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How Inflation Has Affected Investment Decisions

By Gary D. Praetzel

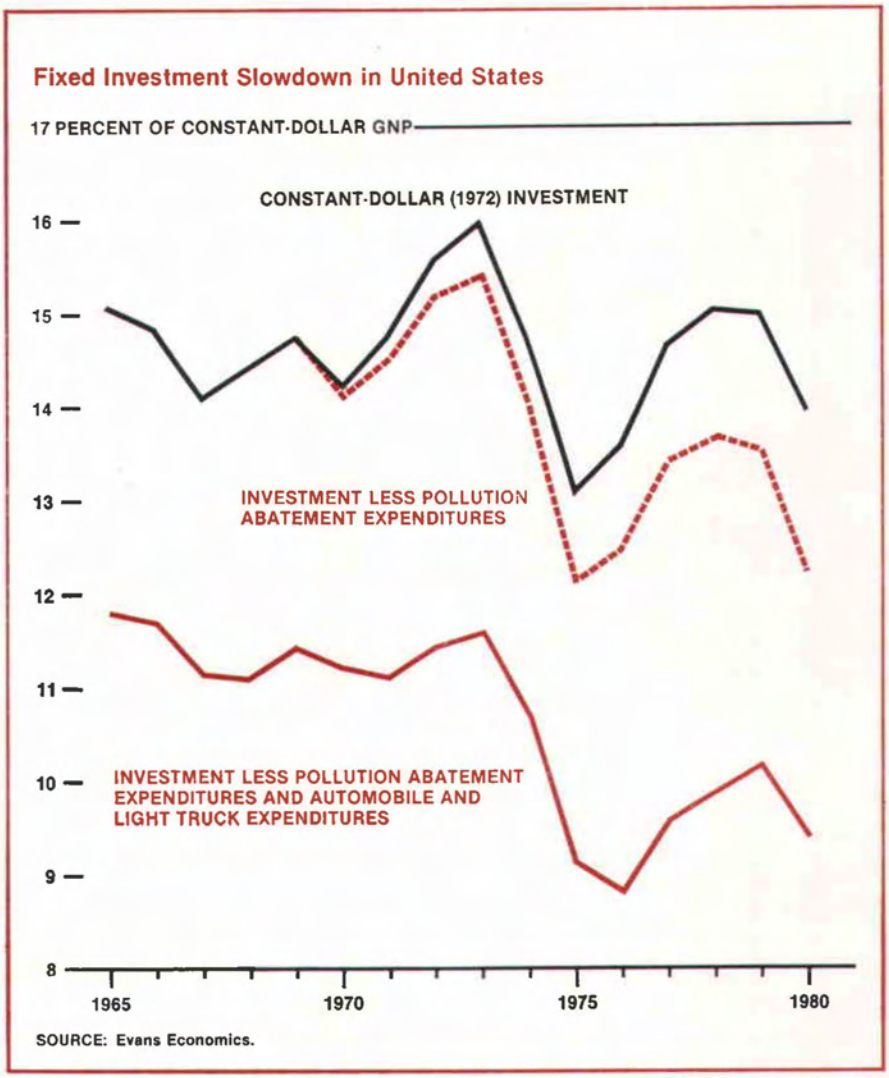
In the past 25 years, inflation has come to be taken for granted in much of the world. In the United States, inflation not only has been present over this period but has been increasing. Inflation's rise has been matched by the growth of discussion and analysis of its effects on real economic activity. A decade ago, studies of the benign and neutral aspects of inflation were common. Some analysts focused on the short-run trade-off between the rates of inflation and employment, while others noted that a correctly anticipated inflation should have no effect on real economic activity.

Recently, however, discussions of the subject have begun to emphasize the longer-term relationship between inflation and economic growth. Particular attention has been directed toward the question of how inflation affects investment. A now widely held view is that inflation subjects the returns to investment to higher effective tax rates and greater risk. The resulting reduction in the expected net rate of return lowers the demand for capital goods, distorts the distribution of capital between long-lived and short-lived assets, and slows growth in the capital stock. This development arouses concern because growth in the capital stock is generally believed to be a major determinant of growth in productivity and per capita income.[1]

This article summarizes the arguments and the evidence supporting the proposition that inflation discourages investment. The question is of considerable interest now because investment since the middle 1970's has been relatively low by historical standards. The theoretical support for the proposition is strong, and empirical evidence is also consistent with the hypothesis. Nevertheless, many analysts remain unsure how much, if any, of the decline in investment can confidently be attributed to the rise in inflation. Some other developments not attributable to inflation have also

1. See Peter K. Clark, "Capital Formation and the Recent Productivity Slowdown," *Journal of Finance*, June 1978, and Jack Beebe and Jane Haltmaier, "An Intersectoral Analysis of the Secular Productivity Slowdown," *Economic Review*, Federal Reserve Bank of San Francisco, Fall 1980.

Clark attributes almost three-fourths of the 0.75-percentage-point fall in labor productivity from 1965 to 1973 to a slowdown in the capital-labor radio. Beebe and Haltmaier conclude that about half of the 2-percentage-point decline in productivity between the 1948-65 period and the 1973-78 period was due to decreasing capital intensity.



probably reduced investment demand, and dividing the responsibility among the individual factors is difficult.

Decline in productive investment

One measure of the inclination of the private sector to employ available resources in the production of capital goods is the ratio of business fixed investment to the gross national product (GNP), both in constant dollars. This ratio has not displayed any significant downward trend since the middle 1960's—a fact that suggests no decline in investment has occurred at all. Objections have been raised, however, that total business fixed investment is a misleading measure of productive investment and that expenditure for "nonproductive" capital goods has become a larger share of total investment spending.

Over the past decade the Federal Government has imposed increasingly restrictive regulations requiring firms to meet more demanding pollution and safety standards. These regulations, it is argued, have forced many businesses to divert some of their expenditures on capital goods to the purchase of items that do not add to measured output. Thus, the gap between business fixed investment and productive investment has been widening.

