

CHARLES J. MONROE SEMINAR ON MONEY AND BANKING
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Monetary Policy in a World of Uncertainty

Thank you for inviting me to speak here today at the annual Monroe Lecture. It's terrific to be here in Kalamazoo. I'm delighted to see that you've had so many distinguished economists at this event over the years. When I heard that I'd be speaking here, I looked into your city's history a bit. I ran across the theory, with which I'm sure you are all familiar, that Kalamazoo was named after rapids at a point in the Kalamazoo River. Well if that's true, then there is no better place to talk about the economy than Kalamazoo. Because economic forecasting is anything but smooth sailing.

Indeed, for monetary policymakers, even expansions are a study in the unexpected. The path of monetary policy can be like the path a Checker cab takes during rush hour in a large city. Ideally, the passengers would like to go straight to their destination. But a lot of turns have to be made along the way in response to red lights, traffic jams, and delays due to construction and the like. Today I'd like to talk with you about how central bankers negotiate similar obstacles to the smooth-steady expansion of the economy.

I've been the President of the Federal Reserve Bank of Chicago since September 1994. In this capacity, I'm a member of the Federal Open Market Committee. During this period, the economic performance of the U.S. economy has been stellar. Unemployment has fallen steadily to 3.9 percent — the lowest rate in 30 years. By all measures, average rates of inflation have fallen by at least a full percentage point since my arrival in 1994. Over the last four quarters, the core Personal Consumption Expenditure deflator has risen only 1.6 percent, and we've had even better inflation news during this period. And of course, real GDP growth has been in the vicinity of 4 percent for the last four years and is on track for more of the same this year.

At the same time, during this period of record performance, the FOMC shifted its policy instrument, the federal funds rate, numerous times. As you are probably aware, over the last 11 months, the FOMC has raised the funds rate from 4¾ percent to its current rate of 6½ percent. As I've ventured out to speak with numerous groups and individuals, I've been reminded of something fairly obvious. Most individuals prefer lower interest rates over higher ones. It's not unanimous, but close. In fact, when someone offers me the opinion that interest rates are too low, I can usually guess their occupation on the first crack: they're an economist. Well, they never told me that being a central banker was an easy job.

Today I would like to talk about the difficulties of setting monetary policy in a continuously-changing economy. There are four distinct elements to a coherent discussion of this subject: (1) the goals of monetary policy, (2) the instruments of policy, (3) the characteristics of an ever-changing economy, and (4) an explicit list of the shocks that are typically encountered. I will talk about the goals at length in just a few minutes. As for the monetary policy instrument, in my time at the Federal Reserve, it has been the federal funds rate. Joined with the committee's procedure of timely policy announcements, I believe this policy instrument has served the Federal Open Market Committee well. As for the third item, the characteristics of an ever-changing economy, it is almost self-evident that the U.S. and global economies are changing constantly.

This topic has received an enormous amount of scrutiny in recent years, from business press articles to White House conferences on the "New Economy." Not surprisingly, understanding structural economic changes is always an uphill battle for policymakers. Although assessing such transformations certainly challenges policymakers, the real test that we face as central bankers is in responding to shocks. Most of the time these events are unexpected, like the global financial crisis in 1998. However, as in the case of the Y2K bug, sometimes these events have been known for a couple of millennia.

In developing these first three themes at greater length, I will argue for the following conclusion about the goals of monetary policy: Monetary policy should always focus on its primary goals of low inflation and maximum, sustainable economic growth. As unexpected events unfold over time, the Federal Reserve's response must always be placed within the context of pursuing these two goals.

In order to understand these two monetary policy goals more fully, let's now look at them in the broader context of public policy. What should be the goals of public policy? Of course, public policy is more than simply economic policy. Public policy as formed by elected officials can have many objectives. Some policies may be designed to defend people's rights to work and obtain education; others may allow freedom of expression and the pursuit of ideas; and still others may protect people's right to accumulate wealth. Other objectives may be redistributive or aim to ensure that all people have equal opportunities. These may include social insurance programs and urban development subsidies to stimulate growth in underdeveloped regions. With all these different and potentially conflicting goals, various measures are used to evaluate the effectiveness of public policy.

