulations showed that even if countercyclical policies made the unemployment rate constant and ensured that each individual faced a constant (rather than fluctuating) probability of job loss, the gain in well-being would be around $69 per person per year.[6] Although larger than Lucas's estimate, the gain was still quite small.[7] As Imrohoroglu noted in her article, her findings reflected the fact that individuals in her artificial economy self-insured themselves pretty well against temporary spells of unemployment. As a result, although effective countercyclical policy did reduce the volatility of consumer spending, the resulting gain in well-being was minor.[8]

What about volatility in the inflation rate? From a household's point of view, inflation volatility could be important because it affects the volatility of the real return on financial assets, the assets that households use to self-insure against temporary loss of earnings. If the expected real return on these assets is poor, it will blunt the

[3] Building up savings includes the case of paying off debt to keep open the option of borrowing more in the future.

[4] It will raise the volatility of spending because, all else remaining the same, a lower stock of savings means that a household is less able to protect living standards in case of a loss in earnings.

[5] That being said, it's important to recognize that some households may not be in a position to self-insure. For instance, a poor household living hand-to-mouth is not going to be able to self-insure and will benefit substantially from a less volatile macroeconomic environment. But such households do not constitute the majority. Furthermore, there are social programs in place that attempt to deal directly with the many causes and consequences of poverty. Given these programs, the appropriate goal of monetary policy is to concentrate on improving the well-being of the typical household.

[6] Even if countercyclical monetary policy manages to keep the unemployment rate constant, an individual's earnings may still fluctuate over time because of the possibility that an individual may lose his or her job. Thus, even when monetary policy is perfect, households have to self-insure against temporary spells of unemployment.

[7] In her article, Imrohoroglu presented results from several different simulations. The result reported here is for the simulation where individuals borrow at an annual real interest rate of 8 percent and save at a real interest rate of 0 percent. Like Lucas's, Imrohoroglu's calculations provide an estimate of the maximum potential benefit from countercyclical monetary policy. She ignores the potential costs of countercyclical monetary policy, and she assumes that a fully effective countercyclical policy corresponds to no fluctuations in the unemployment rate.

[8] Improved countercyclical policy permits households to lower savings. The additional one-time increase in consumer spending permitted by the decline in savings is another benefit of improved countercyclical policy. But a one-time increase in consumer spending cannot *permanently* improve well-being. For permanent improvements, one must look at how improved countercyclical policy affects the volatility of consumer spending. But that effect, as already noted, is minor.

incentive to self-insure. In a sequel to her first article, Ayse Imrohoroglu and Edward Prescott used simulation techniques to investigate the impact of inflation volatility on public well-being. Assuming that fluctuations in the expected inflation rate led to opposite fluctuations in the expected real return on assets, they found that inflation volatility had virtually no adverse effect on well-being.[9] As they noted in their article, what mattered most to people in their model was the *average* expected real return on financial assets, not the volatility of the expected real return.

In short, both theory and simulation results suggest that self-insurance acts as a partial substitute for effective countercyclical policies. Households can protect their standard of living from temporarily low earnings by drawing on a pool of savings built up for such eventualities. If they do not have savings, they can borrow, then repay the debt when earnings go back to normal. In such a situation, improvements in countercyclical policy partly substitute for private actions that people take to contain volatility in their standard of living. Consequently, the net effect on public well-being is not as large as one might otherwise suppose.

Of course, the decline in household income due to loss of employment is often mitigated by state unemployment insurance programs and by the progressive nature of the federal tax code (tax liabilities fall faster than earned income). From a household's perspective, self-insurance is also a substitute for social insurance programs and so raises troubling questions about the net benefits of these programs as well. However, Ayse Imrohoroglu and Gary Hansen have shown that even if households self-insure, unemployment insurance programs are generally quite beneficial, at least as long as the programs don't adversely affect people's desire to seek work.

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Before we take the policy implications of self-insurance seriously we must ask if, theory and simulations aside, households really do self-insure. Fortunately, a body of evidence now speaks to that question.[10] First, self-insurance accords with common sense. For instance, one financial planning guide recommends that households accumulate a stock of savings to deal with uncertainty: "It is generally held that your liquid assets should roughly equal four to six months' employment income. If you are in an unstable employment situation…the amount should probably be greater" (Touche Ross, 1989, p.10). Perhaps because of this commonsense aspect, surveys of household finances show that saving for emergencies is the most important reason cited for saving. These surveys also find that a household's stock of financial wealth is very volatile, even over short periods. Furthermore, studies show that households that face greater uncertainty about earnings tend to accumulate more financial wealth.

