Volume Title: The Great Inflation: The Rebirth of Modern Central Banking

Volume Author/Editor: Michael D. Bordo and Athanasios Orphanides, editors

Volume Publisher: University of Chicago Press

Volume ISBN: 0-226-006695-9, 978-0-226-06695-0 (cloth)

Volume URL: http://www.nber.org/books/bord08-1

Conference Date: September 25-27, 2008

Publication Date: June 2013

Chapter Title: Panel Session II remarks, The Great Inflation: Lessons for Central Banks

Chapter Author(s): Lucas Papademos

Chapter URL: http://www.nber.org/chapters/c12706

Chapter pages in book: (p. 503 - 511)

The Great Inflation
Lessons for Central Banks

Lucas Papademos

Introduction

The topical nature and policy relevance of this conference on the origins and consequences of the Great Inflation are underscored by the fact that over the past year real oil and food prices continued to rise significantly and persistently, despite the ongoing severe financial crisis that erupted more than twelve months ago. Before its recent decline, the real price of oil reached a historical peak in June 2008 that was higher than the previous all-time peak of April 1980. Moreover, an index of real world food prices has risen by more than 80 percent over the last three years, having increased by almost 50 percent over the twelve months to July 2008. The apparent parallels between the recent supply shocks and those of the 1970s point to the importance and pertinence of the topics discussed during this conference.

In my remarks, I will first assess alternative views concerning the determinants of the Great Inflation by comparing the inflation performance and the conduct of monetary policy in the United States and in a number of European countries. I will then summarize what I consider to be the key lessons for monetary policy that can be drawn from the experience of the Great Inflation in the 1970s and the subsequent period of disinflation in the 1980s, which led to the establishment of a high degree of price stability on both sides of the Atlantic. Finally, I will briefly explain that the lessons of the

Lucas Papademos is former governor of the Bank of Greece, former vice president of the European Central Bank, and former prime minister of Greece. He is currently visiting professor of public policy at the Kennedy School of Government, Harvard University, professor of economics at the University of Athens, and senior fellow at the Center for Financial Studies of Goethe University Frankfurt.

For acknowledgments, sources of research support, and disclosure of the author's material financial relationships, if any, please see http://www.nber.org/chapters/c12706.ack.

Great Inflation are embedded in the institutional framework and the monetary policy strategy of the European Central Bank (ECB) and have guided the conduct of the ECB's monetary policy since the launch of the euro.

The Role of Supply Shocks and Monetary Policy in Fostering the Great Inflation

Although conventional explanations of the Great Inflation largely ascribe it to the impact of commodity price shocks, there are several reasons why this view has to be regarded with scepticism.

First, in the United States the Great Inflation started around 1965, well before the supply shocks of the 1970s, thus posing a fundamental obstacle to this line of argument.[1] In October 1973—the date of the first oil shock—US Consumer Price Index (CPI) inflation was already running at 8.1 percent, clearly suggesting that inflationary pressures had been strong well before the oil shocks hit.

Second, a convincing case can be—and has been—made that the Organization of the Petroleum Exporting Countries' (OPEC's) dramatic oil price hikes in 1973 and 1979 would only have been possible under the conditions of significant increase in global liquidity after the breakdown of the Bretton Woods system. This view—which had originally been advocated during the 1970s and the early 1980s by Milton Friedman, Phillip Cagan, and Ronald McKinnon[2]—has been revived in a more recent paper by Barsky and Kilian.[3] According to this position, a large part of the commodity price increases in the 1970s should not be regarded as exogenous, but rather as an endogenous market response to the abundant global liquidity created following the collapse of the Bretton Woods system.

Third, and importantly, a comparison between the experience of the United States, the United Kingdom, France, Italy, and Spain, which suffered double-digit inflation rates, and that of Germany and Switzerland, which implemented a tight monetary policy during the 1970s explicitly aimed at keeping inflation under control, raises serious doubts about the notion that the Great Inflation was caused by a series of major negative supply shocks. Given that all countries experienced the very same adverse shocks and that their economic structures were not markedly different, it logically follows that the view largely ascribing the Great Inflation to commodity price shocks cannot account for the marked differences in their inflation performance.

