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Has the Fed improved U.S. economic performance?



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ABSTRACT

This paper finds that U.S. economic performance has not generally improved under the Federal Reserve, with the possible exception of the Great Moderation. We analyze the Fed and pre-Fed periods in terms of the rates and volatilities of inflation and real GDP growth. Comparing the pre-Fed periods to the post-World War II period and the Great Moderation, we find that real GDP growth has been lower under the Fed, while inflation has been higher. The volatilities of inflation and GDP growth have both declined under the Fed, but the reductions occurred mostly during the Great Moderation.

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1. Introduction

Most economists believe the Federal Reserve has improved economic performance relative to the pre-Fed period. [Taylor \(1986, p. 639\)](#), for example, states that “[m]acroeconomic fluctuations have been less severe in the past thirty years than in the period before World War II. [...] This improvement in macroeconomic performance was already evident to most economists by the end of the 1950s.” Following [Burns \(1960\)](#) and [Baily \(1978\)](#), [DeLong and Summers \(1986, p. 679\)](#) examine data from 1893 through 1982 and find “clear evidence that the amplitude of cyclical fluctuations is much lower after World War II than it was before [...] even if the Great Depression is excluded.”

Recent research, however, indicates economic performance was actually better, or at least no worse, in the pre-Fed period than it has been with the Fed. Inflation has been higher under the Fed, while GDP growth has been lower than before the Fed. [Romer \(1986a, p. 314\)](#) posits that improvements in economic stability under the Fed are not real but are simply “a figment of the data.” [Miron and Romer \(1990\)](#) consider industrial production back to 1884 and find that recessions were shorter and recoveries faster in the pre-Fed era than under the Fed. [Davis \(2004\)](#) extends this type of analysis back to 1796, finding that the frequency and average duration of recessions have been no different since World War II than they were before the Fed. In addition, financial panics did not decline under the Fed until the establishment of the Federal Deposit Insurance Corporation (FDIC) ([Jalil, forthcoming, pp. 17–19](#)).

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In a comprehensive analysis of the Fed's historical performance, Selgin, Lastrapes, and White (2012) (hereafter "SLW") compare the Fed and pre-Fed eras using several measures of prices and output. For price stability, they analyze the average rate and volatility of inflation, finding that inflation under the Fed was higher but no less volatile (as indicated by standard deviation) while the price level became less predictable (as indicated by higher autocorrelation of inflation) than in the pre-Fed period (pp. 570–574). For economic output, they find that the volatility of real GDP growth in the pre-Fed period was lower than under the Fed. In some cases, GDP volatility in the pre-Fed period was even lower than in the post-World War II period, depending on which data source is used (pp. 575–579). Exploring the Fed's response to economic shocks, they find that the Fed's actions caused larger and more persistent variations from the "natural" level of output and that the Fed was unable to properly respond to changes in money velocity (pp. 578–579).

This paper builds on the analysis of SLW in two important ways. First, we extend the pre-Fed sample back to 1792, rather than starting with post-Civil War period as in SLW and most other studies of the pre-Fed era. This extension allows for a richer sub-sample analysis, over both the pre- and post-Fed eras. Second, we compare differences in the level of economic growth across the sub-samples, rather than differences only in volatility. We consider four measures of economic performance: the rates and volatilities of inflation and the rates and volatilities of real GDP growth. Like other recent studies, we find higher average rates of inflation under the Fed and lower rates of GDP growth. Although the volatility of inflation and GDP growth have both declined in the Great Moderation, the volatility of GDP growth in the early post-World War II period is no different than the state banking period before the Civil War, and the volatility of inflation is actually higher in the early postwar period than it was during the national banking period. These results indicate there has not been an overall decline in economic volatility except during the Great Moderation and that studies excluding pre-Civil War data may not accurately represent economic performance in the pre-Fed period.

2. Data

One important question for this type of comparative analysis is which datasets are most appropriate for analyzing historical economic performance. For price-level data, we use the annual U.S. consumer price index (CPI) from Officer and Williamson (2014).¹ For GDP growth, most studies prior to the mid-1980s are based on real GDP data from the National Bureau of Economic Research (NBER) or Bureau of Economic Analysis (BEA). These datasets, however, are based on data from Frickey (1947) which is known to contain mismeasurements that overestimate the volatility of GNP growth in the pre-Fed period. As Romer (1986a, p. 314) describes, "the methods used to construct the historical series exaggerate cyclical fluctuations in industrial production." This issue occurs "mainly because the real component series are almost exclusively for commodities, the output of which is generally much more volatile than that of other kinds of output" (SLW, p. 575).

Several studies attempt to remedy the shortcomings of the Frickey dataset by making revised estimates of U.S. GNP in the pre-Fed period. Romer (1986b) re-estimates the pre-World War I GNP series in the same way as Frickey (1947) but rebalances the portions of commodities and industrial components to be more representative of the contemporary economy. Balke and Gordon (1986) use regressions on a variety of economic variables in the period 1908 to 1938 to backward-estimate GNP from 1869 to 1908. Davis (2004) incorporates new data from early U.S. manufacturing and production that "represent close to 90 percent of the value added produced by the U.S. industrial sector" (p. 1179). To give the Fed the most charitable interpretation possible, we use data from Balke and Gordon (1986, appendix B, Table 1) since SLW (pp. 575–577) finds that this dataset is the most favorable toward the Fed. Since the Balke–Gordon dataset covers only the years from 1869 through 1983, we supplement it with data from Williamson (2014) which includes GDP estimates from 1790 to 2012. Williamson's data combines GDP data from three time periods: Davis (2004) from 1798 to 1909, Kendrick (1961) from 1909 to 1928, and standard data from the BEA thereafter.² We combine the Balke–Gordon and Williamson datasets using the Balke–Gordon figures from 1869 to 1983 and Williamson data in all other years.

Our analysis uses regular GDP growth rates rather than per capita growth rates for two reasons. First, unusually high or low birth rates can give a false impression of changes in economic productivity. For example, the 1950s were affected by the high birthrates of the post-World War II baby boom, while the 1970s were not. The average growth rates in real GDP of 3.95 percent in the 1950s and 3.16 percent in the 1970s accurately reflect the relative prosperity of the 1950s. The average growth rate of GDP *per capita*, however, was 2.09 percent in the 1970s but averaged only 1.99 percent from 1950 to 1960 because of the higher average birth rates over the period. Second, fluctuations in the birth rate can be misleading if they occur around the same time as a change in the monetary system. For example, Miron (2012, pp. 632–633) finds, contra SLW, that the average growth rate in real GDP per capita was higher in the postwar period (1947–2009) than during the national banking period (1869–1913). Because of the postwar baby boom, however, expanding the chosen time period by only one year reduces the average per capita growth rate in our dataset from 1.82 percent (1947–2009) to 1.55 percent (1946–2009) which is consistent with the long-run averages between 1.5 and 1.6 percent in all Fed and pre-Fed periods.³ We focus our analysis on the growth rate of real GDP in order to avoid these problems associated with per capita measurement.

¹ Alternative price measures of the price level include the GDP deflators from Officer and Williamson (2014) and Balke and Gordon (1986). Using either of these alternative measures does not affect the results.

² For further detail, see <http://www.measuringworth.com/uscompare/sourcegdp.php>.

³ The timeframe used in Miron (2012) is not intentionally selective. It is the period used by SLW.

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