Information is not collected on expenditures undertaken to meet most regulatory standards but is available on spending to reduce pollution. Another item sometimes regarded as nonproductive

is business expenditure on automobiles and light trucks, which are often purchased for personal use as much as business use. Subtracting these two items from business fixed investment yields a measure of productive investment.

As a percentage of GNP, this measure of productive investment has fluctuated about a downward trend since 1973. This ratio is, admittedly, a somewhat inaccurate measure of the performance of productive investment, and some of its decline over the past eight years could reasonably be attributed to cyclical factors. However, the decline does suggest that an investment slowdown has occurred. Another indication of an investment slowdown has been the inordinate time required for the ratio of real business fixed investment to real GNP to return to its peak following the 1973-75 recession.[2] The consequences of reduced investment growth are a decline in the long-run growth potential of the economy and an increase in the inflationary potential of the economy.

Overstatement of taxable profits

The most often cited channel through which inflation reduces the return to investment is its raising of the effective tax rates. The rising trend in prices during a period of inflation leads to an overstatement of the operating income of businesses. Because tax liabilities are based on inflated measures of profit and income, the proportion of correctly measured income paid in taxes rises with the rate of inflation. The primary distortions in business profits most alluded to arise through the overstatement of inventory holding gains and the understatement of the costs of capital.

Most firms hold inventories of the materials used in their production processes, and considerable time may pass between the purchase of a batch of material and the sale of the final product containing that material. When inflation is sufficiently high, prices of both the material and the final product often rise over this interval. Under first-in, first-out (FIFO) inventory accounting, the method employed in many firms, goods are assumed to leave inventory in the order in which they arrived. Thus, cost of sales is based on the material prices that prevailed when, of the items currently held in inventory, those obtained farthest in the past were purchased. Since sales are measured in current prices, a rise in the inflation rate creates added inventory holding gains and added taxable income. The tax liability of firms can be reduced by adopting last-in, first-out (LIFO) inventory accounting, a practice designed to measure the cost of goods sold in current prices. Cost of sales is based on the prices at which the most recently acquired materials were purchased. But even under LIFO, some inventory appreciation can occur—for example, if a firm closes out a product line or faces seasonality in sales.

Mismeasurement of the cost of capital during a period of inflation occurs for much the same reason. Capital goods, such as buildings and machinery, provide services in producing current output for a period lasting from a few years to decades. Consequently, rather than entering the entire purchase price as a cost only in the year such goods were obtained, firms distribute these capital costs over a number of years, reflecting the consumption of capital services in producing current output. This procedure is necessary to measure production costs accurately. However, the capital consumption, or depreciation, allowance the firm can claim for tax purposes depends on the original purchase price of the capital good. Under even moderate rates of inflation, the replacement price of the good will increase over the depreciation period. Thus, the cost of capital in current dollars will rise above the capital consumption allowance based on the purchase price. This understatement of the cost of capital, like the understatement of the cost of material, raises taxable profits without raising actual profits, so the tax liability and the effective tax rate become higher.

Tying the depreciation allowance to the original purchase price apparently diverts investment from long-lived assets to assets with shorter service lives. For a given rate of inflation, the present value of real depreciation allowances per dollar

2. Stephen L. Able ("Inflation Uncertainty, Investment Spending, and Fiscal Policy," *Economic Review*, Federal Reserve Bank of Kansas City, February 1980) and Alan Greenspan ("Investment Risk: The New Dimension of Policy," *The Economist*, August 6, 1977, pp. 31-35), as well as others, have characterized an investment slowdown in terms of the time required for the ratio of real business fixed investment to real GNP to return to its past cyclical peak following an economic downturn. Able and Greenspan note that investment following the recession commencing in the fourth quarter of 1973 was abnormally sluggish relative to investment following the preceding two recessions.

of investment falls as asset durability increases. This occurs because the postponement of depreciation allowances increases with asset life, permitting inflation to discount more heavily the value of future allowances.[3]

Corporate profits can be adjusted to remove the distorting effects of inflation, on the asset side of the balance sheet, by eliminating inventory holding gains and basing depreciation on the current rather than the original cost of capital goods. The inventory valuation adjustment measures the impact on corporate profits should all corporations adopt LIFO inventory accounting. The capital consumption adjustment represents the difference between current cost straight-line depreciation of the nonfinancial corporate capital stock and the permitted income tax depreciation allowance. The large positive entries for the depreciation allowance adjustment, starting in the middle 1970's, suggest that accelerated depreciation schedules have not offset the impact of inflation in raising the price of capital goods. Inventory holding gains, which are highly responsive to the current rate of inflation, would drop appreciably if a sudden slowdown in inflation occurred. Depreciation profits, however, will continue years into the future since depreciable assets are relatively long-lived.

Adjusted profits before taxes indicate a large overstatement of corporate profits due to inflation, once asset-side allowances are made. When inflation began to accelerate after 1973, adjusted profits fell substantially below conventionally reported profits. The movement in adjusted profits is consistent with the slowing in investment behavior.[4]

OVERSTATEMENT OF REPORTED PROFITS OF NONFINANCIAL CORPORATIONS DUE TO INFLATION

(Billions of dollars)

Year	Reported profits before taxes	Inventory valuation adjustment[1]	Capital consumption adjustment[1]	Adjusted profits before taxes[2]
1965...	$ 65.2	$ 1.2	-$ 3.7	$ 67.7
1966...	70.3	2.1	-3.9	72.1
1967...	66.3	1.6	-4.0	68.7
1968...	72.9	3.7	-4.0	73.2
1969...	69.4	5.9	-4.0	67.5
1970...	56.8	6.6	-2.4	52.6
1971...	65.4	4.6	-1.3	62.1
1972...	76.6	6.6	-2.7	72.7
1973...	96.0	20.0	-2.6	78.6
1974...	105.3	40.0	1.8	63.5
1975...	107.3	11.6	9.7	86.0
1976...	135.0	14.7	13.0	107.3
1977...	153.5	15.8	11.4	126.3
1978...	174.3	24.3	12.4	137.6
1979...	193.4	42.6	14.1	136.7
1980...	183.8	45.7	14.4	123.7

1. Negative of reported figures to represent the understatement of costs.
2. Exclusive of liability-side adjustments.
SOURCES: *Economic Report of the President, January 1981.* U.S. Department of Commerce, Bureau of Economic Analysis.