So, what explains those differences in inflation performance? The chapter that was presented in the conference by Beyer, Gaspar, Gerbeding, and Iss-

1. This point has been forcefully made by Clarida, Galí, and Gertler (2000).
2. See Friedman (1975), Cagan (1979), and McKinnon (1982).
3. See Barsky and Kilian (2001).

ing clearly suggests that the divergence between the inflation performance of the United States and that of Germany in the 1970s was due to the tighter monetary policy pursued by the Bundesbank, compared with that of the Federal Reserve.

The difference between the two countries as regards the stance of monetary policy was reflected in the behavior of their exchange rates, with the nominal effective exchange rate of the deutsche mark appreciating during the entire decade, while that of the US dollar depreciated significantly. With the prices of oil and other commodities expressed in dollars, the strong appreciation of the deutsche mark partially insulated the German economy from the inflationary impact of the commodity price shocks.

Combined with the more restrictive interest rate policy implemented by the Bundesbank, this allowed Germany to escape the Great Inflation relatively unscathed, with German CPI inflation peaking at 7.8 percent in the mid-1970s, compared with the inflation peak of 12.2 percent recorded in the United States.

These arguments and the associated evidence strongly suggest that the monetary policy stance adopted by individual countries played a fundamental role in determining whether the inflationary impulses originating from commodity markets translated into persistent inflationary pressures, or whether—as in the case of Germany—they led to a relatively transient inflation hump.

Lessons from the Great Inflation for Central Bank Policy

A major challenge faced by policymakers pertains to the size and stability of the parameters, and sometimes to the very nature, of key economic relationships. The tumultuous 1970s clearly revealed the nature of the long-term unemployment-inflation trade-off. Following the publication of A. W. Phillips' 1958 paper,[4] and especially after Paul Samuelson and Robert Solow introduced the Phillips curve into the macroeconomic debate in the United States,[5] the notion of an exploitable unemployment-inflation trade-off, offering policymakers a menu of policy options they could choose from, became dominant within academia. The Great Inflation episode was akin to a large-scale "experiment." It showed that higher inflation and accommodative macroeconomic policy were not systematically associated with lower unemployment—and indeed in the United States they were accompanied by higher unemployment—thus refuting the proposition of a negatively sloped long-term Phillips curve. Moreover, the subpar economic performance associated with the inflationary outburst of the 1970s led a number of authoritative voices—notably, Milton Friedman and Friedrich von

4. See Phillips (1958).
5. See Samuelson and Solow (1960).

Hayek—to conjecture that higher inflation may actually be detrimental to economic activity.[6] This view has now become conventional wisdom among central bankers and academics alike.

A second proposition that the Great Inflation burned into central bankers' consciousness is the role of inflation expectations as a determinant of inflation and, consequently, the need to keep inflation low and stable, in order to prevent an unanchoring of inflation expectations. To be sure, this notion was not unknown before the 1970s. In his statement before the Joint Economic Committee of the US Congress in February 1965, Federal Reserve Chairman William Martin emphasized that:

> Expectations play an important role in price behaviour and the expectation of continuing price stability is vital to its current realization . . . if we fail to maintain a situation which is conducive to price stability, we could find ourselves caught up very quickly in an inflationary spiral.

Subsequent developments showed the prescience of his words, as US inflation drifted upwards starting from mid-1965, and inflation expectations became progressively unanchored.

Another important lesson concerns the dangers intrinsic to activist, overly ambitious policies striving to keep output close to its potential level. As extensively discussed by Orphanides,[7] although such policies perform well under perfect knowledge of the value of the output gap at each point in time, given the uncertainty associated with the estimates of the output gap calculated in real time, they may well produce markedly suboptimal outcomes. According to his explanation of the US Great Inflation, a key problem was the failure to detect the productivity slowdown of the 1970s in real time, which led to a systematic overestimation of the extent of slack existing in the economy, thus resulting in a comparatively accommodative monetary policy stance.

