

# The NBER Digest

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## Dividends and Stock Prices

"It is usually agreed that casinos should, in the public interest, be inaccessible and expensive," British economist John Maynard Keynes wrote nearly six decades ago. "And perhaps the same should be true of stock exchanges." The basis for Keynes's characterization is the seemingly inexplicable cyclical swings of the stock market. Keynes himself attributed the market's unpredictable movements to "fads and fashions" and "animal spirits," and many other scholars have contended that irrational waves of investor optimism and pessimism are the principal source of major movements in stock prices.

In **Bull and Bear Markets in the Twentieth Century** (NBER Working Paper No. 3171), however, **Robert Barsky** and **Bradford De Long** contend that the five sustained market movements between 1900 and 1980, including two lengthy run-ups in stock prices and three dramatic price collapses, in fact were driven by shifts in assessments of fundamentals. In each case, they argue, investors' changing expectations of average dividend growth were behind the decade-to-decade swings in prices.

Barsky and De Long assume that an investor's willingness to purchase a stock depends on the relationship between its price/dividend ratio and the expected rate of dividend growth. Based on the average price/dividend ratio over the past century, they estimate, a one percentage point increase in the expected rate of dividend growth leads to a 25 percent increase in the price/dividend ratio. On the assumption that investors look to past dividend growth as the best predictor of future growth, with greater weight on the performance of recent years than in the distant past, they calculate that changes in ex-

pectations of future dividends account for 55 percent of the variance in the ratio of stock prices to dividends over 1900-88.

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The authors buttress their conclusion by a reading of market analysts of years past. In the 1920s, many leading economists believed that changes in economic structure, labor relations, technological development, and macroeconomic policy had raised the long-run rate of economic growth in the United States and thus the rate of stock dividend growth; their optimism was the cause of the 500 percent increase in real stock prices during the decade. During the bear market of the 1930s, many investors were wondering whether the United States had reached the stage of permanent stagnation, implying low growth in dividends. In the 1960s, American stocks soared as many investors believed the country had made major steps toward solving its economic problems, Barsky and De Long argue, while the bear market of 1973-5, in which the Standard & Poors 500-stock index declined 55 percent in real terms, was attributable to fears that inflation, stronger government regulation, the depletion of resources, and other

forces lowering the growth of productivity would hamper future dividend growth.

Barsky and De Long's dividend-based model of stock prices, however, does a poor job of explaining the bull market that started in 1982. The reason, the authors speculate, is that cash payments other than dividends have made up a large portion of shareholders' returns in the 1980s, unlike in previous decades, making expectations of dividend growth a less important factor in stock prices than was the case in prior years. ML

## World War II and Working Women

"Rosie the Riveter," a World War II cartoon character, symbolized the shift from the home to the workplace of many women during the war. Because the 1940s were a turning point in the participation of married women in the labor force, some people believe that the war spurred this economic and social change. But NBER Research Associate **Claudia Goldin** finds that "the war had far less of a direct influence on female labor supply than was believed."

In **The Role of World War II in the Rise of Women's Work** (*NBER Working Paper No 3203*), she reports that the large change in participation from 1940–50 was caused by the boost the war gave the economy and by the aging of cohorts of women who were induced to enter the labor force after, as well as during, the war.

During the past century, the proportion of American married women engaged in paid work outside the home has increased more than tenfold, from less than 5 percent in 1980 to more than 60 percent today. Much of that increase occurred after 1940. Indeed, the participation rate of white married women aged 35–44 rose from 14 percent in 1940 to over 25 percent by 1950. Women in other age groups also experienced unprecedented increases in their labor force participation during the 1940s.

But did women who entered the labor force during World War II remain employed, thus contributing to the vastly increased labor force participation of married women in 1950? In the sample she studies, Goldin finds that more than half of the white married women aged 35–64 who worked in 1950 also had worked in 1940, prior to America's entry into World War II. Part of the decade's increased participation occurred during the war years when 22 percent of 1950's workers joined the labor force. But 26 percent of the increase occurred from 1944–50, which includes the demobil-

ization period. So, more than half of the decade's new female entrants came after the war.

Goldin also points out that more than 80 percent of those employed during January 1940, December 1944, and December 1949 had worked for 9–10 years during the 1940s. She concludes that, once in the labor market, married and adult women in general do not tend to leave. However, Goldin finds that the "Rosies" of 1944—those working women who were not in the labor force on the eve of World War II—did not remain in the postwar labor force to the degree that other female entrants had in normal times. Many were forced out of high-paying jobs in traditionally male industries, such as aircraft and machinery, at war's end through seniority systems that favored returning servicemen. Almost half of these "Rosies" had exited the labor force by 1950. Also, in Goldin's sample, women employed in 1940 and at any other time through 1950 were considerably more educated and had far fewer children than those who entered the labor force after 1940.

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Over the long run, Goldin notes, women have joined the paid labor force because of a series of changes affecting the nature of work. Primary among these was the rise of the clerical and professional sectors and the increased education of women that began in the 20th century. Reinforcing this movement were declining fertility rates, labor-saving advances in households, urbanization, declining hours of work, and rising real wages for all Americans. In the 1950s, other factors contributed to a large increase in adult women's labor force participation: the heightened postwar demand for labor; the increase in real wages of women; and the decrease in unemployment.

