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Monetary Policy and Maintaining Low Inflation

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Even in the absence of an official inflation target, the Federal Reserve has clearly established its objective of stable low inflation. In recent years, headline inflation has increased well above the desired range due to sustained increases in energy prices, but core inflation has remained low and the Fed has maintained its inflation-fighting credibility. Looking forward, what is the proper course of monetary policy? Presently, the Fed's task is difficult because standard "slack" models of inflation are flawed and have been unreliable, measures of aggregate demand and headline inflation have been influenced by the persistent rise in energy prices, international trends in labor markets and trade may be affecting wages, productivity and inflation, and there is no single reliable measure of monetary thrust.

Under these conditions, the Fed should de-emphasize standard NAIRU and GDP gap models of inflation and instead focus on slowing nominal GDP growth in order to constrain excess demand and inflation. This would highlight the crucial question: What adjustment in monetary policy is necessary to generate nominal spending growth of approximately 5.5 percent, which would be consistent with 3.5 percent real growth and 2 percent inflation, in line with the Fed's central tendency forecasts? Sustained rises in energy prices since 2004 and the tailwinds of monetary accommodation have generated faster nominal GDP growth. By most standard measures—including the very moderate and decelerating growth in the monetary aggregates and normalized real interest rates following 4 percentage points of Fed rate hikes (by the end of this week)—monetary accommodation has been removed. Moreover, monetary policy affects economic activity with a lag. These factors point to a moderation of nominal GDP growth, assuming a stabilization of energy prices. If nominal growth slows, any rise in core inflation would be temporary. Admittedly inexact, these factors suggest that barring further increases in energy prices, only a modest further rise in the Federal funds rate would be consistent with maintaining low inflation. If, however, energy price increases persist, the Fed must carefully guard its inflation-fighting credibility.

Economic "Slack" and the Fed's Dilemma

Economic slack models posit generally that inflation moderates when there is slack in the economy and rises when the economy is operating above capacity. GDP gap models measure slack as the extent to which real GDP growth is below or above "potential" real growth, while NAIRU models consider the actual unemployment rate relative to an estimated or assumed "non-accelerating inflation rate of unemployment."

Under current circumstances, these slack models present a dilemma for the Fed: although core measures of inflation have been relative stable and consistent with the Fed's long-run objective (the core PCE deflator has hovered between 1.3 percent and 2.0 percent since 1996), the Fed's official view is that the economy is growing along potential (the GDP gap is roughly zero) and is bumping up against capacity constraints. The unemployment rate, at 4.7 percent, is slightly

below standard estimates of the NAIRU. A strict interpretation of these models implies that the Fed must continue tightening monetary policy to slow real economic growth in order to create some slack in the economy, or at minimum keep the economy close to its potential path. Even though these frameworks for predicting inflation have proved unreliable in the past, they have been modified in attempts to correct their analytical flaws, and they remain the benchmark for assessing inflation for most economists and policymakers.

Both the GDP gap and NAIRU frameworks measure economic slack by comparing two ***real*** variables, either the difference between actual real GDP and an estimate of potential real output, or the difference between the actual unemployment rate and an estimate of the NAIRU. As such, they presume that inflation is generated by strong real growth and/or low unemployment. This is misguided for at least two reasons. Firstly, it assumes that excess demand and inflation pressures are best measured by comparing two real variables, one of which is an estimate of an unobservable variable (either potential GDP or the level of the NAIRU). A more appropriate reflection of excess demand would be to directly relate aggregate demand (nominal spending) to real supply. This would do a much better job of capturing the demand and supply dynamics of the inflation process. Secondly, by relying on the GDP gap and NAIRU frameworks and directing the public to them, either directly or indirectly, the Fed gives the false impression that monetary policy controls the real economy rather than nominal aggregate demand, and at times (like presently) that it favors slower growth and lower employment. The Fed should avoid putting itself into the awkward position of being perceived as "anti-growth." Certainly, measuring excess demand by comparing nominal spending relative to productive capacity, like the GDP gap model, is subject to uncertainty about potential growth. Moreover, predicting future nominal GDP growth is difficult. Nevertheless it has a more accurate track record of forecasting inflation trends than the slack models.