Over the past fifteen years, the macroeconomic profession has largely converged on a model of inflation dynamics embodied in the so-called "New Keynesian Phillips curve."[8] A distinctive characteristic of this theoretical framework is the forward-looking nature of the inflation process. To be sure, this feature has been criticized because of the model's inability to reproduce the high inflation persistence found in post-World War II data.[9] Recent research, however, suggests that this persistence reflects the shifts in trend inflation experienced in the post-World War II period, which have been associated with the Great Inflation.[10] When either controlling such shifts in trend inflation, or focusing on stable monetary regimes that exhibit no

6. See von Hayek (1978) and Friedman (1977).
7. See Orphanides (2002, 2003).
8. See, for example, Woodford (2003).
9. See, for example, Fuhrer and Moore (1995).
10. See Cogley and Sbordone (2008).

inflation trends, the purely forward-looking version of the New Keynesian Phillips curve fits the data very well.[11]

The forward-looking nature of the inflation process implies that a crucial element of monetary policy is the management of inflation expectations. Consequently, policy credibility, effective communication, and enhanced transparency are of paramount importance. For this reason, a credible and well-understood monetary policy framework, including a clear mandate for preserving price stability and a quantitative objective that can provide a "focal point" for inflation expectations, is essential because it effectively contributes to the anchoring of inflation expectations to price stability. The significance of firmly anchoring expectations offers a perspective on the emphasis placed on monetary analysis in the ECB's monetary policy strategy, as it can provide an additional means for assessing inflation risks and steering inflation expectations over the medium and long run.

Finally, the years since the Great Inflation have also seen important developments concerning the way uncertainty about economic relationships affects the optimal policy response to shocks. The traditional result that under "model uncertainty" policy responses should be relatively more cautious than under certainty has been shown not to be of general validity.[12] In particular, it has been shown that if uncertainty pertains to the lagged effects of policy, and if there is a positive probability that the dynamics of the economy may become unpredictable, the central bank should respond to shocks firmly in order to better control inflation.[13] This result is fully in line with the conclusions drawn from the Great Inflation episode about the appropriate policy response to shocks.

To sum up, the key lessons for monetary policy from the Great Inflation in the 1970s and the subsequent period of disinflation in the 1980s are the following:

- *First,* monetary policy can *effectively* control inflation over the medium and longer run, although the volatility and dynamics of inflation in the short run can be significantly influenced—and even dominated—by shocks and nonmonetary factors.
- *Second,* there is no stable trade-off between inflation and output growth that can be exploited in an effective and systematic manner by monetary policy in the long run. Although no such long-term stable trade-off exists, high and volatile inflation will adversely affect the economy's real growth performance. The first and second lesson clearly imply that the preservation of price stability should be the primary objective of monetary policy.

11. See Benati (2008).
12. See Brainard (1967).
13. See Gaspar and Kashyap (2006) for a pertinent discussion.

- *Third,* the uncertainty characterizing the short-term relationship between inflation and the level and pace of economic activity, which stems from (a) developments in productivity growth and labor utilization that are difficult to predict and measure in real time, (b) unanticipated shifts in inflation expectations, and (c) the effects of shocks, implies that in general attempts to fine-tune economic activity by monetary policy are unlikely to succeed and might even be destabilizing.
- *Fourth,* the ultimate impact of (significant and persistent) supply shocks on inflation performance crucially depends on the extent to which they will be accommodated by monetary policy and they will induce indirect and second-round effects on wage and price-setting behavior. The likelihood of such effects materializing in turn depends on (a) inflation expectations and (b) institutional features of product and labor markets, such as the degree of competition in product markets and the existence of (de jure or de facto) wage-indexation schemes in the labor market.
- *Fifth,* inflation expectations play an extremely important role in determining inflation dynamics and the effectiveness of monetary policy. Inflation expectations are influenced by the objectives, the strategy, and the conduct of monetary policy. The anchoring of inflation expectations to the policy objective of the central bank greatly facilitates its ability to effectively respond to inflation shocks and mitigate their impact on the price level and aggregate output.

