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The impact of monetary policy in the midst of big shocks ☆

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ABSTRACT

This paper studies the impact of Federal Reserve policies that created the largest deviations from price stability during the Fed's first 100 years: the post-World War I deflation, the deflation of the Great Depression, the inflation of World War II, and the Great Inflation of the 1970s. In terms of their macroeconomic impacts, I find that deflation was uniquely depressing in the 1930s because of cartel policies that prevented nominal prices and wages from adjusting to clear markets, and not because deflation is generically depressing. I find that the biggest impact of monetary policy during World War II was in debasing debt through inflation. I find that the main drivers of the 1970s economy were long-run changes in productivity and the labor market, and that there may have been little that the Fed could have done at this time to expand employment and output. More broadly, I find that macroeconomic performance would have been better over the Fed's first century had the Fed followed a monetary policy to deliver stable prices.

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1. Introduction

A central goal of the Federal Reserve and other Central Banks is to conduct monetary policy that is consistent with price stability. Pursuing clearly defined monetary policy rules is one way to achieve this goal. But in its first 100 years, the Fed has presided over several historical episodes of very large departures from price stability. These episodes include the two most severe deflations in the history of the U.S., the deflation of the early 1920s and the deflation of the 1930s, and three large inflations, the inflation of 1916–1919, the inflation of the mid-late 1940s, and the chronic Great Inflation of the 1970s and early 1980s. These deviations from price stability all occur around the time of major economic events: World War I, the 1921–1922 economic downturn, the Great Depression, World War II and its aftermath, and the oil shocks and stagflation of the 1970s. The starting point of this paper is the presumption that the Fed could have conducted monetary policy to avoid these large deviations from price stability. The paper then asks how these deviations impacted employment and output during these events. General equilibrium business cycle models are used for each episode.

☆ This paper documents four major deviations from price stability that occurred under the Federal Reserve: the deflations of the 1920s and 1930s, and the inflations of the 1940s and 1970s. I argue that these deviations could have been avoided using a policy rule. I analyze the impact of these deviations on economic performance. I find that deflations are not generically depressing, and that the deflation of the 1930s was depressing because of cartel policies. I find that the 1970s expansionary monetary policy did not stimulate economic activity as intended because of major long run changes in productivity and labor supply.

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There are two main findings, one about deflationary monetary policies and one about inflationary monetary policies. I find that deflation per se is not as depressing as is commonly believed, and in particular, that the deflation of the 1930s was uniquely depressing because of government wage setting and cartel policies that substantially increased the real impact of deflation on the economy. An implication is that the Great Depression would have been milder and there would have been a faster recovery in the absence of cartel policies. Moreover, the findings have implications for current monetary policy, as they suggest that focusing on "deflation avoidance", which is a key feature of recent policies, may be misplaced.

In terms of inflationary monetary policy, I find that the inflation of World War II had little impact on the real economy during the War, but that the large postwar inflation of the late 1940s had a significant effect by reducing the postwar tax burden. This debt debasement did not occur during the inflationary 1970s, however, when inflation was anticipated and interest rates rose roughly one-for-one with inflation. More broadly, it is difficult to find evidence of significant expansionary effects from the Fed's inflationary deviation during the 1970s. The primary determinants for economic activity during the 1970s are long-run movements in productivity, which reflects the productivity slowdown, and the labor wedge. And the inflation of the 1970s may have had a substantial cost as the disinflation of the early 1980s is associated with lower output and employment. The broader finding from this record is that the Fed should focus on monetary policies that generate stable prices through a clearly articulated monetary rule, such as the Taylor rule, as detours from policies that produce price stability are associated with poor economic performance.

The paper is organized as follows. Section 2 presents some background statistics on inflation. Section 3 discusses the impact of the two major deflations during the early 1920s and the early 1930s, and the impact of those deviations from price stability on real economic activity. Section 4 discusses the inflation of the 1940s, and its impact on real economic activity. Section 5 discusses the Great Inflation and economic activity during the 1970s. Section 6 concludes.

2. Inflation statistics since 1913

This section presents some descriptive statistics of inflation. The mean inflation rate as measured by average log change in the CPI has been about 3.2 percent per year since 1913, with a standard deviation of 4.8 percent. The skewness is about 0.3224, which is not statistically significant at the 5 percent level. There is significant excess positive kurtosis (5.70), which means that there have been more realizations from the right tail of the distribution than the left tail, and that these right tail realizations occur more frequently than would be expected from a Gaussian distribution. Inflation is positive serially correlated, with a first order autocorrelation coefficient of about 0.64. There have been 11 years in which the CPI fell (measured as year-over-year changes from December), and 89 years of increases. The log CPI change has been between -3 percent and 6 percent in 79 of the Fed's first 100 years. The episodes that I consider in this paper – the deflations of the 1920s and 1930s, and the inflations of the 1940s and 1970s – have log changes in the CPI that are outside of this band.[1]

I will assess these episodes from two widely held perspectives: (i) inflations or deflations significantly impact economic activity, with deflation depressing economic activity, and (at least modest to moderate) inflation increasing economic activity, and (2) that the Fed can use monetary policy to expand economic activity in response to temporary negative shocks.

3. The federal reserve and the great deflations of 1920–1922 and 1929–1933

The two most severe deflations in U.S. history occurred less than a decade apart. The first occurred between 1920 and 1922, when the CPI fell nearly 18 percent, reflecting annual inflation rates of about 11 percent between 1920 and 1921 and about 7 percent between 1921 and 1922. The deflation during these years was even more severe measured using the GNP deflator with a cumulative price decline over these two years of 19.4. The second deflation occurred between 1929 and 1933, with an average rate of deflation of about 7 percent per year, and a cumulative deflation of about 28 percent over this four year period. This section analyzes the impact of these two deflations on the economy with a focus on understanding why the downturns that occurred in the early 1920s and 1930s were so remarkably different, how price stability would have made a difference during the 1930s, and what the implications of these episodes are for rules-based monetary policy going forward.

The 1929–1933 deflation has received enormous attention in the literature because of its coincidence with the Great Depression. A widely held view is that the deflation of the early 1930s was a major factor in turning what otherwise would have been a "garden variety" recession into the Great Depression (see Friedman and Schwartz, 1963; Bernanke, 1995). The deflation of 1920–22, however, has received comparatively little attention in the literature. This section first compares economic performance during these two severe deflations. This comparison suggests that severe deflation per se does not always have large and persistent effects on real economic activity, as is often assumed. The analysis then draws on Ohanian (2009) and Cole and Ohanian (2004) for an explanation of why the Great Depression was so severe and lasted so long, and for understanding the role of deflation during the 1930s. The evidence will suggest that the Great Depression was a "one off" event, in which government cartel and wage setting policies, and their interaction with deflation, played a key role in the

[1] I assess four of the five episodes of large deviations from price stability. I do not consider the World War I inflation because it is not clear that the Fed understood how to maintain price stability at that time (see Hetzel, 1985 for details).

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