All these findings are consistent with households' using financial wealth as a buffer against random shocks to income and expenses. In addition, self-insurance accounts for several puzzling patterns in consumer spending. It would take us too far afield to discuss all of these here, but one is worth mentioning. Researchers have known for some time that a typical household does not begin to save for retirement until fairly late in life. This late start in providing for retirement has puzzled economists because it seems inconsistent with forward-looking behavior. However, simulations have now shown that self-insurance may dominate other motives for saving until an individual reaches his or her late 40s. It's only in late middle age that retirement-related considerations surface as the main determinant of savings behavior. Thus, self-insurance may go a long way toward accounting for the puzzling delay in providing for retirement.[11]

From a theoretical point of view, self-insurance is a basic outcome of forward-looking behavior, and the idea played a key role in Milton

[9] The real return on financial assets depends on the difference between the yield (or interest rate) on these assets and the inflation rate. According to mainstream macroeconomics, the real return on financial assets is countercyclical. The yield on financial assets does not rise as much as the inflation rate when the unemployment rate falls below the natural rate, and it does not fall as much as the inflation rate when the unemployment rate rises above the natural rate. The article by Imrohoroglu and Prescott examined the extreme case in which the interest rate on financial assets stayed constant, so that any change in the expected inflation rate led to an equal and opposite change in the expected real return.

[10] This discussion draws heavily on Christopher Carroll's 1997 article on the subject.

[11] This result emerges because self-insurance requires that households save in safe financial assets, the return on which is usually low. The low return discourages saving for retirement until late middle age.

Friedman's Nobel Prize-winning work on the theory of consumer spending.[12] It's remarkable that although macroeconomists have been aware of self-insurance since the 1950s, its significance for countercyclical monetary policy remained unappreciated until the late 1980s. In all likelihood, the reason for this lies in the fact that for a long time, the criteria for evaluating countercyclical policies made no direct reference to living standards. When Lucas insisted that macroeconomists use living standards as a criterion for policy evaluation, the significance of self-insurance quickly became apparent.

SO WHY DOES COUNTERCYCLICAL MONETARY POLICY MATTER?

Self-insurance raises doubts about the goals of countercyclical monetary policy as conceived by mainstream macroeconomics. Since households can self-insure against the adverse effects of earnings and inflation volatility, and the evidence suggests that they do, policy-induced reductions in earnings and inflation volatility are predicted to yield only a minor improvement in public well-being. One could conclude from these findings that improving countercyclical monetary policy is not worth the cost; monetary authorities should de-emphasize reducing volatility and concentrate on other monetary policy goals, such as maintaining a low rate of inflation. However, such a conclusion overlooks a potentially devastating side-effect of self-insurance: *unbridled* self-insurance can be a *source* of macroeconomic instability. A simple example illustrates how this can happen.

Imagine a small community served by a single bank. The bank accepts deposits from local households and uses those deposits to make loans to local businesses. Imagine also that there is no federal insurance of bank deposits or unemployment insurance. A bank deposit is one financial asset that households use to self-insure themselves; another is cash. Under normal circumstances, a bank deposit is the preferred financial asset for self-insurance, since it accrues interest and cash does not.

Now imagine that some shock adversely affects many businesses in this community. Some businesses close; some people become unemployed; and those that still have jobs face a higher probability of job loss. The logic of self-insurance says that the employed will increase their savings to offset the heightened probability of job loss. As households reduce their spending, businesses in the community will experience a further fall in sales. The decline in sales will send more firms out of business, causing more unemployment and making households even more eager to self-insure.

If business failures continue, households will begin to think that the next business to fail will be the bank, and they'll rush to convert their savings into cash. The bank may well be sound, but the large-scale withdrawals of deposits will cause it to fail. The bank failure will deprive local businesses of a source of credit and, thus, force even more businesses to close. This cycle of falling demand, rising unemployment, more hoarding, and further decline in demand is an *economic crisis*. The sequence of events in this hypothetical community can, and does, happen on a larger scale. Indeed, it's what happened to many U.S. communities during the Great Depression.

This example highlights the point that actions that are beneficial from an individual's point of view can be self-defeating when taken simultaneously by many. The effect of a single household's increasing its savings to self-insure against a heightened possibility of job loss is quite different from the effects of *all* households doing the same. A simultaneous increase in the desire to self-insure may be self-defeating because it can make the event against which insurance is sought more probable. John Maynard Keynes observed long ago that an economy in which saving and investment decisions are carried out by different sets of people is susceptible to the *paradox of thrift:* if all individuals attempt to save more cash (so that the additional savings do not lead to a corresponding increase in business investment), aggregate demand will fall and so will income *and* savings.[13]

Once we recognize that a simultaneous increase in the desire to self-insure could destabilize the economy, the current U.S. policy arrangement begins to make more sense: self-insurance is only *part* of the solution to reducing earnings volatility. Some of the burden of providing insurance against loss of earnings is borne by the government through the other two prominent stabilization policies mentioned in the introduction: federal insurance of bank deposits and state-run unemployment insurance programs. Deposit insurance eliminates the need for households to

[12] The idea also attracted the attention of economic theorists, most notably Truman Bewley of Yale University. In a series of articles published in the 1970s, Bewley provided a wide-ranging discussion of the implications of self-insurance. More recently, macroeconomists have picked up where the theorists left off. Influential articles by macroeconomists include those by Mark Hugget and S. Rao Aiyagari.