These lessons were not self-evident forty or even twenty years ago in many countries. The painful experience of the Great Inflation and the disinflation that followed in the United States and in Europe, as well as the available empirical evidence in many countries over a long period of time, have contributed to their widespread acceptance and their embodiment in the institutional and monetary policy frameworks of most central banks. This is definitely the case for the ECB.

The Lessons of History and the ECB's Monetary Policy

Thus, let me conclude by briefly explaining that the lessons of monetary history—both in the United States and in Europe—over the past fifty years are well-embedded in the institutional framework and the monetary policy strategy of the ECB and have guided the conduct of the European single monetary policy. The Treaty on the Functioning of the European Union and the ECB Statute unambiguously state that the primary objective of the single monetary policy is to maintain price stability. No multiple objectives involving potential policy trade-offs are specified. There is a clear hierarchy of policy goals. In accordance with the Treaty and the Statute, "without prejudice to the objective of price stability, the ECB shall support the general economic policies in the Union with a view to contributing to the achieve-

ment of the objectives of the Union." These include "balanced economic growth" and a "highly competitive social market economy, aiming at full employment." It is therefore envisaged that the ECB shall contribute to economic growth and job creation provided that the preservation of price stability is not jeopardized. The mandated hierarchy of policy goals, however, has significant implications for the conduct of monetary policy.

The strategy adopted by the ECB in order to achieve its primary objective includes a quantitative definition of price stability, which aims at guiding and anchoring inflation expectations and provides a yardstick for assessing the central bank's performance and explaining its policy actions. It also includes a comprehensive analytical framework for the assessment of risks to price stability.

There are two pertinent features of the strategy of the ECB that I would like to emphasize. First, it has a forward-looking orientation and aims at maintaining price stability over a medium- and longer-term horizon. This is important for several reasons. It takes into account the fact that monetary policy affects price developments with relatively long time lags and that it cannot counter directly and promptly the effects of various shocks—especially those affecting the economy's aggregate supply—but only indirectly through a transmission process that is complex, possibly time varying, and characterized by intrinsic uncertainty. Second, the analytical framework for the assessment of risks to price stability incorporates alternative and complementary approaches to the appraisal of inflation risks. In particular, the analysis of monetary and credit developments provides a means to "cross-check" the risk assessment based on economic analysis and it is especially relevant and useful for the evaluation of inflation risks over a longer-term horizon. Such risks include those stemming from the potential effects of monetary and credit conditions on inflation via their influence on asset prices and risk-taking behavior. Monetary analysis also provides additional information that is pertinent for the formation of inflation expectations over a longer-term horizon.

But the effective management of expectations requires more than an unambiguously specified monetary policy objective and a well-defined strategy. It also requires credible actions that are consistent with the attainment of the objective and the adopted strategy. In order to protect the central bank's commitment to its primary objective and strengthen policy effectiveness, the legal framework of the ECB emphasizes the importance and meaning of central bank independence in the performance of its tasks. Of course, the essential counterpart to independence is accountability to the public and to its elected representatives in the European Parliament. Accountability requires effective communication and enhanced transparency of policy actions. Hence, central bank independence, accountability, and transparency are also vital for establishing monetary policy credibility and for anchoring inflation expectations.

Finally, let me stress that the conduct of the ECB's monetary policy has reflected the lessons from the Great Inflation that I summarized earlier. Over the past ten years, the ECB and other central banks often had to address challenges broadly similar—though not identical—to those faced during that historic episode. In particular, during the first year of the financial crisis, the ECB faced the extraordinary twin challenge of preserving price stability, which was threatened by sizable and persistent supply shocks and, at the same time, addressing the substantial risks to financial stability that stemmed from unprecedented market turbulence and banking system stresses.

To meet this challenge, the policy actions of the ECB were based on a separation principle: the monetary policy stance was effectively separated from the management of liquidity. For more than a year after the outbreak of the global financial crisis, the ECB did not ease monetary policy, as determined by its key interest rates, mainly because it was concerned about the materialization of second-round effects of supply shocks on wage- and price-setting and the potential unanchoring of inflation expectations. On the contrary, in July 2008 it raised its policy rates by 25 basis points to counter increasing upside risks to price stability. At the same time, the ECB provided substantial amounts of liquidity to the banking system and engaged in active liquidity management to alleviate money market pressures and protect financial stability. In line with the separation principle, liquidity management involved adjusting the intertemporal distribution of bank reserves and extending the maturity profile of the liquidity provided through refinancing operations, but without increasing appreciably the total supply of central bank money.