Some possible measures of success would be maximum employment, equal growth rates of economic activity across regions and cities, and equitable income distributions. Of course, monetary policy cannot address these many and potentially conflicting goals. In the United States, Congress mandated the goals of the Federal Reserve through its initial charter in 1913 and subsequent legislation, such as the Humphrey-Hawkins Act of 1978. The goals of monetary policy today as enumerated in the Federal Reserve Act are "maximum employment, stable prices and moderate long-term interest

rates.” Far from being able to address the distribution of employment across the regions and income levels, monetary policy must be focused on national and aggregate goals.

Even with these more narrowly targeted goals, there are clear limits to what monetary policy can accomplish. After all, monetary policy does not directly create real wealth for society. The Federal Reserve does not build factories or internet start-up companies. Nor can monetary policy permanently lower the unemployment rate. The 1999 launching of the Euro provides a nice indirect observation of this limitation. In the United States, the unemployment rate is 3.9 percent, but in the Euro-11 countries the unemployment rate is 9.4 percent. If monetary policy could keep unemployment low, why have so many sovereign European nations given up their ability to conduct independent monetary policy?

The answer is that monetary policies cannot, in any substantial manner, permanently lower unemployment or raise economic growth. Instead, attempts to engineer higher growth through expansionary policies lead to the types of inflation that occurred in the 1970s and are so hard to end. Recall how monetary policy works. The current policy instrument is the federal funds rate. This is a short-term interest rate that banks charge each other to borrow excess reserves overnight. When the Federal Reserve lowers the funds rate, banks translate this into lower rates that they offer borrowers. Additional longer-term lending in other markets extends these effects to interest rates of all maturities. Additional financial liquidity is created and more credit is provided to borrowers at lower costs. Consumers finance a higher level of durable goods expenditures than previously planned, in part because it is cheaper to take on more debt. Firms also face lower costs of funds, and hence lower hurdle rates for approving new investments. Consequently, they approve more investment projects that were previously considered unprofitable, undertake more risk, and accept lower returns. In the process, more jobs are created and incomes rise. This leads to another round of stronger consumer expenditures.

But if monetary policy is overly expansionary, the monetary stimulus causes aggregate demand to outstrip the economy’s productive capabilities, and prices begin to rise faster. From the consumer’s perspective, the real value of nominal wage growth is eroded by rising inflation. Debt servicing becomes more burdensome as real incomes begin to fall. For businesses, the lower rates of return on investment are no longer perceived as acceptable. Projects are cancelled if possible, and larger debts serve as an overhang on firms’ prospective plans. Thus, a pattern of boom gives way to bust.

The bottomline summary from this example should be quite clear. Excessively expansionary monetary policies lead only to higher inflation and not to permanently higher economic activity. In this context, a reasonable goal for monetary authorities is to pursue policies that keep inflation low and allow the private economy to maintain its maximum sustainable rate of growth. Because of this, central bankers should be primarily concerned with doing no harm, like doctors operating under the Hippocratic oath.

By keeping inflation low, central bankers go a long way toward doing no harm to the economy. Just think back to the 1970s and early 1980s when inflation was high. High rates of inflation were accompanied by extremely variable rates of inflation. An average annual inflation rate of 8 percent might have a quarterly pattern like 6 percent, 12 percent, 4 percent and 10 percent. This seems to be an empirical regularity around the world. When inflation is high, it is variable; when inflation is low, it varies substantially less.

It is almost impossible to confidently evaluate the consequences of high inflation and variable inflation separately. But it seems likely that variations in inflation rates are more costly than a completely steady inflation rate. If — and this is a huge if — inflation were a steady 10 percent each and every year, then prices and wages would adjust by roughly 10 percent each year. The only deviations from this 10 percent change would be when the price of a good relative to other goods requires adjustment. That is, relative prices would still require adjustment. In this idealized world, the only cost of inflation would be the loss of purchasing power from holding non-interest bearing money. Most estimates of this cost are fairly low, although they are primarily borne by the unbanked public, that is, individuals without access to financial services.

