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**The Great Inflation: Introduction to the Conference Volume**

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**Preliminary Draft**

# **The Great Inflation**

## **Introduction**

Maintaining an environment of low and stable inflation is widely regarded as one of the most important objectives of economic policy, in general, and the single most important objective for monetary policy, in particular. The reasons are clear. An environment of price stability reduces uncertainty, improves the transparency of the price mechanism, and facilitates better planning and the efficient allocation of resources, thereby raising productivity.

The Great Inflation from 1965 to 1982 caused significant damage to the US economy and was a serious policy concern. Inflation in the U.S. rose from below 2% in 1962 to above 15% by 1979. Attempts to control it in the early 1970s included the Nixon administration imposition of wage and price controls which were largely ineffective but which added to distortions in the U.S. economy and likely contributed to the deep slump of 1974. The inflation rate in the 1970s also contributed to a marked decline in the U.S. stock market and volatility in the US dollar, including a serious exchange rate crisis in 1978-79. The period was also coincident with a marked decline in productivity growth, which by the end of the 1970s was only a fraction of its performance during the 1960s.

Since the early 1980s, the United States, as well as other industrialized and some developing countries, have been highly successful in controlling inflation. This is evident in the ability of the monetary authorities to stick to their basic low inflation objectives in the face of significant recent oil price shocks and other supply shocks.

The Great Inflation represents the single most important macroeconomic policy failure in the United States, as well as many other developed countries, since WWII. It would appear self-evident that understanding the fundamental causes of this failure, and avoiding its repetition, should be viewed as an important issue for macroeconomists. Many attempts to understand what happened can be identified, but over the past three decades there has been substantial disagreement, misconceptions and misunderstandings of the period which makes it quite hard to compare even seemingly reasonable and plausible alternatives and to draw useful lessons. In addition, recent research has produced new useful perspectives on what might have gone wrong.

The objective of the conference was to bring together this research, helping put the pieces together and to draw the important policy lessons necessary to help avoid repetition of the disaster. Because of the likelihood that once the present recession is past inflationary pressure may return this would seem an opportune time to revisit the Great Inflation. The findings from the research in this volume could have lasting influence on policy

## **Background**

A number of themes have dominated the research on the Great Inflation. They include the following causal explanations:

1. The role of monetary policy and tensions between the central banks' mandate to maintain full employment and price stability.

The original role for monetary policy under the pre 1914 gold standard was to maintain gold convertibility. Since the worldwide supply of gold could not increase very rapidly, this in turn ensured long run price stability. After World War I central banks became concerned with stabilizing the business cycle, in addition to the implicit goal of price stability that was already in place.

This emphasis on the real economy expanded in the post World War II era with the rise of Keynesian economics. The Phillips curve concept developed in the late 1950s posited a tradeoff between inflation and unemployment (output). Central banks focused primarily on maintaining full employment at the expense of somewhat higher inflation (whose costs were deemed to be less than those associated with high unemployment). This approach was later demonstrated by Friedman and Phelps to be a recipe for stagflation (both high inflation and unemployment). They demonstrated in path breaking research in the mid to late 1960s that gearing monetary policy towards full employment would only lead to accelerating inflation and have no long-term effect on the natural rate of unemployment (the rate of unemployment consistent with normal frictional and structural forces in the labor market, historically it has been in the range of 4 % to 7%) as economic agents incorporated the higher inflation into their wage setting behavior. This led to the current view that low inflation should be the sole long-term focus of central banks.

2. The role of unfavorable supply shocks.

The 1970s was a period of unusually large unfavorable supply shocks. Some of these shocks, for example to oil prices, and to some other commodities that serve as important inputs in production would have been expected to be associated with temporary disturbances to relative prices which do not ordinarily lead to sustained inflation. More permanent unfavorable supply shocks also buffeted the economy during the 1970s. Demographic and other reasons resulted in an increase in the natural rate of unemployment that was sustained for almost two decades, by some estimates, and the growth rate of productivity declined.

One explanation of the unfavorable outcomes of the period is that, these shocks may have led to monetary policy being more accommodative than it would have been otherwise, resulting in an increase in trend inflation. Focusing on relative price shocks, another theory is that, though temporary, they may have had an outsized influence on aggregate inflation, perhaps because of the spiraling nature of the wage-price adjustment process and perhaps because of the interactions of these shocks with wage and price controls and decontrols.

During the 1970s and much of the 1980s, supply shocks were considered by many as the single most important explanation of the rise in inflation, though more recently some economists have suggested that they may have been relatively unimportant, relative to the role of other forces, for example monetary policy errors.