The policy pursued by the ECB proved effective. Inflation expectations remained firmly anchored in line with price stability and second-round effects were avoided, while financial stability risks were contained. Of course, the impact of the financial market turbulence on the real economy could be expected to reduce inflationary pressures and diminish inflation risks over the medium term. But this would not have been sufficient for ensuring the preservation of price stability, given the intensity of the adverse supply shocks and their potential effect on inflation expectations. The ECB's credible commitment to price stability has helped prevent the materialization of the unfavorable combination of rising inflation and contracting economic activity that characterized the 1970s. Central banks have learned the policy lessons from the Great Inflation episode.

References

Barsky, R. B., and L. Kilian. 2001. "Do We Really Know That Oil Caused the Great Stagflation? A Monetary Alternative." In *NBER Macroeconomics Annual 2001,* edited by Ben S. Bernanke and Kenneth Rogoff, 137–83. Cambridge, MA: MIT Press.

Benati, L. 2008. "Investigating Inflation Persistence Across Monetary Regimes." *Quarterly Journal of Economics* 123 (3): 1005–60.
Brainard, W. 1967. "Uncertainty and the Effectiveness of Policy." *American Economic Review* 57 (2): 411–25.
Cagan, P. 1979. *Persistent Inflation: Historical and Policy Essays.* New York: Columbia University Press.
Clarida, R., J. Galí, and M. Gertler. 2000. "Monetary Policy Rules and Macroeconomic Stability: Evidence and Some Theory." *Quarterly Journal of Economics* 115 (1): 147–80.
Cogley, T. W., and A. Sbordone. 2008. "Trend Inflation, Indexation, and Inflation Persistence in the New Keynesian Phillips Curve." *American Economic Review* 98 (5): 2101–26.
Friedman, M. 1975. "Perspectives on Inflation." *Newsweek,* June 24.
———. 1977. "Nobel Lecture: Inflation and Unemployment." *Journal of Political Economy* 85 (3): 451–72.
Fuhrer, J., and G. Moore. 1995. "Inflation Persistence." *Quarterly Journal of Economics* 109:127–59.
Gaspar, V., and A. Kashyap. 2006. "Stability First: Reflections Inspired by Otmar Issing's Success as the ECB's Chief Economist." NBER Working Paper no. 12277. Cambridge, MA: National Bureau of Economic Research.
Martin, William McChesney, Jr. 1965. "Statement of William McChesney Martin, Jr., Chairman, Board of Governors of the Federal Reserve System before the Joint Economic Committee, February 26, 1965." Statements and Speeches of William McChesney Martin, Jr. Accessed from FRASER (Federal Reserve Archive), http://fraser.stlouisfed.org/publication/?pid=448.
McKinnon, R. I. 1982. "Currency Substitution and Instability in the World Dollar Standard." *American Economic Review* 72 (3): 320–33.
Orphanides, A. 2002. "Monetary Policy Rules and the Great Inflation." *American Economic Review, Papers and Proceedings* 92 (2): 115–20.
———. 2003. "The Quest for Prosperity without Inflation." *Journal of Monetary Economics* 50:633–63.
Phillips, A. W. 1958. "The Relation Between Unemployment and the Rate of Change of Money Wage Rates in the United Kingdom, 1861–1957." *Economica* 25:283–99.
Samuelson, P., and R. Solow. 1960. "Analytical Aspects of Anti-Inflation Policies." *American Economic Review* 50:177–84.
von Hayek, F. 1978. "Inflation's Path to Unemployment." In *New Studies in Philosophy, Politics, Economics, and the History of Ideas,* edited by F. von Hayek, 192–96. Chicago: University of Chicago Press.
Woodford, M. 2003. *Interest and Prices.* Princeton, NJ: Princeton University Press.