In its naïve form, the NAIRU notion that low unemployment necessarily generates rising inflation does not distinguish between changes in the unemployment rate caused by changes in aggregate demand or changes in productivity, and it presumes that rising unit labor costs (wages rising in excess of labor productivity gains) "automatically" become higher prices. GDP gap models have similar flaws: estimates of potential growth presume a path of productivity growth that may not be correct, and a comparison of actual and potential real GDP similarly fails to properly capture excess demand and pricing behavior.

In the past, these flaws have led to misleading assessments of inflation. In the 1990s, inflation declined amid strong real growth and declining unemployment rates. This surprised NAIRU devotees but did not surprise those who consider inflation as a function of excess demand, measured as nominal spending relative to real productive capacity, and take into account the crucial role of shifts in productivity (Levy and Kretzmer, 1995). Nominal GDP growth did not accelerate, rather, stronger sustained productivity gains boosted the portion of nominal spending that was real while suppressing inflation. Federal Reserve Chairman Greenspan's decision to not tighten monetary policy in response to the stronger growth and low unemployment—a clear repudiation of the naïve Phillips Curve/NAIRU framework—is widely considered a hallmark of his astute understanding of the economy and his effectiveness as a policymaker (Blinder and Reis, 2005). The NAIRU framework similarly broke down in the 1970s, when inflation accelerated amid high and/or rising unemployment rates and weak economic performance. Notably, this was a period of slumping productivity, sharply rising ULCs and, toward the end of the decade, accelerating excess demand that was characterized by double-digit nominal GDP growth against a backdrop of low potential. The Fed's misguided monetary policy generated the rapid growth in nominal spending, while potential growth was constrained by anti-growth tax and regulatory policies, as well as the uncertainty associated with high and variable inflation rates.

In response to the falling inflation of the 1990s, the NAIRU framework was modified and justified in several key respects. Shifts in trends in labor productivity and employment apparently explain much of the "instability" of the Phillips Curve and NAIRU in the 1990s, according to Staiger, Stock and Watson (2001) and others. The difficulty facing policymakers is the ability to identify shifts in key variables such as productivity before there are sufficient data to statistically validate the new trend, and to adjust policy accordingly. Chairman Greenspan's "special skill" that led him to do so in 1996-1997 may not always be counted on. Mishkin and Estrella (1998) recognized the various uncertainties involved with the NAIRU concept, and conclude that the "NAIRU as a level at which the unemployment rate should settle is not very useful for policy purposes" and that attempts by the monetary authorities to move the economy towards the NAIRU "thus to some extent treating it as a target, are both incorrect and misguided."

The GDP gap was "modified" in a different way: the general framework was not changed, but estimates of potential growth were revised up, reflecting the stronger productivity and presumed potential GDP growth, which effectively widened the estimated gap. This provided a closer fit with actual decline in inflation, but certainly does not provide a workable, forward-looking framework for basing an inflation forecast. Importantly, with all of the refinements to the NAIRU and GDP gap models, and the acknowledgement of their flaws and limitations, these frameworks remain key inputs to the Fed's conduct of monetary policy. And the financial market's perception is that they drive the Fed's conduct of monetary policy. Little attention is paid to nominal GDP as a determinant of excess demand because it is commonly believed that the Fed manages the real economy that in turn drives inflation, and that nominal GDP is difficult to predict.

Recent Aggregate Economic and Inflation Trends

After dipping below 3 percent during the 2001 recession, nominal GDP growth has accelerated in response to the aggressive monetary easing and in the last two years has averaged 6.7 percent. During this period, real growth has averaged 3.9 percent, while inflation has averaged 2.7 percent (the sum does not add to nominal spending because real growth is based on chain weights). The strength in real growth (4.5 percent annualized in the nonfarm business sector) has reflected sustained healthy (3.1 percent) growth in nonfarm labor productivity and 1.4 percent growth in aggregate hours worked. Employment has risen 1.3 percent annually, faster than growth in the labor force, resulting in a decline in the unemployment rate to 4.7 percent, its lowest rate since the first half of 2001. The gains in labor productivity have constrained unit labor costs--they have increased a scant 1.8 percent annualized (and 1.4 percent in the last year)—and inflation.

Following a very soft 2005Q4, in which annualized real and nominal GDP grew 1.7 percent and 5.2 percent, respectively, growth reaccelerated sharply in 2006Q1, with 4.8 percent real growth and 8.2 percent nominal growth. Thus, to date, nominal spending growth has not decelerated. The Federal Reserve's central tendency forecasts since early 2006 have called for 5.5 – 6.0 percent growth of nominal GDP in 2006, about 3.5 percent real and 2 percent inflation, and moderately slower nominal GDP growth in 2007.