### 3 Institutional design failures at the Fed and other central banks such as dynamic inconsistency and inflationary bias.

Path breaking research by Kydland and Prescott and Barro and Gordon in the late 1970s and early 80s demonstrated that central banks following discretionary policy of setting their inflation and output goals each period, taking the public's expectations as given would produce a result that would become inconsistent as time evolves. Thus a policy designed to reduce unemployment towards the natural rate would lead to permanently higher inflation as agents, who initially believed that the central bank would follow the policy rule it announced in the previous year, eg price stability, learn that in the next year the Bank has broken its previously announced rule and is following a more expansionary policy. This argument led to the case for credible commitment mechanisms (aka monetary rules) to bind the hands of the monetary authorities over time. The inflationary bias suggested by these theories is typically larger the larger the natural rate of unemployment in the economy.

Thus, given the marked rise of the natural rate of unemployment during the 1970s, these theories would have predicted that the Fed would have opted to inflate the economy more than during the 1960s. Some have argued that elements of the subsequent reduction in inflation can also be similarly understood with a fall in the natural rate of unemployment. There is considerable controversy regarding the objectives of the central bank and the central bank's understanding of the economy that could explain these outcomes as deliberate choices. Some research emphasizes the role of evolving beliefs regarding the appropriate objectives and economic dynamics as an important ingredient necessary to understand the evolution of post-WWII inflation in the United States.

### 5 The role of the international monetary system (Bretton Woods and the managed float).

The Great Inflation in the United States originally began in the late 1960s when the major countries were linked together under the fixed exchange rate Bretton Woods system. Under Bretton Woods as originally conceived, the monetary policy of member states was constrained by the peg with the dollar which in turn was pegged to gold at the fixed price of \$35 per ounce. One explanation is that the inflation began in the United States in the mid 60s reflecting expansionary policy by the US to finance the Vietnam war and the Great Society and because the Bretton Woods rules encouraged member states to maintain full employment leading to an inflationary bias. Once the Bretton Woods system collapsed and countries adopted floating exchange rates they continued favoring full employment over low inflation based on the Phillips curve. In addition common supply shocks, eg the oil price shocks, led many countries to use expansionary monetary policy to prevent the oil price increases from harming the real economy.

The Bretton Woods system of adjustable pegs based on a nominal anchor pegging the dollar to the fixed gold price of \$ 35 per ounce, initially acted to keep inflation low. This ended reflecting the failure by the center country, the US, to maintain the price stability ( that would have prevailed if they had continued to pay attention to the fixed peg of the dollar to gold) after 1965. US inflation was exported to the rest of the world via the US balance of payments deficits. The continental countries( Germany, Netherlands Belgium, France) ran ever larger balance of payments surpluses in dollars which produced inflationary pressure on them. In reaction to US exported inflation, they began converting their outstanding dollar claims into gold thereby destroying the system.

The succeeding managed float in the 1970s could have ended the inflationary pressure because members had the independence to follow contractionary policies but most were reluctant to do this because of the consequences of higher unemployment. It took until the 1980s and the shock therapy of Volcker and Thatcher to break the back of inflationary expectations. Since then central banks have learned the importance of a domestic credible nominal anchor based on the commitment to low inflation.

#### 6. The Great Inflation as a worldwide phenomenon with important similarities in many nations.

The Great Inflation of the 1970s was a worldwide phenomenon, with Germany, Switzerland and Japan arguably being the only three major countries where it was not similarly sustained for over a decade. The Bretton-Woods system offers one explanation of this apparent synchronization. But the timing of the beginning and ends of the inflation exhibits variation across countries, suggesting other forces, that perhaps were also to some extent related across countries might have played a role. In particular, many countries experienced adverse supply shocks similar to those in the United States. As well, economic models and the influence of economic theory on policy (both good and bad) had numerous commonalities across countries. Looking across countries offers a way to sharpen distinctions among explanations that may be hard to tell apart when only the evidence for the US is examined.

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### Research Questions

The papers in the volume focus on the following questions:

1. Was the Great Inflation unavoidable, given the institutions , or could it been averted with better policy?
2. If policy could have improved the outcome, what are the policy lessons? Was the problem some fatal flaw in policy design or incompetence by policy makers that we can be confident would not be repeated (e.g. confusing real and nominal interest rates)? Or was the policy error a subtle one that might easily reappear if it remains misunderstood (e.g. overconfidence in policy makers' ability to measure and target the natural rate of unemployment or potential output)?
3. If the problem was a deficient institutional arrangement, what are the necessary institutional safeguards that should have been put in place?

4. What was the legacy from the Great Inflation experience for the evolution of today's monetary policy environment of central bank independence, inflation targeting and transparency?