The greater uncertainty

Analysts have also claimed that a varying rate of inflation makes the forecasting of future costs and revenues more difficult, adding to uncertainty about the future and further depressing investment. Informed decisions regarding purchases of the appropriate types and quantities of capital goods require estimates of how their acquisition will affect future profits. When inflation is volatile, planners are likely to have less confidence in such predictions, particularly those for the distant future. The resulting uncertainty is claimed to increase the rate at which planners discount future revenues. This would both reduce total investment and skew what investment is undertaken toward purchases of assets with shorter service lives.

Inflation's principal contribution to uncertainty is its instability. When prices have been increas-

3. Richard W. Kopcke, "Inflation, Corporate Income Taxation, and the Demand for Capital Assets," *Journal of Political Economy,* February 1981, shows in Table 1 (p. 125) how rapidly the present value of real depreciation allowances per dollar of investment falls as asset lifetime increases at various rates of inflation. Table 2 (p. 126) presents investment incentives under these inflation rates for assets of varying lifetimes. The incentives indicate that investment in producers' durable equipment is more attractive than investment in structures and that what investment in structures takes place is biased toward short-lived structures at inflation rates of less than 20 percent.

Long-lived structures become more attractive at abnormally high rates of inflation, since the present value of depreciation allowances for long-lived assets becomes increasingly less responsive to further advances in the inflation rate. A similar conclusion is reached by Eileen Mauskopf and William E. Conrad, "Taxes, Inflation, and Capital Misallocation," in *Public Policy and Capital Formation* (Washington, D.C.: Board of Governors of the Federal Reserve System, April 1981), who provide a more general treatment of the costs of capital than does Kopcke.

ing at moderate to high rates each year for several years, inflation may subside or it may accelerate; planners cannot dismiss either possibility. The eventual course of inflation is important primarily because of its effects on effective tax rates. Therefore, the method and rate of production that maximize after-tax profits will depend on the rate of inflation that materializes. As predicting that rate becomes more difficult, predicting the profitability of purchasing long-lived capital goods becomes more difficult.

Unpredictable inflation disrupts investment planning by increasing uncertainty about future changes in interest rates as well. When prices exhibit no definite upward or downward trend, corporations often finance purchases of capital goods with sales of long-term bonds. Yields on these bonds generally rise and fall with changes in the expected rate of inflation. When the actual rate of inflation becomes high, perhaps near or above the 10-percent level, many firms tend to be reluctant to lock themselves into long-term bonds in anticipation that inflation and interest rates will fall in the near future. In the late 1970's, firms pushed up their ratio of short-term debt to long-term debt, culminating in a record-high ratio in 1980. Firms delayed issuing long-term debt in anticipation of lower interest rates from an economy predicted to weaken.

INCREASING RELIANCE OF NONFINANCIAL CORPORATIONS ON SHORT-TERM DEBT

(Dollar amounts in billions)

Year	Short-term debt[1]	Long-term debt[2]	Ratio of short-term debt to long-term debt
1970 . . .	$127.8	$248.5	.514
1971 . . .	131.2	278.3	.471
1972 . . .	148.8	307.9	.483
1973 . . .	184.8	337.0	.548
1974 . . .	227.9	371.9	.613
1975 . . .	216.5	413.0	.524
1976 . . .	227.2	451.7	.503
1977 . . .	260.9	495.3	.527
1978 . . .	304.3	541.4	.562
1979 . . .	369.0	592.2	.623
1980 . . .	405.6	639.5	.634

1. Bank loans plus short-term paper.
2. Securities plus mortgages.
SOURCE: Board of Governors, Federal Reserve System.

Investors, fearing a rise in inflation, have, on recent occasions, been reluctant to buy bonds. Rising inflation leads to rising interest rates, which cause capital losses for bondholders and greater instability in the market, a phenomenon observed in 1980-81. Hence, many recent bond offerings carrying relatively high yields have been either postponed or left unsold because of investor apathy. High inflation, then, has reduced the role of the bond market as a source of investment funds.