But the costs of highly variable inflation might be considerable. Individuals and firms make plans based upon expectations of what inflation will be. When these expectations don't come to pass, there are usually consequences. For example, imagine borrowing money for 30 years at a nominal interest rate of 10 percent when inflation has been running 7 percent for several years. If inflation then falls to 2 percent, you'd find yourself paying a real interest rate of 8 percent, rather than the 3 percent you'd originally bargained for. If refinancing is not possible, that's a costly difference. Even when refinancing is available, the lender has lost a good investment opportunity. Maintaining a stable inflation rate avoids the costs of variable and unexpected inflation. As I mentioned a moment ago, across time and countries there is evidence that low inflation rates tend to be associated with low variation in inflation. Consequently, maintaining a low inflation rate is an excellent goal.

The other primary goal of monetary policy must be to allow the private economy to achieve its maximum, sustainable rate of growth. The sustainable rate is the rate that the economy can achieve over time without seeing an acceleration in inflation. To paraphrase Milton Friedman's famous AEA Presidential address three decades ago, it is the rate of growth that the economy would naturally grind out over time when individuals and firms are focusing exclusively on business fundamentals. In this context, good monetary policy facilitates growth by reducing distortions. Erratic policy, excessive money growth, variable inflation all lead to distortions that people must deal with in their normal course of business. By focusing on keeping inflation low, monetary policy reduces these distortions and allows the marketplace to allocate resources efficiently. After all, prices are a signal to everyone about how resources should be allocated. Variable inflation rates distort the information in the price signals to business people.

The information content in prices is particularly important when we consider that the economy is constantly changing. When there are technological innovations, like the internet, how do resources get redirected to innovative companies from less productive enterprises? Adam Smith wrote about the invisible hand more than 200 years ago, and it's applicable here. When prices are freely set in competitive, unfettered markets, resources flow to their most productive uses. Investors seeking higher returns naturally shift financial resources toward their most productive expected use.

By keeping inflation low and stable, the necessary information about efficient resource allocations is revealed in prices and interest rates. If any individual or group was responsible for making these decisions directly, chaos would break out. Instead, it's important to allow the price mechanism to do its job. By now it should be clear that the successful pursuit of the second goal, maximum sustainable growth, is highly dependent on our effectiveness at maintaining price stability, the first goal.

Our jobs would be easy if all we had to do was get into the cab and tell the driver our destination. “Take me to price stability as fast as this cab can go.” And there’s nothing we’d rather do more. After all, nobody likes a back-seat driver. Unfortunately, as I said earlier, obstacles always pop up along the way. Indeed, much of a central banker’s job is dealing with the unexpected. How exactly does a central banker respond to economic and financial shocks? The answer is, of course, very carefully. In my remaining time, I would like to discuss several cases.

Shock #1: International financial crisis

The first example is the recent international financial crisis. There were two distinct shocks. Let’s start with the July 1997 currency crisis in Thailand. Many East Asian countries were pegging their currencies to the U.S. dollar, maintaining a fixed exchange rate system. The management of these currency-systems left them liable to speculation, and the government authorities were not able to maintain the credibility of their exchange rate guarantees. As these currencies depreciated dramatically, local interest rates rose and economic distress ensued. Within these countries, banks and financial concerns were threatened with bankruptcy. Foreign investors attempted to withdraw financial capital whenever it was possible, fueling further pressure for currency devaluation in these countries.

In the first year of this crisis, July 1997 to August 1998, there were three primary implications for the U.S. First, the market for U.S. exports in the affected countries practically evaporated. This produced a large drag on aggregate demand. Second, the financial uncertainty overseas led to a modest flight-to-quality. That is, international investors moved their funds to U.S. investments, and helped to keep U.S. interest rates low through mid-1998. Third, import prices fell dramatically, reducing inflationary pressures for a time.

