Research Department
Federal Reserve
Bank of
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FRBSF Weekly Letter

Inflation, Saving and Participation

The Administration's economic-policy package has the twin objectives of reducing inflation and stimulating economic growth. To lower inflation, reliance is being placed on monetary policy, through a gradual but persistent reduction in the rate of expansion of the nation's money supply. Meanwhile, the task of stimulating real growth has been assigned to fiscal policy. Cutbacks in government spending, reductions in marginal tax rates, and more liberal treatment of depreciation are designed to encourage households to supply more labor and save a larger proportion of their incomes, and also to induce businesses to use those savings to invest in new plant and equipment. Thus the fiscal package should produce more rapid output growth by increasing both the supply of labor and its productivity.

To the extent that the fiscal side of the program is successful in stimulating real growth, the task of reducing inflation will be made that much easier. For one reason, higher levels of real GNP produce larger tax revenues and smaller expenditures on transfer payments, and hence tend to reduce the Federal deficit. With a smaller deficit—and hence less issuance of government bonds—the Federal Reserve has an easier job of slowing monetary growth. Second, faster real output growth means a smaller inflationary impact of a given rate of monetary expansion, since members of the public will want to hold larger stocks of money as their real incomes rise.

Analysts have long recognized these effects of faster output growth in reducing inflation. However, both economic theory and empirical evidence suggest that a reduced inflation rate will have important feedback effects on output growth, because a lessening of inflation will affect labor supply and productivity. These effects of reduced inflation will be in addition to and separate from the direct effects of fiscal policy.

The last ten years have witnessed two major inflation-related developments which have influenced the nation's rate of economic growth—an increase in female labor-force participation and a decline in the private saving rate. If inflation is brought under control in the 1980's, however, the saving rate could rise and the growth in female participation could slow.

Inflation and participation

If wages and prices always moved together, inflation would not affect families' labor-force decisions, which are fundamentally determined by the *real* wage: the quantity of consumer goods the family can buy in exchange for an hour of its labor time. Typically, however, wages are less flexible than prices, and hence do not move precisely in line with prices in the short-run. Most wage contracts are three-year contracts, with cost-of-living adjustments generally made only once a year. Salaries similarly are usually changed only once a year. As a result, an unexpected acceleration in the inflation rate acts *immediately* to reduce families' real wages, even if their wages fully keep up with inflation in the *long run*.

The progressive tax system has similar effects. If wages rise in the same proportion as prices, the tax structure will tend to push families into higher tax brackets, reducing their after-tax real incomes. Even if legislators respond to this situation by adjusting tax schedules (which frequently they fail to do, of course), the adjustment takes time to enact and in the meantime after-tax real wages are lower.

Households, when faced with a temporary reduction in real wages, generally seek to avoid a parallel reduction in consumption. They can do this by having additional family members look for jobs. Thus one would expect sudden bursts of inflation to be associated with increases in labor-force participation—particularly among

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individuals (such as married women) who traditionally have not been primary bread-winners for their families.

Moreover, many new participants will remain permanently in the work force and will not withdraw even if wages later catch up with prices. In the first place, changing participation rates—as, for example, when a married woman takes a job outside the home—generally require a major change in a family's domestic living arrangements which may be difficult or inconvenient to reverse. Second, whatever the initial impetus, increased participation may make possible a higher material standard of living for a family at the expense of reduced leisure time. Often the family will be unwilling to return to its previous levels of consumption and leisure even when later increases in money wages make that possible. Of course, if money wages do not fully catch up with prices—as was the case following the oil price shocks of the 1970's—households are even more likely to maintain permanently higher participation rates.

These considerations suggest that a series of inflation bursts will be associated with a series of jumps in labor-participation rates, which produce a gradual "ratcheting up" of participation. Increasingly higher rates of inflation apparently played a major role in the increases in female participation rates in the 1954-56, 1966-68, 1973-74 and 1976-79 periods—although changing social attitudes and rising real wages also contributed significantly to this phenomenon (see Chart 1). This finding implies, of course, that the growth in labor-force participation probably would slow down if the Administration and the Federal Reserve succeeded in preventing the bursts of inflation which have afflicted the U.S. economy in the last fifteen years.

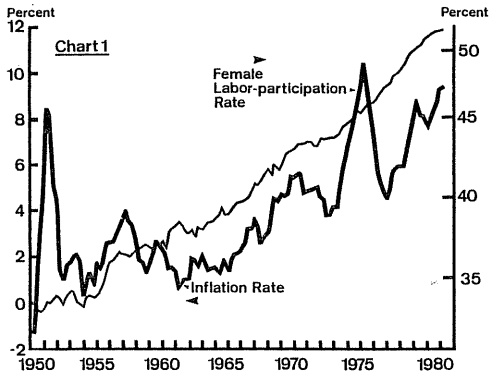
If the rise in participation does slow down, faster output growth will be more difficult to achieve, and will be possible only with an increase in labor productivity. This in turn will depend on the nation's willingness to divert resources from current consumption into saving and capital formation. Fortunately, this could be helped by a reduction in the inflation rate.

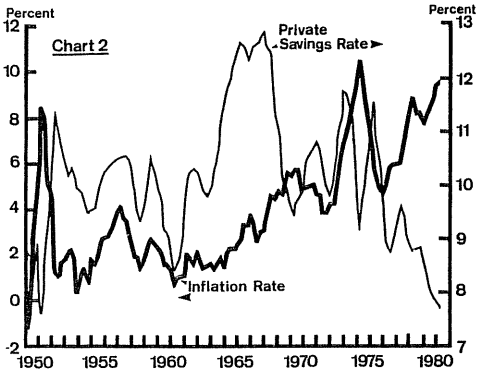
Inflation and saving

Attaining the goal of higher capital formation requires a reversal of the 1970's pattern of a decline in the saving rate. In 1980, the nation's households and businesses saved less than 8 percent of their combined after-tax incomes. In the 1960-75 period, in contrast, this proportion rarely fell below 10 percent and exceeded 12 percent much of the time.