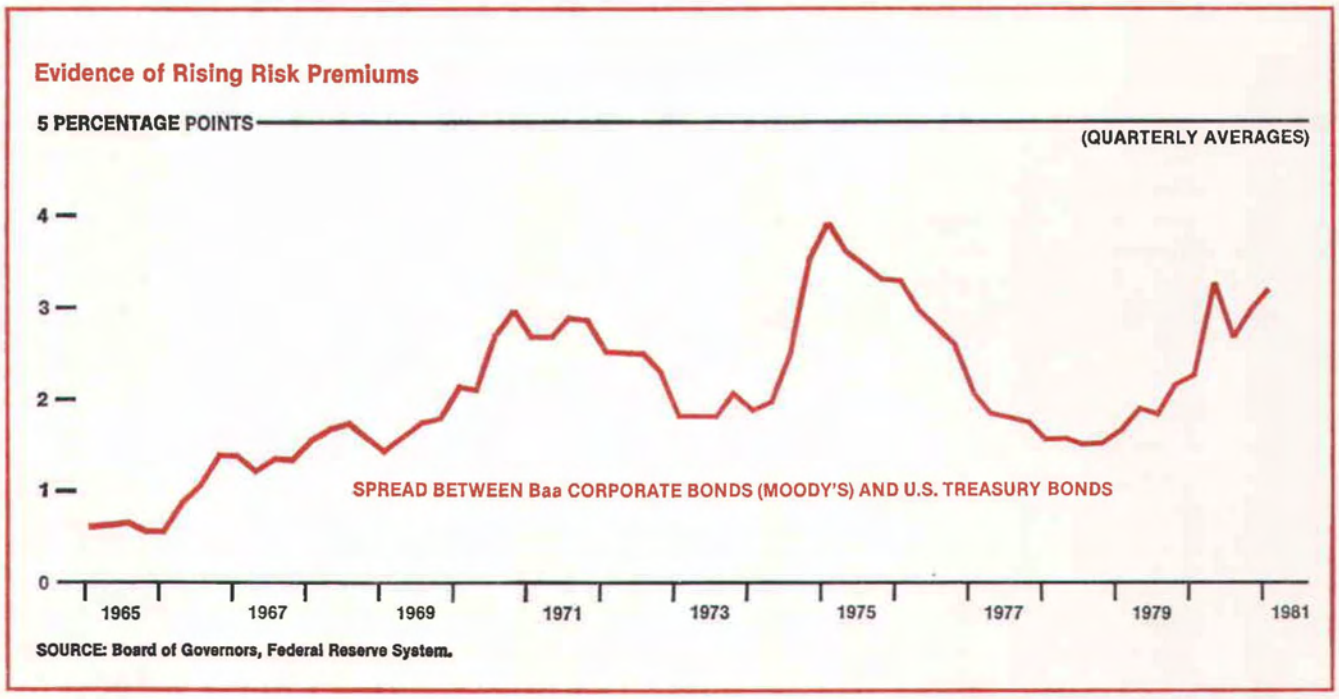
More direct evidence of greater uncertainty in the economy is provided by the bond market. The difference in yields between corporate bonds of grade Baa and riskless long-term U.S. Treasury bonds—one measure of the premium investors demand to assume risk—is considerably higher in

4. The procedure followed here in adjusting corporate income for inflation is the standard approach. Some analysts, such as Jeremy I. Bulow and John B. Shoven ("Inflation, Corporate Profits, and the Rate of Return to Capital," prepared for the National Bureau of Economic Research Conference on Inflation, Washington, D.C., February 27, 1981), contend that this inflation adjustment is inadequate because it neglects the holding gains realized by corporations that are net debtors. Under inflation, nominal debt outstanding is more of a real liability at the beginning of the year than at the end of the year; however, income accruing through this process is not taxed. Bulow and Shoven argue that the reduction of the value of corporate debt has been so large that corporate profits have been understated since 1974.

Richard W. Kopcke ("The Decline in Corporate Profitability," *New England Economic Review*, Federal Reserve Bank of Boston, May/June 1978) states that the change in operating income, rather than the change in stockholders' wealth, is relevant for explaining investment behavior. Kopcke ("Are Stocks a Bargain?" *New England Economic Review*, May/June 1979) goes on to argue that purchasing power losses on pension fund reserves have been at least as large as the purchasing power holding gains realized by corporations on long-term debt.

Martin Feldstein ("Inflation, Capital Taxation and Monetary Policy," prepared as part of the National Bureau of Economic Research Project on Inflation, supported by the National Science Foundation, and to be presented to the Conference on Inflation, Washington, D.C., October 10, 1980) concludes that corporate debt can be ignored in his model, which considers the inflation-tax structure interaction on investment rates of return when taxes paid by both corporations and individuals supplying corporate capital are included.

Most analysts conclude that the net effect of inflation has been to overstate corporate profits and increase effective tax rates, but the point is still under debate.



the 1970's and 1980's relative to the middle 1960's.[5] Although this measure is sensitive to variations in economic growth and prospective earnings growth expectations, its long-run movement does suggest that a higher rate of return is now required to compensate for increased risk.

Supply of household savings

The effect of inflation on risk and after-tax profits reduces the before-tax return to investment for households. This diminishes the incentive for individuals to purchase stocks and bonds and, thus, decreases the supply of savings that businesses can use to fund investment. The return to individual saving is further reduced by the tax on household income, which, like the tax on corporate income, treats all increases in nominal values as increases in real purchasing power.

Inflation raises effective tax rates on the returns to investments in both stocks and bonds. When prices are rising, some—and often most—of the before-tax rate of return simply contributes to the maintenance of the purchasing power of the investor. In 1973, for example, individuals reported $4.5 billion in capital gains from appreciation in the market value of shares of corporate stock. After adjustment for the effects of inflation, the value of these stock market portfolios declined $1 billion.[6] Collectively then, these individuals paid taxes on what was actually a capital loss in real terms.

Similarly, much of the interest income collected by bondholders simply compensates them for the depreciation of the currency in which the loan is repaid. Nevertheless, taxes are levied on this income. Thus, inflation directly reduces the incentive for individuals to supply funds to business through either the debt or the equity market.

Some economists have claimed that inflation further reduces the supply of household savings available to business by making the alternatives to stocks and bonds more attractive. The alternative often mentioned in this context is homeownership.[7] Here, too, the distortions produced by inflation arise through the tax on income. Federal

5. See Greenspan, "Investment Risk," and Burton G. Malkiel, "The Capital Formation Problem in the United States," *Journal of Finance*, May 1979.

6. Martin Feldstein and Joel Slemrod, "Inflation and the Excess Taxation of Capital Gains on Corporate Stock," *National Tax Journal*, June 1978, p. 107.

7. See Anthony Downs, "Too Much Capital for Housing?" *Brookings Bulletin*, Summer 1980.

income tax provisions offer several advantages to the homeowner, but inflation magnifies two of those advantages.