How should monetary policy respond to these developments? The FOMC’s policy action was to hold the federal funds rate constant during this period. This was consistent with our two goals. After all, inflationary pressures were temporarily muted by the import price declines, and the excess of aggregate demand over supply was slightly diminished by the external imbalance. During this period, there was spirited criticism from many academic and business economists about the growing risk of rising inflation due to seemingly unsustainable growth. In the end, however, the external situation reduced these pressures for awhile; and the committee left policy unchanged through the first half of 1998.

In August 1998, the international situation became more difficult with the Russian default on its sovereign debt and the ensuing financial troubles generated by the insolvency of a large hedge fund, Long-Term Capital Management (LTCM). The scramble for liquidity in financial markets generated a strong capital flight-to-quality. Capital flowed to safe-haven U.S. Treasury securities, and interest rates fell dramatically in the fall of 1998. I’m sure you all remember this period, since most home owners refinanced their mortgages at substantially lower mortgage rates. Unfortunately, other credit-worthy borrowers found it more difficult to obtain funds in this environment.

In response to the further global financial difficulties triggered by the Russian default, the FOMC provided additional liquidity and lowered the federal funds rate three times to 4.75 percent.

Although we could disagree, in my opinion, the committee's response to this economic shock was an appropriate action that was consistent with our two primary goals. Even though the U.S. economy in 1998 was perhaps expanding at rates of growth that couldn't be maintained indefinitely, the risk of spreading financial turmoil was accompanied by the risk of economic distress domestically. In many financial areas, the market for liquidity to credit-worthy borrowers was in danger of shutting down. The risk of wide-spread cancellation of investment projects and working-capital funding was sufficiently great to warrant easing on the part of the FOMC. In this context, the outlook for rising inflation was becoming less likely, at least in the fall of 1998.

As long as inflationary pressures remained muted, monetary policy could respond to the global financial crises and remain true to both of its primary policy goals. The important moral of this experience is this: Whenever unexpected events occur, monetary policy must always keep in mind its long-term goals. In some cases, the resulting policy response will be in sympathy with other countries' difficulties. But at other times, it may be necessary to take unpopular actions or no actions.

Shock #2: Agriculture or industrial dispute

There are many shocks whose effects monetary policy cannot remedy. For example, when a drought hits the corn-belt and reduces agricultural harvests, there is little that central bankers can do to change that. I mentioned earlier that monetary policy does not build factories. We similarly cannot cause a long-needed rain over the Midwest plains, although we are often accused of raining on Wall Street's and Main Street's parade.

Another example is an industrial dispute, such as the GM strike in 1998 or UPS strike in 1997. Many of these events have little effect on the national economy, but some do, such as the GM strike. In these cases, all central bankers take note of the affects on aggregate demand and supply. But there is no national monetary policy that is effective or appropriate for addressing these localized events. Monetary policy is a blunt instrument. Changing the level of the federal funds rate has an effect on the entire economy. These effects cannot be channeled directly to a single region of the country, nor to a single sector of the economy. Of course, it wouldn't be appropriate public policy to favor one industry or region over the others anyway. But given the tools available to central bankers, it can't be done.

Shock #3: Y2K

A slightly different type of shock is represented by the new millennium calendar change, or Y2K problem. As I alluded to earlier, the calendar change to 2000 had been anticipated for a very long time. After all, Dionysus Exiguus did introduce the AD reckoning in AD 532. But Y2K was a shock in that its potential effects were underestimated for so long. What can monetary policy do about this situation?

Fortunately, the Y2K disruptions around the calendar change were minimal, so little action was necessary. But if there had been larger disruptions, would it have been consistent with our goals to provide additional liquidity? The answer is an unequivocal yes. Additional precautions had been taken to ensure that all extraordinary discount-window lending would have been to solvent institutions

who were simply illiquid. These loans would have been temporary, and would have represented no risk of higher inflation. Without these actions, financial illiquidity could have turned into insolvency. Disruptions in the credit-allocation system could easily have led to the loss of valuable job matches and the efficient allocation of funds to credit-worthy borrowers.