Goldin points out that certain other factors delayed the increased labor force participation of women, particularly older women. For example, the Great Depression was a major setback for married women. "Marriage bars"—the stated policies of firms, school districts, governments, and other institutions not to hire married women and to fire single women upon marriage—were instituted long before the 1930s but were expanded during the Depression as a means of rationing employment. These bars mostly vanished sometime after the early 1940s, and by the 1950s they were rarely encountered.

Goldin uses information on the work histories of 4350 urban women from 1940–51. These women were working full time for at least one month in 1950. She also uses Department of Labor data for 1944.

## Buying Credibility in the Exchange Markets

Since the reversal of the Reagan administration's "hands-off" policy in 1985, the effort to manage exchange rates has become a subject of intense coverage by the popular press. Yet academic opinion is skeptical about the effectiveness of intervention in foreign currency markets that is not accompanied by a change in domestic monetary policy. Ironically, however, the publicity itself may be what makes the difference.

According to NBER associate **Kathryn Dominguez**, intervention seems to work mainly by affecting expectations about the future course of monetary policy. A move to support the dollar, for example, generally will be regarded as a signal that U.S. interest rates are going to rise relative to those of its trading partners. As an attempt to "buy credibility," its effectiveness seems to depend less on the size of the effort than on the circumstances surrounding it.

In **Market Response to Coordinated Central Bank Intervention** (*NBER Working Paper No. 3192*), Dominguez uses confidential information on daily intervention by the German Bundesbank, together with less detailed information from the Fed and the Bank of Japan, to determine the extent and timing of exchange rate intervention from the beginning of 1985 through the end of 1987. Dominguez uses the market's own perception of risk as a convenient proxy for effectiveness. For example, when the Fed sells dollars, currency traders will require a higher return on dollar assets if they think it signals a more expansionary monetary policy.

For the three years as a whole, Dominguez finds that only coordinated intervention by two or more central banks had a consistent long-term impact. Since size is taken into account, this was not because coordinated interventions tended to be larger: \$230 million compared with an average daily intervention of \$150 million by the Fed and \$80 million by the Bundesbank. Rather, Dominguez says, lack of coordination tends to present the market with "mixed signals."

She identifies five distinct intervention episodes with considerable variation not just in overall effectiveness but also in which the central bank got the most credit from the market. Early in 1985, for example, the Bundesbank's unilateral intervention attracted more attention than did the more massive coordinated efforts that averaged more than \$400 million a day during the first three months of 1985. Germany had led the move toward depreciation of the dollar and, although the United States had agreed in principle, its lack of unilateral dollar sales was taken as a sign of continued reluctance.

The most successful intervention episode was the three months following the Plaza Agreement of September 1985, which represented a definitive reversal of the Reagan administration's preference for a strong dollar. There was an enormous amount of publicity about coordinated intervention, but the market also responded to unilateral dollar sales by the United States as evidence that the Fed had acquiesced in the resulting faster growth of the money supply.

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The least successful intervention occurred in the months leading up to the Louvre Agreement of June 1987, when both Germany and Japan attempted to resist the further depreciation of the dollar. The failure of the Fed to participate in these operations lessened their credibility. It appears that the skepticism aroused by the episode continued after the meeting, even after the Fed joined in the dollar-support operation and, independently, raised the discount rate.

Finally, according to Dominguez, the coordinated support for the dollar in the months following the October 1987 stock market crash generally was unsuccessful. Intervention by the Fed and other central banks increased, rather than decreased, the differential return on dollars. Dominguez suggests that the Fed's intervention was not credible given the widespread belief that the need to avert a liquidity crisis would force the Fed toward easier, not tighter, money. LB

## Prenatal Care and Low Birthweights

One of the primary factors associated with high infant mortality rates is low birthweight. Babies who weigh less than 2.5 kilograms (5.5 pounds) at birth, and especially those weighing less than 1.5 kilograms (3.3 pounds), have much higher chances of dying or, if they survive, of requiring lengthy and expensive hospital stays. Therefore, a key strategy for decreasing infant deaths has been to attempt to increase birthweights, in part by encouraging the use of prenatal care.

A recent NBER study by **Richard Frank, Donna Strobino, David Salkever, and Catherine Jackson**

shows that the effect of prenatal care on the likelihood of low birthweight varies considerably according to the age and race of the mother. In **Poverty Programs, Initiation of Prenatal Care, and the Rate of Low Birthweight Births** (*NBER Working Paper No. 3215*), the authors estimate that a 10 percentage point increase in the fraction of white teenagers receiving prenatal care during the first trimester of pregnancy would reduce the number of low-weight births by 27 percent. Among black mothers aged 20–34, the same increase in prenatal care would reduce low-weight births by 14 percent. However, the effects on other age–race groups would be considerably smaller.

The authors also estimate the effect of increasing Medicaid eligibility and government-funded prena-

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tal care programs on the fraction of pregnant women who would receive prenatal care. They find that increasing the income limit for Medicaid eligibility by \$1250 would increase prenatal care among white teenagers by six percentage points, which in turn would cut the number of low-birthweight babies born to these women by 39 percent. The effects for black mothers and older whites would be much smaller.

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