One of these is the treatment of interest paid on the mortgage most home buyers assume. Persistent inflation is usually accompanied by high interest rates to offset the anticipated decline in purchasing power of the repayment. Although an increased interest rate does not raise the lender's real rate of return, the borrower can deduct the entire interest payment from his taxable income. Consequently, inflation causes the tax system to subsidize the repayment of the principal as well as the payment of the interest on the mortgage. Furthermore, this subsidy rises with the rate of inflation.

The other income tax feature that encourages people to put more funds into housing because of inflation is the exemption from taxation of capital gains realized on the appreciation of owner-occupied homes.[8] Although much—and in some cases perhaps all—of the gain simply reflects the rise in the general level of prices, the exemption identifies housing as one investment through which the typical family can maintain the purchasing power of its savings.

The rise in inflation over the past two decades has been accompanied by a decline in the real value of shares of common stock. This development probably reflects the direct and indirect effects of inflation on the relative return to investment in stocks, but some observers see it as more than that.[9] The acquisition of an existing plant and equipment, through the purchase of controlling interest in another company, is an alternative to ordering new capital goods.[10] Consequently, a decline in the ratio of stock prices to construction costs will lead to less investment as more successful firms expand through mergers. This reasoning implies that the decline in real stock values may have contributed directly to reduced investment in the past decade.

Estimates of the effect of inflation on investment

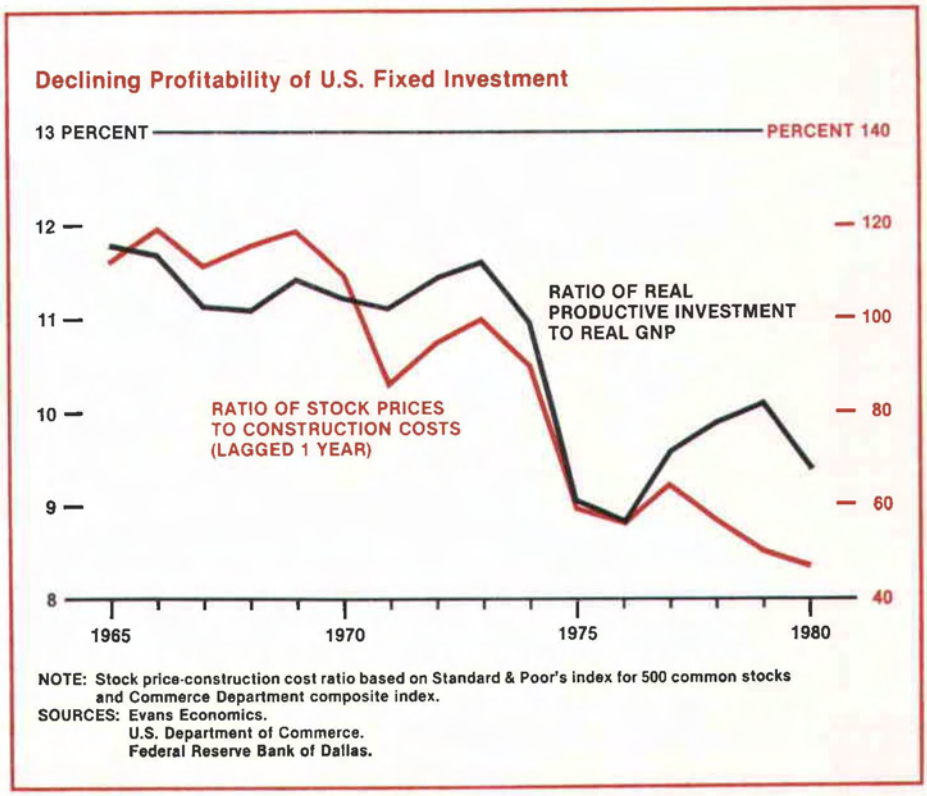
Several studies have been conducted to measure the extent to which inflation has actually contributed to the decline in the rate of productive investment. In most cases the relationship analyzed has been the correlation over the postwar period between one of the channels—effective tax rates, risk, or the real value of common stock—and a measure such as the ratio of investment to GNP. The partitioning of the responsibility for the variation in investment among the factors believed to be important, including those not attributable to inflation, remains to be completed. The evidence now available indicates that the relationships between investment and the major factors noted earlier are all significant and run in the expected directions.

The increase in effective tax rates is the most thoroughly analyzed channel through which inflation is believed to reduce investment. One of the more widely known authorities on the subject has concluded that the net rate of return to capital fell from 6.5 percent in the middle 1960's to 2.3 percent in 1979. He notes that the interaction of rising inflation with a tax structure not designed for sustained inflation was the major factor in the change. Furthermore, his analysis indicates that a

8. If another home is purchased with the proceeds from the sale of a home, no capital gains tax liability is incurred. Also, after age 55, no capital gains tax liability is incurred on housing for up to $100,000.

9. At least three explanations implicate inflation as the cause of the fall in real share prices. Feldstein attributes the fall to the interaction of inflation and the tax structure; Greenspan and Malkiel attribute it to the added risk caused by higher inflation; and Franco Modigliani and Richard A. Cohn ("Inflation, Rational Valuation and the Market," *Financial Analysts Journal*, March/April 1979) attribute it to investors confusing nominal and real returns under inflation.

10. See James Tobin and William C. Brainard, "Asset Markets and the Cost of Capital," in *Economic Progress, Private Values, and Public Policy*, ed. Bela Balassa and Richard Nelson (Amsterdam, New York, and Oxford: North-Holland Publishing Company, 1977). The idea can be traced to the 1930's and John Maynard Keynes, *The General Theory of Employment, Interest, and Money* (New York: Harcourt, Brace and Company, 1936; Harbinger Books, 1964), p. 151, where he notes: "The daily revaluations of the Stock Exchange, though they are primarily made to facilitate transfers of old investments between one individual and another, inevitably exert a decisive influence on the rate of current investment. For there is no sense in building up a new enterprise at a cost greater than that at which a similar existing enterprise can be purchased; whilst there is an inducement to spend on a new project what may seem an extravagant sum, if it can be floated off on the Stock Exchange at an immediate profit."



decline of one-half of a percentage point in the ratio of investment to GNP accompanies a decline of 1 percentage point in the net rate of return.[11] This estimate implies that the fall in the return to capital accounted for most of the fall in the net investment-GNP ratio in the past decade.

