1969

Inflation and the Returns to Investors

Allan H. Meltzer
Carnegie Mellon University, am05@andrew.cmu.edu

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INFLATION AND THE RETURNS TO INVESTORS

An unparalleled record of growth and achievement has been established by the American economy in the past hundred years. Through peace and war, through prosperity and depression, through inflation and deflation, the economy has moved ahead at an average rate of 3.5 per cent a year. At this rate, the production of real goods and services doubles every twenty years; every decade American industry turns out fifty per cent more than in the previous ten years.

No other nation has matched, or even approached, this long-term record. Some countries have had exceptional high growth rates for short periods, and some have maintained these rates for a decade or more. West Germany and Japan provide examples of the enormous changes in living standards that become available within a generation by sustained growth at the rate of 10% a year or more. These achievements, impressive as they are, are brought into perspective when we compare the German and Japanese economies to the U. S. economy and realize that at current rates of real growth in the three countries, we add the equivalent of Germany's or Japan's total output to our own every few years.

Long-Term Inflation and Growth

In 1968, the U. S. produced goods and services valued at almost $900 billion dollars. The table suggests the way in which total output of our economy has increased during this century. For every dollar produced and sold in 1900, the economy turned out $4.50 in 1925, $15.25 in 1950 and more than $46 last year. These figures, however, greatly overstate the
increased productive potential and rise in standard of living. Inflation -- a rise in prices -- has accompanied the growth in goods and services produced. As a result of inflation, the dollar value of output would have increased even if there had been no change in productive potential.

(Insert table about here)

In fact, inflation was responsible for a four- to five-fold increase in the cost of goods and services produced. Even if there had been no changes in productivity or in output, gross national product -- GNP -- would have been four to five times larger in 1968 because prices of consumer goods and industrial equipment were some four to five times higher on the average in 1968 than in 1900. Each dollar a consumer spent in 1968 bought no more than a 1900 quarter. And, as the table shows, purchasing power of the consumer's dollar declined during each quarter century.

Despite inflation, present-day individuals enjoy a much higher standard of living than their fathers or grandfathers. As workers and managers, we all benefit in the form of higher wages and salaries from our higher productivity and the ever-rising productivity of American industry. As consumers, we receive a wider range of goods and services, improved quality, and greater choice. But the choices we make as savers determine to a very large degree the extent to which we as individuals participate in the growth of the economy or are the victims of inflation.

Suppose you or your grandfather had saved a dollar at the turn of the century and used it to purchase a representative common stock. By 1925, your dollar had almost doubled; by 1950, the dollar had tripled and by 1968, had become almost $17.00, as the table shows. During the years that you
held your investment you would have received dividends as well as capital gains, and these would have increased your return above the amounts shown. The earnings of the representative company grow at the rate of growth of the economy, and the company is able to pay larger dividends when earnings increase. The stockholder in the company would have been rather well protected against the effects of inflation and, at retirement, would receive an income that had grown with the economy and had been protected against the loss of purchasing power due to inflation.

We all know, of course, that the production costs of a representative corporation -- payments for wages, for materials purchased from suppliers, for new equipment, and for the use of capital -- rise during periods of inflation. But the prices at which the firm is able to sell rise also, so reported profits adjust upward. Since profits and dividends are able to keep up, the value of the firm's shares rise with inflation, and for this reason owners of common stock are protected against the loss of purchasing power:

Some costs and prices adjust more or less rapidly than others causing temporary gains or losses to particular groups. These are less important than the long-term effects of inflation on creditors, those who own bonds or have large bank accounts. Generally, creditors bear the burden of inflation, suffering a loss of purchasing power because the money or securities they hold have fixed prices and do not adjust upward with the prices of goods and services.
If in 1900 you or your grandfather had used your dollar of saving to buy a corporate or government bond, redeemable in 1968, instead of common stock, you would have received back only about twenty-five cents in purchasing power last year. Moreover, as a bond holder, you would have received a fixed rate of interest from the borrower, so the purchasing power of the interest payments would have declined along with the purchasing power of the principal. Your experience would have been no more than a working out of the well-established principle that debtors gain and creditors lose during inflation.

The Inflationary Process

The reason debtors gain and creditors lose during every inflation is that neither those who issue bonds and other fixed income securities nor those who buy them are able to anticipate the rate at which prices will rise in the future. If creditors were able to anticipate the future rise in prices, they would ask for high enough interest rates to compensate for the loss in purchasing power. For example, if creditors were willing to lend at 5% -- or what is the same thing buy bonds that pay 5% interest -- when the anticipated rate of inflation is zero, they should be just as willing to lend at a 7% rate when the anticipated long-term rate of inflation is expected to be 2%. The 2% increase in interest compensates them for the loss in purchasing power, and they are just as well off in one case as in the other.