The papers in this conference are divided into 6 themes, with one or two papers per theme:

1. Milton Friedman Revisited
2. Non Monetary Elements
3. Time Inconsistency and Central Bank Independence
4. The Role of a Nominal Anchor
5. Learning, Expectations and Policy Mistakes
6. International Perspectives

The conference also had two panel session where leading policy makers and scholars reflect on the lessons from the conference for current and future policy.

### **Session 1: Milton Friedman Revisited.**

William Poole, Robert Rasche and David Wheelock, "The Great Inflation: Did the Shadow know better?"

Discussant: Christina Romer

The Shadow Open Market Committee was formed in 1973 in response to rising inflation and the apparent unwillingness of U.S. policymakers to implement policies necessary to maintain price stability. This chapter describes how the Committee's policy views differed from those of most Federal Reserve officials and many academic economists at the time. The Shadow argued that price stability should be the primary goal of monetary policy and favored gradual adjustment of monetary growth to a rate consistent with price stability.

The chapter evaluates the Shadow's policy rule in the context of the New Keynesian model of Clarida, Gali and Gertler (1999). Simulations of the model suggest that the gradual stabilization of monetary growth favored by the Shadow would have lowered inflation with less impact on output growth, and less variability in output and inflation, than a one time reduction in monetary growth. The authors conclude that the Shadow articulated a sensible policy that would have outperformed the policies actually implemented by the Federal reserve during the Great Inflation era.

Andreas Beyer, Vitor Gaspar, Christina Geberding and Otmar Issing, "Opting out of the Great Inflation: German Monetary Policy After the Break Down of Bretton Woods"

Discussant: Ben Friedman

During the turbulent 1970s and 1980s the Bundesbank established an outstanding reputation in the world of central banking. Germany achieved a high degree of domestic stability and provided

a safe haven for investors in times of turmoil in the international financial system. Eventually the Bundesbank provided the role model for the European Central bank.

The paper highlights how the Bundesbank monetary policy strategy contributed to its success. The authors analyze the strategy as it was conceived, communicated and refined by the Bundesbank itself. They use a theoretical framework (following Soderstrom 2005) where monetary targeting is interpreted, first and foremost, as a commitment device. In their setting, a monetary target helps to anchor inflation and inflation expectations. They derive an interest rate rule and show empirically that it approximates the way the Bundesbank conducted monetary policy over the period 1975-1998. They then compare the Bundesbank's policy rule with that of the Federal Reserve and of the Bank of England. They find that the Bundesbank's reaction function was characterized by strong persistence of policy rates as well as a strong response to deviations of inflation from target and to the activity growth gap. In contrast, the response to the level of the output gap was not significant. In their analysis the authors use real-time data, as available to policy-makers at the time.

## **Session 2: Non Monetary Elements.**

Alan Blinder and Jeremy Rudd. "Supply Shocks and the Great Inflation"

Discussant: Olivier Blanchard

### **Supply Shocks and Inflation**

U.S. inflation data exhibit two notable spikes into the double-digit range in 1973-1974 and again in 1978-1980. The well-known "supply-shock" explanation attributes both spikes to large food and energy shocks. Plus, in the case of 1973-1974, the removal of price controls. Yet critics of this explanation have a) attributed the surges in inflation to monetary policy and b) pointed to the far smaller impacts of more recent oil shocks as evidence against the supply-shock explanation. This paper reexamines the impacts of the supply shocks of the 1970s in the light of the new data, new events, new theories, and new econometric studies that have accumulated over the past quarter century. The authors find that the classic supply shock explanation holds up very well; in particular, neither data revisions nor updated econometric estimates substantially change the evaluations of the 1972-1983 period that were made 25 years (or more) ago. The authors also rebut several variants of the claim that monetary policy rather than supply shocks was really to blame for the inflation spikes. Finally they examine several changes in the economy that may explain why the impacts of oil shocks are so much smaller now than they were in the 1970s.

Christopher Sims, "The Fiscal Back Story of the Great Inflation"

Discussant: Michael Woodford

The inflation of the 1970s in the U.S. is often discussed as if the only type of policy action that could have prevented the inflation were monetary policy actions and the only type of errors that

might have induced the inflation were monetary policy errors. Yet fiscal policy underwent dramatic shifts in the 1970s and economic theory makes clear that in an environment of uncertainty about future fiscal policy, monetary policy may lose potency or have perverse effects.

This paper documents the vagaries of fiscal policy in this period and argues that people at the time must have been uncertain about fiscal policy's future course. It also lays out a theoretical framework for understanding the effects of fiscal uncertainties on monetary policy and shows that fiscal variables have predictive value in dynamic models, even if traditional monetary policy indicators are included in the system.