Inflation's impact on investment through its effect on uncertainty has received less attention, probably because uncertainty is difficult to measure. Nevertheless, a study that made an attempt to do so has concluded that the rise in uncertainty about the future course of the price level significantly depressed the rate of investment after 1975.[12] In this study, two quarterly models—only one of which contained a variable measuring uncertainty—were estimated for the 1958-74 period. The results were used to predict investment through 1978. Although both models overpredicted investment at the end of this period, the error from the model containing the uncertainty variable was only $15 billion, compared with an error of $40 billion for the other model.

The relationship between the current ratio of stock prices to replacement costs and the rate of investment during the subsequent year also supports the proposition that inflation has discouraged investment. Because the decline in the real value of common stocks reflects not only the effect of inflation on risk and effective tax rates but also other factors not attributable to inflation, the relationship does not add to an understanding of the magnitude of inflation's effect on investment. But it does suggest that any effects inflation has on stock prices are transmitted to investment.

11. This estimate was obtained from a simple investment model that includes a capacity utilization rate and the net rate of return measure. See Feldstein, "Inflation, Capital Taxation and Monetary Policy."

William E. Conrad and Darrel S. Cohen, "Inflation, Taxes, and the Capital Stock: A Long-Run Analysis," and George R. Moore, "Taxes, Inflation, and Capital Formation"—in *Public Policy and Capital Formation* (Washington, D.C.: Board of Governors of the Federal Reserve System, April 1981)—have also constructed models that show inflation and the tax structure discourage investment expenditure. Moore concludes, though, that the current U.S. tax structure does not significantly lower capital accumulation.

12. See Able, "Inflation Uncertainty, Investment Spending, and Fiscal Policy."

Concluding remarks

Most analysts find persuasive the theoretical arguments supporting the proposition that higher inflation leads to lower investment. Although empirical studies find strong statistical relationships consistent with this hypothesis, it is not clear that the rise in inflation has indeed been a primary cause of the decline in the rate of investment since the early 1970's. A major source of the skepticism is the difficulty in separating the effects of inflation from the effects of other changes in the environment over the past decade. Among the items mentioned in this regard are the increases in energy prices and in the degree of Federal Government intervention in the economic and social system.[13]

Despite the ambiguity about precisely how the evidence should be interpreted, the support for the proposition cannot be dismissed, and the effects of inflation on risk and the rate of return to capital should not be ignored. Little confidence can be placed in specific predictions of the extent to which lower inflation alone will encourage additional purchases of capital goods. Nevertheless, fiscal and monetary restraint sufficient to produce price stability has rightfully come to be widely regarded as necessary to the success of any policy that aims to revive investment demand and restore productivity growth.

13. The increase in energy prices has apparently raised the relative prices of capital goods and thereby reduced investment. See John A. Tatom, "Energy Prices and Capital Formation: 1972-1977," *Review*, Federal Reserve Bank of St. Louis, May 1979. For an interesting and nontechnical discussion of the issues surrounding the decline in investment and productivity growth, see Moses Abramovitz, "Welfare Quandaries and Productivity Concerns," *American Economic Review*, March 1981.

"Fed Quotes"

Brief Excerpts from Recent Federal Reserve Speeches, Statements, Publications, Etc.

"Why is it that ACH [automated clearinghouse] volume in our country has grown so slowly, considering the security, convenience and potential efficiency that ACH transfers provide? A number of reasons have been advanced—such as inertia in the management of depository institutions, the difficulty of altering the public's payments habits, and the lack of electronic capability to initiate or receive transfers at smaller depository institutions. There is some truth to each of those allegations. Nevertheless, the more fundamental reason for slow growth is the lack of appropriate economic incentives. In markets for financial services, prices have not been playing the role they can play in promoting economic efficiency.

"The major reason for this is the fact that, prior to passage of the Monetary Control Act of 1980, the Federal Reserve generally did not charge explicit prices for the financial services it provided to its member banks. Up until now, the Federal Reserve has always given first priority to providing the maximum certainty, reliability and promptness to its clearing and settlement functions."

"Considering the environment that has prevailed in the last decade, it is not surprising that ACH volume has grown slowly. ACH transfers have been competing in a payments system in which originators of payments transfers have strong reasons to continue use of paper checks because they incur few, if any, costs in the process. More importantly perhaps, by doing so they delay the ultimate transfer of funds and thus benefit from float.

"The Monetary Control Act of 1980 addresses this issue by requiring the Federal Reserve to price its financial services and to open access to those services to all depository institutions. The Act stipulates that the Federal Reserve must charge prices for all of its services, including Federal Reserve float, that cover the full costs of producing them. The Act makes clear that the Federal Reserve must permit—indeed, I would say encourage—competition from the private sector in the provision of financial services."

Lyle E. Gramley, Member, Board of Governors of the Federal Reserve System (At the 1981 NACHA SurePay Conference, New York, New York, April 14, 1981)

"In the 1950s and 1960s, a substantial number of economists—taking on a role of social philosopher—defended a 'little' inflation as a kind of social solvent, helping to reconcile competing political and economic pressures. Claims on total output, the argument ran, would almost inevitably exceed what was actually being produced. Social conflict over the exact size of each group's slice of the national pie could be avoided by giving everyone a little extra in nominal income. The general price level would be allowed to rise to reconcile the irreconcilable. It was a game of mirrors, but it seemed acceptable for a while—more acceptable than imposing the degree of fiscal, monetary and other restraints necessary to deal with inflation.