Shock #4: New economy productivity growth

As I said at the outset, it is important to understand that the economy continues to evolve every day. My final example concerns the recent evidence that productivity growth has been rising over the last few years. For the time being, there can be no clear characterization of this episode: it may be a salutary productivity shock, or simply a striking series of continuous structural changes. In either event, I think the circumstances warrant additional discussion.

The background is familiar to most of you, I'm sure. Beginning in the mid-1970s, the rate of average productivity growth slowed for the next 20 years. This is commonly referred to as the productivity slowdown, and its origins are almost as mysterious as its recent disappearance. For at least the last 10 years, however, I have had the sense that business productivity growth was improving. Working in the private sector and talking with business people daily, I began to hear accounts of efficiency improvements with increasing frequency.

Of course, there are numerous examples related to computers and the Internet, but it goes further than that. For the large part, business management practices are better, companies are more focused on their business lines and customers, inventory controls are more efficient, and continued restructuring has added flexibility. In addition, we have deregulated industries and privatized many governmental activities. In my opinion, this process of improvement has been continual, but only over the last four years have the measured productivity data begun to reflect these greater efficiencies.

Understanding productivity growth is at the heart of any assessment of the sustainable growth path of economic activity. Over long periods of time, the underlying growth rate of potential output is determined by labor force growth and productivity growth. Typically, labor force growth is limited by population growth, although immigration, demographic changes, and welfare-to-work programs also play a role. Although the labor force growth rate is uncertain, the larger uncertainty surrounds productivity growth projections.

And this has important implications for monetary policy. After all, every percentage point increase in productivity translates into a percentage point increase in sustainable economic growth. Or put another way, higher productivity leads to greater cost reductions, fewer inflationary pressures, and a higher standard of living for the American people. A key question for all economists, business analysts and central bankers is how long will this higher level of productivity growth continue? If productivity growth is only temporarily higher, then inflationary pressures will be diminished only temporarily.

With only four years of higher measured productivity growth, I'm afraid that the answer to this question will remain elusive for some time. In part, we can't say with much certainty that productivity growth will remain high indefinitely because we can't put our finger on the causes of this steady growth. I'm confident that the list of improved business practices I mentioned earlier are part of this

story. And the explosive growth in access to computer technologies, the internet and e-commerce will surely continue to contribute to improved business practices and labor efficiencies.

However, an important related question is how we account for these sources of growth. Suppose we think of the improved business practices as a deepening in management capital. This can also be thought of as accumulations of more efficient capital in the production of goods and services. In this case, the current productivity boom may be due to capital deepening in response to a few large technological innovations. If so, the current period of higher productivity growth may be temporary (although the transitional process of further capital deepening may take some time to play out).

Alternatively, suppose that the new computer and business environment has opened up a broad, new expanse, which is more receptive to the generation and application of new ideas. In this context, the currently high levels of equipment investment may be the response to many smaller technological innovations, which are likely to be repeated indefinitely into the future. Over the course of five years or less, it may be difficult to distinguish these two views of productivity growth. And for current monetary policy, these distinctions are unlikely to be critical in the short term. As long as sustainable growth is higher and inflationary pressures are diminished, it does not matter which of these stories is correct. But if inflationary pressures re-emerge unexpectedly, then it is likely that the temporary explanation is in fact the one.

To conclude, I believe that everyone's individual interests, as well as national interests, are best served by a monetary policy that is always focusing on its two primary goals: low inflation and maximum sustainable economic growth. Under these conditions, businesses are able to focus on their product lines and customers, without being distracted by costly efforts to hedge against inflationary volatility. Workers are able to focus on their activities and skill acquisition, so that productivity can continue to improve. And the economy can grow as strongly as its resources will allow.

A major challenge for all central bankers is to recognize that the economic landscape will continue to change substantially over the next several years and respond accordingly. Undoubtedly, the future holds more complicated scenarios than the simple cases I talked about this afternoon. And it's often difficult to distinguish unusual shocks from the continuously-changing structure of the economy. But that will continue to be the challenge in the years to come.