

MONETARY POLICY STABILITY, DISINFLATION AND ECONOMIC PERFORMANCE

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For twenty-five years the SOMC has steadfastly urged the Federal Reserve to pursue price stability as a foundation for sustained healthy economic expansion. The lower inflation and improved economic performance since the early 1980s have confirmed the validity of this policy prescription. This paper provides some rough estimates of the positive benefits of lower inflation on economic output and capital spending.

The continuous disinflation and sustained economic expansion and declining unemployment since the early 1990s has been the most remarkable and widely unanticipated economic trend in recent decades. Just as the high and volatile inflation of the late 1960s-early 1980s generated economic inefficiencies and was the primary source of disruptive imbalances in the economy and erratic cyclical performance, the stable, low inflation in recent years has been the primary basis for sustained economic expansion and heightened economic efficiency. Financial markets concur.

High and volatile inflation harms economic performance in general ways. The first is the inefficiencies that stem from mispricing signals, that is, the confusion between changes in relative prices and inflation (changes in the general price level), and the unanticipated shifts in real money balances and money illusion (confusion between nominal and real quantities) that distort economic behavior. The second is the boom and bust cycles that resulted in the past from the high and volatile inflation generated by the Federal Reserve's monetary policies and its misguided and often ill-timed attempts to counter the cycles.

The Fed's earlier go-stop-go monetary policy that generated wide and unpredictable swings in aggregate demand, coupled with the inflation-induced distortions of business and household decisions, created imbalances that led to more variable economic performance and weaker long-term growth. In such a volatile environment,

marred by distorted pricing signals, businesses struggled to adjust production to shifts in demand, and undesired deviations between actual and desired levels of inventories and significant swings in employment and labor inputs emerged. This volatility was reflected in personal income and household finances. Resulting shifts in credit conditions led to a fragile and inefficient banking system. The cyclicity of economic performance and the distorting impacts of inflation and misguided and frequently changing government tax policies raised capital costs, lowered expected rates of return on investment and deterred capital spending. Consequently, the high and volatile inflation was the root of poor economic performance and also suppressed productive capacity.

Low, stable inflation enhances efficiency and economic performance by reducing the deadweight welfare losses due to mispricing signals and, most importantly, by establishing a more stable macroeconomic environment that reduces the sources of cyclical swings in aggregate demand (and the need for shifts in monetary policy) and the disruptive imbalances in the goods, labor and capital markets that result from them. This improves the probability of sustained economic expansion. With stable, low inflation, inflationary expectations converge to actual inflation, which reduces arbitrary wealth transfers and constrains the uncertainty associated with unanticipated inflation shocks.

Most macroeconomic disturbances are generated by swings in monetary thrust that generate fluctuations in aggregate demand relative to productive capacity (see Chart 1). Historically, such volatile swings have been closely associated with high inflation as the Federal Reserve has alternated between policies to reduce inflation and policies designed for countercyclical stabilization. Shifting objectives, occasional confusion about the role and limitations of monetary policy, and the lack of reliance on monetary aggregates, plus the tendency to overmanage, were the primary culprits of bad and poorly timed monetary policies, lack of credibility and bad performance. Low inflation necessarily involves less erratic monetary policy and narrower fluctuations of aggregate demand around productive capacity. The close proximity of low inflation to the Federal Reserve's stated long-run objective of price stability reduces the tendency for monetary fine-tuning. Thus, fewer changes in monetary policy occur. This more predictable environment provides smoother trends in output, employment and personal income, and eliminates potentially disruptive imbalances. Credit conditions and the banking system

are more stable, and capital markets efficiency is enhanced, with reduced risk premia. The resulting higher valuations of financial assets lifts wealth and lowers the costs of capital, stimulating capital spending.

A comparison of the 1970s and 1990s is illustrative: in the 1970s, high inflation and upward ratcheting inflationary expectations, due largely to wide swings in monetary policy as the Fed misinterpreted oil price shocks and attempted to smooth their perceived recessionary impacts, generated volatile shifts from expansion to recession, generally poor and erratic economic performance and a loss of policymaker credibility. The sustained disinflation of the 1990s and the associated narrower fluctuations of aggregate demand have established a stable foundation for sustained economic expansion. Employment and personal income have risen substantially. Long-run strategic planning and investment have replaced short-term fire-fighting, and productive capacity has expanded rapidly.

Several observations support these views. First, recent history suggests that recessions occur with more frequency during inflationary periods; for example, three recessions occurred or began during the 1970s. It is no coincidence that during the sustained disinflationary period since the early 1980s, the economy has expanded continuously with the exception of one recession in 1990-1991. Second, corporate profits rise faster in low inflation environments. Real after-tax corporate profits rose 7.1 percent annualized in the 1970s, declined 3.2 percent annualized in the 1980s, which began with a deep recession following high inflation, and have risen 8.0 percent annualized so far in the 1990s. This stems from the improved economic performance; the production efficiencies generated in periods of sustained expansion and the associated productivity gains that suppress unit labor costs of production. Third, lower inflation stimulates capital spending and expands productive capacity: capital spending rose 5 percent in the 1970s; it has grown 7.3 percent annualized since the current expansion began in 1991 Q2. The performance of real wages with respect to the recent inflation trends is more ambiguous: real compensation rose 1.0 percent annualized in the 1970s, 0.3 percent annualized in the 1980s and 0.6 percent in the 1990s (they have accelerated since 1995). This may reflect in part international adjustments in unit labor costs.