"But, of course, the game was up when the public would no longer accept nominal gains as a substitute for the real thing. Worse yet, the accumulated evidence indicated that inflation, instead of being a relatively benign social solvent, is instead a degenerative disease, progressively undermining the economy's potential for real growth. We have learned that inflation feeds on itself, and each upward ratchet in the rate of price increase brought with it more distortions in the tax system, reduced incentives to save and invest, and impaired economic efficiency. From an unemployment rate generally of less than 5 percent and productivity growth of almost 3 percent a year through the mid-1960s, we have seen unemployment rise to a range of 6-8 percent and productivity drop toward zero."

Paul A. Volcker, Chairman, Board of Governors of the Federal Reserve System (At the Alfred M. Landon Lecture Series on Public Issues, Kansas State University, Manhattan, Kansas, April 15, 1981)

"I am willing to grant that shifts in money demand over the past seven or eight years have not totally destroyed the usefulness of monetary aggregates as a policy target or guide. But they have certainly made the task of running monetary policy more difficult, and that of explaining what is going on to a skeptical public nearly impossible.

"The problems of interpreting the monetary aggregates will get much worse if, as I suspect, we are on the verge of an explosion in the use of EFT [electronic fund transfers]. In a world of mature EFT systems, where transactions costs will be much smaller than they are at present, very few large economic entities will have identifiable transactions balances at the end of a business day.

"The internationalization of banking and financial markets creates further measurement and interpretational problems for monetary policy. Changes in onshore deposits and domestic private credit flows no longer measure very precisely the amount of money and credit available to finance domestic economic activity."

"Developments such as these greatly complicate the life of a central banker. It is not easy to develop new rules of thumb that are robust in a world of rapid innovation, or to estimate new large-scale econometric models that capture the new ways financial variables affect economic activity. Monetary policymakers will, I am afraid, be operating by the seat of their pants for a long time to come."

Lyle E. Gramley, Member, Board of Governors of the Federal Reserve System (At the Financial Innovation Conference, Northwestern University, Evanston, Illinois, April 22, 1981)

Regulatory Briefs and Announcements

Operating Hours Revised for Transfers of Funds and Settlement Period

The operating hours for transfers of funds and settlement of funds dispatched under the Federal Reserve System's wire network have been revised.

Transfers of funds

There is a 30-minute extension for interdistrict transfer items—on-line instructions. However, there is no extension for interdistrict transfer requests—telephonic instructions. The extension does not apply to telephonic instructions because of the Federal Reserve processing and handling they require prior to cutoff time.

In the Eleventh Federal Reserve District the new schedule of operating hours allows interdistrict transfer items (on-line instructions) to be accepted until 3:30 p.m., central time, each business day. For the El Paso territory the deadline is 2:30 p.m., mountain time.

Interdistrict transfer requests (telephonic instructions) will be accepted until 3:00 p.m., central time, each business day. For the El Paso territory the deadline is 2:00 p.m., mountain time.

Intradistrict transfer deadlines for both transfer items (on-line) and transfer requests (telephonic) are identical to interdistrict transfer deadlines.

Settlement period

In addition, there is a two-hour period for settlement transactions among financial depository institutions. This interval is from 3:30 p.m. to 5:30 p.m., central time, each business day. For the El Paso territory the settlement period hours are from 2:30 p.m. to 4:30 p.m., mountain time.

These times apply to settlement transfer items (on-line instructions) only. Settlement transfer requests (telephonic instructions) will have an earlier cutoff of 5:00 p.m., central time, and 4:00 p.m., mountain time.

The extended settlement period will facilitate reserve account management and enable depository institutions to have access to a national market to buy and sell Federal funds.

Except for major Federal Reserve Communications System failures, there will be no extension of time deadlines. Institutions should establish internal procedures to ensure that all messages have been transmitted prior to the appropriate cutoff.

Board Announces Exemption for Nontransferable Time Deposits Held in Unfunded Deferred Compensation Plans

The Board of Governors of the Federal Reserve System has announced an amendment to Regulation D that exempts from reserve requirements certain time deposits representing funds of deferred compensation plans. The amendment allows the exemption of nontransferable time deposits held by an employer as part of an unfunded deferred compensation plan established in conformity with Subtitle D of the Internal Revenue Act of 1978.

Under the Board's ruling, such time deposits will be regarded as personal time deposits and, consequently, will be free of reserve requirements. Previously, time deposits representing unfunded deferred compensation plans (in which deposits are held by the employer rather than being placed in a trust or being similarly "funded") had been regarded as nonpersonal time deposits subject to reserve requirements.

Guidelines Adopted for Sale of Third-Party Commercial Paper

The Federal Reserve Board has adopted a policy statement providing guidelines to govern the sale by state member banks of commercial paper issued by firms not related to the bank.

These guidelines for the sale of such third-party commercial paper (promissory notes of corporations) are intended to assure safe and sound banking practices. The policy statement calls for:

- Limitation of sales to prime-quality commercial paper meeting specifications in the statement.
- Careful analysis and monitoring by the seller of the creditworthiness of the issuer.
- Adoption by the selling bank of rules limiting the amount of commercial paper that may be sold for single or related issuers.
- Extensive recordkeeping and maintenance of records.
- No sales to fiduciary accounts over which the bank has investment discretion or to the bank's parent bank holding company (unless it is a bank) or to a nonbank affiliate of the bank.
- Certain notices to buyers.

Although the policy statement is effective immediately, the Board will accept comment through July 31, 1981. The Board also has announced that it would monitor activity in this area closely and would modify or supplement its guidelines as indicated by experience.

Comments should be sent to the Secretary, Board of Governors of the Federal Reserve System, 20th Street and Constitution Avenue, N.W., Washington, D.C. 20551, with reference to Docket No. R-0360.