### Section 3: Time Inconsistency and Central bank Independence

Alex Cukierman. "Misperceptions about the Frequency of Price Adjustments and Asymmetric Fed's Preferences- An Assessment of Their impact on Inflation and Monetary Policy Under Burns and Miller"

Discussant: Gregory Hess

Using counterfactual simulations anchored on a New Keynesian model whose parameters are based on a combination of micro calibrations and estimation methods this chapter evaluates quantitatively the impacts of misperceptions about the frequency of price adjustments (FPAM) and of recession avoidance preferences (RAP) at the Fed on the U.S. economy over the Burns / Miller era. The impacts examined are those on inflation, the paths of the federal funds rate, the output gap and of inflationary expectations. Interactions between each of FPAM and RAP on one hand, and output gap misperceptions (GM) on the other hand are also considered.

The papers simulations reveal that : 1. Given the state of output gap misperceptions, underestimation of the frequency of price adjustment by the FOMC in the 1970s raised the average value of inflation up to a fifth. 3. In the absence of the RAP the upward, policy induced, impact of GM on inflation is more than offset by the direct downward effect of (private sector) pessimistic output gap expectations on the actual gap and inflation. However the presence of both RAP and GM raises inflation over the 1970s by up to 23 per cent.

Takatoshi Ito, "The Great Inflation and Central Bank Independence"

Discussant: Rick Mishkin

Japan suffered a very high inflation rate in 1973-74. The CPI inflation rate rose nearly 30%. It is commonly argued that the oil crisis is to blame for the high inflation. However the inflation rate had already reached a 10% threshold months before the onset of the oil crisis in October 1973. In fact inflation largely reflected monetary policy mistakes. The interest rate cut of June 1972 was not necessary and the interest rate hike of April 1973 was too little too late.

The policy mistakes were a result of poor judgement by the Bank of Japan, pressure from the government to avoid yen appreciation and the absence of institutional independence of the central bank. Contrary to what one might think, The Bank of Japan came out of the Great Inflation of 1973 with a stronger voice. It argued that its recommendation to tight monetary policy should not be overruled or the same mistake would result. By this logic the Bank of Japan



obtained de facto independence after 1975. When faced with the next economic recovery in 1979, which was again accompanied by increasing oil prices, the Bank of Japan was able to tighten monetary policy in a timely manner to contain the inflation rate under 10 percent.

#### **Session 4; The Role of a Nominal Anchor**

Marvin Goodfriend and Robert King, “The Great Inflation Drift”

Discussant: Lars Svensson

A standard statistical perspective on the U.S. Great Inflation is that it involves an increase in the stochastic trend rate of inflation, defined as the long-term forecast of inflation at each point of time. That perspective receives support from two sources: the behaviour of long-term interest rates which are generally supposed to contain private sector forecasts and statistical studies of U.S. inflation dynamics.

The authors show that a textbook macroeconomic model delivers such a stochastic inflation trend when there are shifts in the growth rate of capacity output, under two behavioral hypotheses about the central bank: 1) that it seeks to maintain output at capacity ;and 2),that it seeks to maintain continuity of the short-term interest rate . The theory then identifies major upswings in trend inflation with unexpectedly slow growth of capacity output. They interpret the rise of inflation in the U.S. from the perspective of the simple macroeconomic framework.

Andrew Levin and John B. Taylor, “Falling Behind the Curve: A Positive Analysis of Stop-Start Monetary Policies and the Great Inflation”

Discussant: Ben McCallum

This chapter documents the evolution of long-run inflation expectations and models the stance of monetary policy from 1965 to 1980. Using a host of survey –based measures and financial market data , it demonstrates that long-run inflation expectations rose markedly from 1965 to 1969, leveled off in the mid-1970s, and then rose at an alarming pace from 1977 to 1980. The chapter also shows that monetary policy during the period can be modeled by a policy rule with a time varying intercept and constant slope coefficients. This time varying rule implies a series of stop-start episodes in 1968-1970, 1974-1976, and 1979-1980. In each episode , policy fell behind the curve by belatedly tightening, causing a contraction in economic activity and then stopping short before inflation was reduced to its previous level. The chapter concludes by showing that this evidence and characterization of policy raises questions about most prominent theories of the Great Inflation and suggests ways to prevent future policy mistakes.

#### **Session 5: International Perspectives**

Ricardo DiCecio and Edward Nelson, “The Great Inflation in the United States and the United Kingdom: Reconciling Policy Decisions and Data Outcomes.”