The above example brings out a main point about the inflationary process, that the main effects of inflation are a result of the failure to
anticipate the rate of inflation that prevails. However, once inflation gets underway, consumers and businessmen, lenders and borrowers are confronted with announcements of rising prices much more frequently than they were in the past. Where price changes had been less frequent and more or less evenly distributed between revisions upward and downward, announcements of price increases tend to exceed announcements of price reductions. Others are led to examine the prices they charge for the goods or services they sell and to question whether their prices should be adjusted upward.

The process just described explains how an economy adjusts to inflation. A more subtle process accompanies the price adjustment; businessmen and consumers learn to expect price increases. Each new announcement of an increase reinforces the anticipation that prices will continue to rise. Where the prevailing belief was that there would be no inflation, there is now an anticipation that prices will rise in the future. Each new announcement of a price increase or inflationary wage settlement reinforces these anticipations until the anticipation of inflation becomes general and supplants the anticipation of price stability.

Individuals and businesses seek protection from the losses caused by inflation or attempt to profit by going into debt. They sell bonds and spend money to reduce their holdings of claims fixed in terms of money. They borrow, or switch from assets with fixed face values to assets like common stocks whose prices rise under the impact of inflation.

These responses cause the market rate of interest and the rate of interest on bonds to rise as the anticipation of inflation becomes
widespread. Once the rate of interest rises by an amount equal to the anticipated rate of change of prices, there is no longer an advantage to switching from bonds to common stocks. If the rate of inflation is maintained at the anticipated rate, there is no longer an advantage to investors who borrow. On the other hand, those who held bonds or fixed income securities have suffered losses that they cannot recover.

Recent Experience

The process I have just described is descriptive of recent events in financial markets and in the market for goods and services. Both bond rates and stock prices have risen since 1965 when the current inflation began to accelerate. As the chart shows, total spending -- GNP at market prices -- has increased much more rapidly than real product or real output, the lower line. The difference between represents the ever-increasing rise in the prices of goods and services, the average rate of inflation for the period. Currently this average rate is in excess of 4%.

(Insert chart here)

As in other periods of inflation, those investors who held bonds or other fixed income securities when the economy moved to a higher rate of inflation have experienced heavy losses. Those who invested, directly or indirectly, in the better managed, growing companies have participated in the above average real growth of the economy during recent years and have not only been protected against inflation but have shared in the increased
profits of U.S. corporations that accompanied real growth. In the future, as in the past, savings put into savings accounts, government bonds, corporate bonds or other fixed income securities leave the saver exposed to the risk of additional losses if the economy moves to a higher rate of inflation. Savings placed in the shares of growing, well-managed corporations share in the ever-increasing productivity and growth of our expanding economy.
Output, Purchasing Power and Stock Prices Have Changed at Different Rates

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Output and Sales (GNP)</th>
<th>Purchasing Power of $1.00 spent for consumer goods</th>
<th>Prices of Industrial Common Stocks</th>
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<tbody>
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<td>1900</td>
<td>$1.00</td>
<td>$1.00</td>
<td>$1.00</td>
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<tr>
<td>1925</td>
<td>4.50</td>
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<td>1.80</td>
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<tr>
<td>1950</td>
<td>15.25</td>
<td>.33</td>
<td>3.00</td>
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<tr>
<td>1968</td>
<td>46.50</td>
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<td>16.70</td>
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### Demand and Production

<table>
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<th>Year</th>
<th>Total Spending</th>
<th>Real Product</th>
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<tr>
<td>1968</td>
<td>900</td>
<td>900</td>
</tr>
</tbody>
</table>

1. GNP in current dollars.
2. GNP in 1958 dollars.

Percentages are annual rates of change between periods indicated. They are presented to aid in comparing most recent developments with past "trends."

Latest data plotted: 3rd quarter preliminary

Prepared by Federal Reserve Bank of St. Louis
Demand and Production

Quarterly Totals at Annual Rates
Seasonally Adjusted

1 GNP in current dollars.
2 GNP in 1959 dollars.
Percentages are annual rates of change between periods indicated. They are presented to aid in comparing most recent developments with past “trends.”
Latest data plotted: 3rd quarter preliminary

Prepared by Federal Reserve Bank of St. Louis