Treasury Provides Clarification for Bank Holding Companies About International Reports

The U.S. Treasury Department has clarified the reporting responsibilities of bank holding companies with regard to two sets of reports dealing with international financial activities. These are the Treasury international capital (TIC) reports, which measure flows of funds between U.S. financial institutions and "foreigners," and the Treasury foreign currency (TFC) reports, which measure the positions of U.S. financial institutions dealing in major foreign currencies.

Two groups of institutions are exempt from reporting: those having less than $2 million on each reporting date for TIC reports and those having less than $10 million on each reporting date for TFC reports. Many holding companies may be exempt from filing reports because their normal volume of transactions falls below these levels.

In the past, most of the reports have been filed on an individual-bank basis. However, the Treasury Department has determined that, as of May 1981, a bank holding company required to report should submit consolidated reports for itself and its domestic nonbanking subsidiaries.

Any questions as to whether a bank holding company has a legal obligation to file TIC or TFC forms may be directed to Bill Green, Manager, Statistical Department, (214) 651-6394.

Regulations D and Q Amended in Light of Foreign Deposit Account Arrangements

The Federal Reserve Board has determined that deposits in denominations of less than $100,000 maintained at foreign branches are subject to interest rate ceilings under Regulation Q (Interest on Deposits) and to reserve requirements under Regulation D (Reserve Requirements of Depository Institutions).

The Board has taken this action to avoid the undermining of interest rate ceilings and the adverse effects on the flow of funds among depository institutions and on monetary policy that would result from recent offerings of foreign deposit accounts.

Board Establishes Policy on Income from Sale of Credit Life Insurance

The Federal Reserve Board has adopted a policy statement prohibiting employees, officers, directors, or others associated with a state member bank from profiting personally from the sale of life insurance in connection with loans made by the bank.

The policy calls for such income to be credited to the bank or, alternatively, to a bank holding company or other affiliate of the bank, so long as the bank receives reasonable compensation for its role in selling the insurance.

The policy permits state member banks to allow their employees and officers to participate in the income under a bonus or incentive plan not to exceed more than 5 percent of the recipient's annual salary. The Board's statement calls for compliance within two years unless there is a further delay for clearly demonstrated hardship.

New Nonmember Bank

Peoples State Bank, Henderson, Texas, a newly organized nonmember bank located in the territory served by the Head Office of the Federal Reserve Bank of Dallas, opened for business May 26, 1981.

Now Available

Recently issued Federal Reserve circulars, speeches, statements to Congress, publications, etc., may be obtained by contacting the Department of Communications, Financial and Community Affairs, Federal Reserve Bank of Dallas, Station K, Dallas, Texas 75222, unless indicated otherwise. Requests for circulars should specify the circular numbers.

Circulars

Treasury Department Financial Reports [To be submitted by some bank holding companies]. 3 pp. Circular No. 81-91 (May 1, 1981).

Interest Rates: Telephone Numbers for Recorded Interest Rate Messages. 1 p. Circular No. 81-93 (May 6, 1981).

Interest Rates: On-Line Transmission of Interest Rates. 1 p. Circular No. 81-97 (May 6, 1981).

Policy Statement: Disposition of Income from the Sale of Credit Life Insurance. 7 pp. Circular No. 81-98 (May 12, 1981).

Corrections to Revised Exhibit II, Bulletin 8 [Collection of Cash Items]. 1 p. Circular No. 81-99 (May 11, 1981).

Proposed Amendments to Regulation J [Collection of Checks and Other Items and Transfers of Funds]. 5 pp. Circular No. 81-103 (May 27, 1981).

Speeches and Statements

Remarks by **Henry C. Wallich ("The Short Run and the Long Run")** at the **Commencement Exercises, Washington College,** Chestertown, Maryland. 8 pp. May 17, 1981.

New Member Banks

Plaza National Bank, Del Rio, Texas, a newly organized institution located in the territory served by the San Antonio Branch of the Federal Reserve Bank of Dallas, opened for business May 11, 1981, as a member of the Federal Reserve System. The new member bank opened with capital of $1,000,000 and surplus of $1,000,000. The officers are: Philip Ricks, Chairman of the Board; Eugene A. Brodhead, President; and Neilda Osburn, Vice President and Cashier.

Texas Commerce Bank–CyFair, N.A., Houston, Texas, a newly organized institution located in the territory served by the Houston Branch of the Federal Reserve Bank of Dallas, opened for business May 11, 1981, as a member of the Federal Reserve System. The new member bank opened with capital of $850,000 and surplus of $850,000. The officers are: Ron C. Whetsell, Chairman of the Board, President, and Chief Executive Officer; Gary W. Noble, Vice President and Cashier; and Jon W. Volkmer, Assistant Vice President.

Mid-Cities National Bank, Hurst, Texas, a newly organized institution located in the territory served by the Head Office of the Federal Reserve Bank of Dallas, opened for business May 11, 1981, as a member of the Federal Reserve System. The new member bank opened with capital of $875,000 and surplus of $875,000. The officers are: Richard Taylor, Chairman of the Board and President, and Jerry M. Gillihan, Vice President and Cashier.

State National Bank West of El Paso, El Paso, Texas, a newly organized institution located in the territory served by the El Paso Branch of the Federal Reserve Bank of Dallas, opened for business May 14, 1981, as a member of the Federal Reserve System. The new member bank opened with capital of $750,000 and surplus of $750,000. The officers are: Thomas R. Foster, Chairman of the Board, President, and Chief Executive Officer; and Gordon W. Watters, Vice President and Cashier.

Citizens National Bank of Wills Point, Wills Point, Texas, a newly organized institution located in the territory served by the Head Office of the Federal Reserve Bank of Dallas, opened for business May 18, 1981, as a member of the Federal Reserve System. The new member bank opened with capital of $625,000 and surplus of $625,000. The officers are: Laurel Glynn Ellis, Chairman of the Board; Robert L. Ayres, President and Chief Executive Officer; and James A. Linton, Vice President and Cashier.