During this period, core measures of inflation have remained subdued: excluding food and energy, both the PCE deflator and CPI have increased an average of 2.0 percent annually. A breakdown of price behavior highlights global influences: prices of services have continued to rise approximately 2.75 percent annualized while the prices of traded goods have been flat, following several years of declines. This reflects the impacts of low-cost labor and production overseas.

Some portion of the acceleration of nominal GDP growth since 2004 reflects the rise in energy prices and the Fed's accommodative monetary policy. Oil prices have more than doubled from $31 per barrel in late 2003, presumably reflecting rising demand and fears of supply constraint. The short-run demand for energy products is relatively inelastic, and as households have spent more on energy, they have maintained their real consumption of non energy goods and services, but the rise in nominal spending on non energy products has not risen nearly as fast as the rise in spending for energy products (that is, the composition of the acceleration of nominal GDP has been uneven and skewed toward energy-related spending). Consequently, revenue growth of non energy-related businesses have not kept pace with the growth of nominal GDP, and their price pass throughs have been relatively modest. Thus, core inflation has remained relatively tame.

Despite the sharp and persistent rise in energy prices and monetary accommodation, inflationary expectations have remained generally low and stable, presumably reflecting the Fed's stockpiled inflation-fighting credibility. This suggests that financial markets have regarded the energy prices increase as one-time in character. As a result, the energy price increases have had a one-time impact on nominal spending and the price level, but not on core inflation.

Oil prices are determined in global markets and are unpredictable. If energy prices stabilize, would nominal GDP growth decelerate, which would reduce headline inflation toward core measures of inflation (and any rise in core inflation temporary and presumably mild), or would nominal GDP growth be sustained at its rapid pace, which would allow core inflation to rise toward current headline inflation?

The answer depends upon the Fed and monetary thrust. Although there is no single measure that reliably captures monetary policy, different indicators suggest that the Fed has removed its monetary accommodation and monetary thrust is close to neutral. The monetary aggregates are growing modestly: measured year-over-year, the monetary base has grown 3.0 percent, MZM 3.6 percent and M2 4.6 percent. In the last three months, the monetary base and MZM have flattened while M2 growth has decelerated. The moderation of money growth has occurred as the Fed has continued to hike rates and the yield curve has flattened. According to the McCallum Rule, monetary base growth is roughly consistent with low inflation (McCallum, 2006). Real interest rates have increased: so far in 2006, while core inflation has remained unchanged, 10-year Treasury bond yields have increased 60 basis points to 5.1 percent. The Fed has hiked its funds rate target significantly faster than core inflation: adjusted for the core PCE deflator, the Federal funds rate has increased from the negative territory in June 2004 to 2.75 percent (3 percent after the May 10 FOMC meeting), above its average since the late 1980s. Although these indicators are by no means exact, they suggest that with a lag nominal spending growth should moderate. Again, this may facilitate a mild, temporary rise in core inflation.

If instead energy prices were to continue rising, the outcome would be different: now that the Fed has removed its monetary accommodation, headline inflation would remain high, and the negative impact on real purchasing power would slow real growth. Persistent energy price increases may test the Fed's inflation-fighting credibility, and the Fed would have to respond aggressively.

Economic and Financial Outlook

The economy, which has displayed significant resilience to higher energy prices and grown slightly faster than its long-term trend, is expected to moderate in response to the Fed's removal of monetary accommodation, higher real interest rates, and higher energy prices. Real GDP, which grew at a robust 4.8 percent annualized pace in 2006Q1 following its lackluster 1.6 percent

annualized growth in 2005Q4, is projected to grow approximately 3.25 percent in the final 3 quarters of 2006. This would result in 3.5 percent growth in 2006, or 3.7 percent Q4/Q4.