EMPIRICAL ESTIMATES USING VAR

While precise measurement of the positive impacts of low (declining) inflation on economic efficiency is impossible, historical relationships between economic performance, inflation and other macroeconomic variables can be estimated using vector autoregression analysis (VAR). In the analysis, each variable is regressed on lags of itself and all of the other variables. The estimated coefficients from (the lags of the variables in) the equations (so-called autoregressive form) are used to construct the responses of each variable to unanticipated changes in itself and the other variables (the moving average form). In this way, vector autoregressions provide estimates of the average response of each variable to innovations in itself or any of the other variables. The empirical results yield evidence of association, without providing clear-cut evidence on causality.

The primary objective of the empirical tests is to measure the sensitivity of economic performance to an innovation in inflation. The variables investigated initially are real GDP (quarterly annualized growth in real GDP), core inflation (quarterly annualized consumer price inflation, excluding food and energy), the 10-year Treasury bond yield, and oil prices (quarterly annualized oil price changes, as a proxy for supply disturbances). The VAR is estimated using quarterly observations of the variables over the extended period 1960 to the present. For each variable, 8 quarterly lags are included (the results improve significantly compared with estimates using 4 quarterly lags).

The empirical results, which are summarized in Table 1, confirm many of the causal observations described above. In summary:

- An inflation “innovation” tends to persist: 2 years following a 1 percent inflation innovation, approximately one-half of the rise in the core inflation rate remains.
- An inflation innovation is fully reflected in the 10-year Treasury bond yields after about 2 years.
- A 1 percent inflation innovation has a significant and negative impact on economic output. Real GDP growth is reduced by approximately 0.5 percent in the first year following the inflation innovation. The negative impact in year 2 is even greater: real GDP growth is reduced by 0.7 percent. And the estimated average negative impact in years 3 and 4 is more than 0.5 percent per year.

- The results are even stronger when GDP is replaced with capital spending (real business fixed investment): in response to 1 percent inflation innovation, real capital spending declines approximately 1.4 percent in the first year, approximately 0.7 percent in year 2, and an average of 0.5 percent annually in years 3 and 4.

The results strongly support the view that higher (lower) unanticipated inflation reduces (increases) economic growth and suppresses (expands) productive capacity. These results also suggest that sustainable trendline growth was overestimated in the 1970s and is underestimated in the 1990s.

CONCLUDING REMARKS: DISINFLATION AMID STRONG GROWTH

The disinflation of the 1990s confirms that low unemployment and low inflation may be compatible, and that healthy growth is good, not bad. The Federal Reserve's monetary policy is the necessary condition for compatibility. Inflation has declined because the Federal Reserve's monetary policy has constrained nominal spending growth while strong productivity gains have combined to squeeze excess demand for all goods and services relative to productive capacity. As long as the Fed constrains excess demand, low unemployment rates and low inflation will remain compatible, even if tight labor markets and strong labor demand put upward pressure on wages.

Inflation is not generated by either low unemployment or strong economic growth *per se*, as posited by Phillips Curve-NAIRU analyses. Those frameworks are faulty: they fail to consider the role of monetary policy in generating aggregate demand, and ignore the differences between rising wages that reflect labor market conditions and rising inflation that results from excess demand for all goods and services. They generally overlook the differences between supply and demand-generated changes in the unemployment rate, presume knowledge about the level of the natural rate of unemployment, and largely fail to recognize how changes in productivity may change the natural rate.

Again, a comparison of the inflation-prone 1970s and the disinflationary 1990s illustrates the sources of inflation and the failures of the Phillips Curve/NAIRU frameworks. In the 1970s, accommodative monetary policy generated persistent double-

digit annualized nominal spending growth, while high taxes, burdensome regulations, and negative oil price shocks suppressed productive capacity. Under this wide umbrella of excess aggregate demand, wages and prices accelerated amid high and rising unemployment; the wage-price spiral continued until it was interrupted by the Fed's halting shift toward monetary restrictiveness.

In the 1990s, the Fed's inflationary monetary policy has provided the primary thrust for lower inflation while supply innovations, in part a response to the moderate and steady growth in demand, have contributed positively by raising the portion of nominal spending growth that is real output. Since the early 1990s, nominal GDP growth has not accelerated—it has grown 5.3 percent annualized—a unique trend and major determining factor underlying the disinflation. The sustained moderate demand has constrained the flexibility of businesses to raise prices, and they have maintained margins by limiting increases in unit labor costs. This has involved constraining compensation and increasing productivity by improving production processes, and pursuing investment opportunities and technological innovations. Inflation has receded as excess demand has been squeezed. The positive productivity shock has lowered the natural rate of unemployment, and the supply-driven economic growth and moderate growth in aggregate demand has defied the NAIRU-based predictions of rising inflation.