[13] The possibility that individually rational actions can have bad social consequences is a recurring theme in economics. For a wide-ranging and very readable discussion of this theme, see Thomas Schelling's book.

self-insure in the form of cash, and unemployment insurance permits households to face a higher probability of job loss with greater equanimity. Both programs attenuate the potentially destabilizing effects of households' response to heightened economic insecurity.

The benefit of countercyclical monetary policy can also be understood in these terms. *By attempting to reduce the volatility of the unemployment rate, countercyclical monetary policy makes it less likely that households will face a large simultaneous increase in the probability of job loss.* In other words, countercyclical monetary policy helps to nip the problem of macroeconomic instability in the bud. One might think that with two other stabilization policies in place, it's unnecessary for monetary policy to attempt to reduce fluctuations in the unemployment rate. However, the two insurance programs provide partial, not complete, protection. The federal guarantee of bank deposits protects each individual account up to $100,000, so large accounts are not fully protected. Most state unemployment insurance programs replace somewhere between one-half to two-thirds of a worker's most recent weekly pay, but only for a maximum of 28 weeks. Because both deposit and unemployment insurance are not complete, the possibility remains that a large enough increase in the unemployment rate may lead to enough of an increase in the desire to self-insure so as to destabilize the economy.

That stabilization policies exist to protect against instability should not come as a surprise. What is somewhat odd is that mainstream macroeconomics does not really accept the point that stabilization policies are *necessary* to prevent instability. The mainstream view is that market economies are self-regulating: if a shock moves the unemployment rate away from the natural rate, market forces eventually bring the unemployment rate back to the natural rate. The cycle of rising unemployment, more hoarding, and more unemployment that I highlighted earlier is assumed to be impossible.[14] But there is no theoretical presumption that market economies are necessarily self-regulating. It's possible to construct macroeconomic models in which the forces of self-regulation are weak enough that adverse shocks precipitate economic crises.[15] Whether the forces of self-regulation can be relied on to avoid crises in actual economies is a controversial issue.

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If the true benefit of countercyclical monetary policy lies in preventing economic crises, how much of an effect does it have on living standards? The answer depends on how likely it is that economic crises will occur in the absence of countercyclical monetary policy. Although there is no accepted estimate of that likelihood, some of my research suggests that if counter-cyclical policy eliminates even a very small likelihood of a Great Depression-like event, the resulting gain in living standards can be quite significant. We estimate that a person would pay as much as $1,380 per year to eliminate a once-in-83-years chance of living through a Depression-like event.[16] Thus, if countercyclical monetary policy does nothing other than prevent economic crises, that benefit alone may provide an adequate justification for pursuing it.

SUMMARY

Macroeconomists typically view reducing the cyclical volatility of the unemployment and inflation rates as the proper goal of countercyclical monetary policy. Generally speaking, macroeconomists and policymakers have not been very explicit about why such reductions enhance well-being. This article discussed some research that bears on this question. In particular, it laid out the implications of the view that the benefits of countercyclical monetary policy ultimately derive from the effect such a policy has on people's standard of living.

The standard-of-living criterion has unexpected implications for assessing the benefits of countercyclical monetary policy. If the goal of countercyclical monetary policy is to reduce volatility in the standard of living, such a policy is unlikely to be

[14] The textbook New Keynesian or IS-LM model does not allow for the possibility of economic crises. While a decline in aggregate demand may cause a temporary rise in unemployment, the model predicts that market forces (in the absence of any further shocks to aggregate demand) will eventually bring the unemployment rate back to the natural rate.

[15] MIT professor Peter Diamond demonstrated this possibility in a series of influential articles in the early 1980s. His views are summarized in his 1982 book.

[16] See my working paper with Dean Corbae for details.

very beneficial. The problem is that if monetary authorities succeed in reducing the volatility of the unemployment and inflation rates, this success will partly substitute for private actions taken to safeguard living standards (self-insurance). Thus, because of self-insurance, the overall reduction in the volatility of the standard of living will not be as great as one might otherwise suppose.

On the other hand, self-insurance may be a mixed blessing. Sudden increases in the desire to self-insure can be a source of macroeconomic instability. Taking this possibility into account suggests that an important benefit of countercyclical monetary policy (along with deposit and unemployment insurance) is to reduce the likelihood of a sudden upward jump in the unemployment rate. Such a jump could trigger a destabilizing rise in the desire to self-insure and cause an economic crisis. If countercyclical monetary policy eliminates even a small likelihood of economic crisis, the gain in the average person's living standard may be large enough to justify the potential costs of such a policy.

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