The authors argue that the Great Inflation experienced by both the United Kingdom and United States in the 1970s has an explanation valid for both countries. The explanation does not appeal to common shocks or to exchange rate linkages, but to the common doctrine underlying the systematic monetary policy choices in each country. The nonmonetary approach to inflation control that was already influential in the United Kingdom came to be adopted by the United States during the 1970s. The authors document their position by examining official policymaking doctrine in the United Kingdom and the United States in the 1970s, and by considering results from a structural macroeconomic model estimated on U.K. data.

Michael Bordo and Barry Eichengreen, “ Bretton Woods and The Great Inflation.”

Discussant: Allan Meltzer

In this chapter the authors show that the acceleration of inflation in the United States after 1965 reflected a shift in perceived responsibility for managing the country’s international financial position. Prior to 1965 this responsibility was lodged primarily with the Fed, whose policies resembled those of a central bank playing by the gold standard rule of the game. Over time, however, this responsibility was increasingly assumed by the Treasury, while the Federal Reserve acquired increasing room for maneuver as a result of the adoption of the Interest Equalization Tax and other policies with effects analogous to capital controls. Once the external constraint shaped policy less powerfully, the Fed pursued other goals more aggressively, resulting in more inflationary pressure. They document these points with a quantitative and qualitative analysis of the minutes of the Federal Open Market Committee.

## **Session 6.: Learning, Expectations and Policy Mismatches.**

Athanasios Orphanides and John C Williams, “Monetary Policy Mistakes and the Evolution of Inflation Expectations “

Discussant: Seppo Honkapohja

The authors ask, what monetary policy framework, if adopted by the Federal Reserve, would have avoided the Great Inflation of the 1960s and 1970s? In their paper, they use counterfactual simulations of an estimated model of the U.S. Economy to evaluate alternative monetary policy strategies over the past 40 years. They show that policies constructed using optimal control techniques aimed at stabilizing inflation, economic activity, and interest rates would have succeeded in achieving a high degree of economic as well as price stability assuming that the Fed had excellent information regarding the structure of the economy. However, in the presence of realistic informational imperfections, such a policy approach would have failed to keep inflation expectations well anchored, with the result that inflation would have been highly volatile in the 1970s. Optimal control policies would have succeeded only if the weight placed on stabilizing the real economy was relatively modest—with the best results achieved if virtually all the weight was placed on stabilizing prices. Finally they show that a strategy of following a simple first-difference policy rule would have been more successful than optimal control policies in the presence of informational imperfections.

## **Panel Session: I The View from the Trenches**

Chairman: Martin Feldstein

At this panel session, in which three former central bank governors, on whose watch the Great Inflation was vanquished, reflected on their experiences. John Crow of the Bank of Canada, Donald Brash of the Reserve Bank of New Zealand, and Jacob Frenkel of the Bank of Israel provided detailed accounts of their experiences with combating inflation in their respective countries. The discussion was focused most prominently on inflation targeting and on the political battles involved in enacting inflation targeting in each of the countries.

## **Panel Session II: Lessons from History**

Chairman: Allan Meltzer

The conference ended with a panel discussion involving Federal Reserve Vice Chairman Donald Kohn, Harold James of Princeton University and Anna J. Schwartz of NBER. Kohn emphasized some lessons that central banks need to learn after experiences like the Great Inflation. For example, price stability must be the fundamental objective and responsibility of central banks; inflation expectations are critical; vigorous debate and alternative viewpoints are essential for creating better policy; shortcuts to price stability are a recipe for disaster; and central bankers must always exercise humility when forming policy, since much of it depends on variables that no one can estimate.

James highlighted four questions we still have yet to answer; What is the dating of the Great Inflation? What caused the Great inflation?

How can inflations be ended? Why do we care about inflations?

Finally Schwartz returned to the lessons of her colleague Milton Friedman. One of the most important lessons of the Great Inflation was that the Fed incorrectly estimated the costs of disinflation for the stabilization of the real economy, and thus forced it to delay deflationary policy to the point where the costs to deflate only became higher.

## **Policy Implications**

Two centuries of central bank experience has led to the unanimous conclusion by practitioners and economists that the primary goal of monetary policy is to maintain price stability. This was the case before World War I but as the twentieth century advanced the record of inflation across the world worsened reaching its apogee (in terms of peacetime inflation) in the third and fourth quarters of the century. Inflation became an important political and social issue by the 1980s leading to a drastic shift in the policy paradigm and a new regime of low inflation and a credible domestic nominal anchor by all advanced countries and an increasing number of emerging countries. This volume has documented the story of how monetary evolved from the 1960s to the present and how the lessons of the Great Inflation were absorbed.

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