As we argued earlier, a sudden acceleration in prices reduces the real income of many households because money wages tend to be less flexible than prices. But at the same time, inflation also increases the real income of others. For example, persons who obtain their incomes from business profits tend to benefit from higher prices. Hence, we cannot easily predict the net effect of such inflation-induced redistributions of income—since households which lose from inflation will attempt to maintain their existing standards of living by saving less, while those which benefit will take advantage of the situation to save more. However, inflation tends to reduce private savings to the extent that it redistributes income away from the private sector and into the hands of governments through "bracket creep". Moreover, to the extent that price increases result from external price shocks, national savings are hurt because a larger share of the income generated by the U.S. economy flows into the hands of foreigners.

Economic theory suggests that household decisions to save or to consume will be affected by (among other things) the *real* interest rate: that is, by the quantity of additional future consumption which can be obtained in exchange for a reduction in present consumption. This will depend both on the nominal after-tax return obtainable on savings and on the rate of inflation. If the real return on savings rises—either because the





nominal return increases or the rate of inflation declines—families are likely to save a larger proportion of their incomes in order to reap the rewards of greater future consumption.

However, one would not expect a change in the inflation rate to affect household savings very much through this route. This is because a permanently faster or slower rate of price increase also will be reflected in higher or lower *nominal* interest rates, and so will be largely neutral so far as the *real* rate is concerned. A progressive tax system may alter this conclusion to some extent, because if inflation pushes households into higher tax brackets without adding to their real returns, the real *after-tax* rate of return will be lowered. Temporary changes in the inflation rate will not affect households' estimates of the long-run trade-off between present and future consumption and hence should not alter aggregate consumption decisions. They may, however, alter the form in which saving is done. For example, a temporary slowing in the rate of inflation may induce households to "stock up" on durable goods. This would reduce saving as measured in the national accounts because durables purchases are treated as consumption rather than as savings in those accounts. Such an effect should properly be viewed as a measurement error rather than as a true change in saving behavior.

Although a family may regard a sudden rise in its living costs as a temporary phenomenon which does not affect its best estimate of the long-run trade-off between present and future consumption, such an event may add to its uncertainty about the future, and so lead it to alter its saving rate. Unfortunately, here again, economic theory does not enable us to predict the direction of this effect.

A household may view an unexpected burst of inflation which temporarily reduces its real income as increasing the probability of similar reductions in the future. In such a case, it may reduce its current consumption in order to build up a reserve against such income uncertainties. On the other hand, unexpected inflation may also cause the household to become more uncertain of the real rate of return it can earn on savings—and thus lead it to consume now, when prices are known, rather than to set funds aside and risk the loss of their purchasing power to inflation.

Again, economic theory does not enable us to predict the effect of inflation on saving. The data strongly suggest, however, that the higher *and more variable* rates of inflation characteristic of the past decade have strongly discouraged saving. Thus the faster inflation which began in 1973 initially tended to increase private saving, but this development was reversed in 1974, and since then saving rates have trended downward amidst violent fluctuations in inflation rates. These fluctuations—either by redistributing income or by complicating future planning—apparently have tended to make households stress current consumption at the expense of the future. The persistence of low saving rates in 1980-81, in the face of high real interest rates, suggests that households remain very uncertain about the long-term inflation outlook.

This argument suggests that a policy which succeeds in lowering the average rate of inflation—and which also makes it more predictable—will have a beneficial effect on the saving rate. The real return to saving will become more certain, so that households will be more willing to save by purchasing financial assets. Such purchases will in turn provide the funds needed by business to accumulate capital and boost productivity. This beneficial effect should supplement the effects of the President's fiscal package and help to offset the slower growth of labor-force participation likely to result from lowered inflation.

Brian Motley

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BANKING DATA—TWELFTH FEDERAL RESERVE DISTRICT

(Dollar amounts in millions)

Selected Assets and Liabilities Large Commercial Banks	Amount Outstanding 9/16/81	Change from 9/9/81	Change from year ago Dollar	Change from year ago Percent
Loans (gross, adjusted) and investments*	152,109	299	11,441	8.1
Loans (gross, adjusted) — total#	131,192	346	12,420	10.5
Commercial and industrial	39,271	− 155	4,740	13.7
Real estate	54,266	139	6,194	12.9
Loans to individuals	23,028	2	− 902	− 3.8
Securities loans	1,537	172	591	62.5
U.S. Treasury securities*	5,704	− 42	− 785	− 12.1
Other securities*	15,213	− 5	− 190	− 1.2
Demand deposits — total#	41,926	−1,995	− 4,808	− 10.3
Demand deposits — adjusted	28,041	−1,663	− 5,680	− 16.8
Savings deposits — total	29,788	− 282	20	0.1
Time deposits — total#	85,117	− 809	20,907	32.6
Individuals, part. & corp.	76,993	− 741	21,287	38.2
(Large negotiable CD's)	33,992	− 936	9,624	39.5

Weekly Averages of Daily Figures	Week ended 9/16/81	Week ended 9/9/81	Comparable year-ago period
Member Bank Reserve Position			
Excess Reserves (+)/Deficiency (−)	249	117	91
Borrowings	20	331	166
Net free reserves (+)/Net borrowed(−)	229	− 215	− 75

* Excludes trading account securities.

Includes items not shown separately.

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