The deceleration will involve slower growth in consumption, and sustained strong increases in capital spending and exports. Consumption growth will continue to be fueled by disposable income growth, low real interest rates and the high stock of wealth. Housing activity is expected to flatten, and housing values dip in response to higher mortgage rates. Sharp declines are not expected. Stronger global growth, driven by Asia's strength (including Japan's momentum) and improving growth conditions in Europe, along with the weaker U.S. dollar, will increase the demand for U.S. exports. Healthy gains in product demand, record-breaking corporate profits and cash flows, and low real costs of capital are expected to support business investment spending. Employment, which has increased 1.6 percent in the last year, is projected to rise approximately 1.2 percent, similar to the projected growth of the labor force. As a result, the unemployment rate is expected to remain relatively stable. Corporate profits are expected to grow at a healthy pace, somewhat slower than in the past year.

The largest apparent risks to the economy are inadvertently excessive interest rate hikes that generate a slump in aggregate demand, and protectionist legislation. Sharply higher energy prices are also an economic concern. A monetary-induced slump in demand which negatively affected employment and personal income is also the largest risk to the housing market. Presently, the Fed is not close to excessive tightness, but it must pay close attention to the monetary aggregates and indicators of financial strain, and mind the lags between monetary policy and the economy. Protectionist legislation—most likely in response to international impacts on labor markets--potentially could trigger negative ramifications in financial markets that could upset the economy. The economy has weathered the higher energy prices to date, but with monetary policy no longer accommodative, further price increases may have larger economic effects.

Comments on Select Economic Issues

Firstly, suggestions that falling housing activity and prices will lead to a sharp decline in consumer spending are overstated. Measured year-over-year, real consumption has declined only 3 times since 1960 (during the recessions 1974-1975, 1980 and briefly in 1990), and the fundamentals point toward continued growth in consumer spending. The primary factor that historically has driven real consumption—real disposable personal income—continues to grow. Increases in employment and wages boost personal income, while the higher energy prices since 2004 have depressed growth in real purchasing power. As a consequence, real disposable personal income has grown 2.2 percent in the last year, down from 4.1 percent in 2004. Real interest rates, a second factor that influences real consumption, have increased, but they remain relatively low, particularly in after-tax terms. A third factor, household wealth, hovers close to an all-time high. Based on the Federal Reserve's Flow of Funds data, less than a third of the real net stock of household wealth (net of household debt) is real estate; that majority is stocks and bonds. Not surprisingly, higher real interest rates are adversely affecting housing activity. A sharp decline in housing prices would suppress household wealth, which would slow consumption, but the impact would be tempered by rising incomes.

The recent decline in mortgage refinancing is part of the adjustment to the rise in real mortgage rates. While they contribute to moderating consumption, their impact independent of the rise in interest rates is relatively minor. Estimates that multiply the absolute decline in mortgage refinancing activity times some arbitrary fraction to arrive at how much consumption will

decelerate are oversimplified and misleading because they fail to consider the impact and interactions of the key variables that have historically driven real consumption.

Secondly, the general perception that the large U.S. trade deficit is caused exclusively by the profligate U.S. consumer who borrows too much and buys too many foreign goods and services is misleading. According to the NIPA, nearly 40 percent of all goods imported into the U.S. (and 35 percent of total imported goods and services) are industrial supplies and capital goods. This suggests that a large portion of imports is for business production and expansion. Accordingly, the official data provide a more balanced assessment: strong U.S. aggregate demand, including consumption, production and investment combine to drive rapidly rising U.S. imports. U.S. imports are larger than exports and have grown significantly faster because U.S. growth of GDP and capital spending has been persistently faster than Europe's and Japan's since 1990 (with the exception of the period around the 2001 recession). As long as the U.S. growth advantage persists, as standard estimates of potential suggest, the U.S. trade deficit is likely to remain wide, and not be damaging to economic performance.

Thirdly, a negative rate of personal saving is unsustainable, but the cash flow dissaving in the last year has been associated with increases in household net worth, so it are not immediately damaging to the economy. Real household net worth has risen to all-time highs, reflecting appreciation of stocks, bonds and real estate), and its recent rise has exceeded the cash flow impact of the decline in the rate of personal income, which is limited, measuring only changes in personal income minus changes in consumption. Some portion of the decline in the rate of personal saving since 2004 reflects the smoothing of personal consumption expenditures as higher energy prices reduced real purchasing power. A change in circumstances would change these trends—for example, a sizeable decline in real household net worth or a large change in energy prices would alter consumption/saving behavior. However, calculating the future trajectory of real consumption based on an assumption that the measured rate of saving must rise back to a select level is overly simplistic and likely misleading.

References

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