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Interest Rate Spreads and Future Economic Activity

The difference between the interest rates on commercial paper and Treasury bills has been a good indicator of future real economic activity, according to a new NBER study by **Benjamin Friedman** and **Kenneth Kuttner**. The spread between the two rates has borne a systematic relationship to subsequent fluctuations of nonfinancial economic activity in the United States: typically, the spread widens in advance of recessions and narrows again before recoveries.

In **Why Does the Paper-Bill Spread Predict Real Economic Activity?** (*NBER Working Paper No. 3879*), Friedman and Kuttner note that on average the commercial paper rate exceeded the Treasury bill rate by 57 basis points (0.57 percent) from 1959 to 1990. However, the spread rose to 88 basis points during the one- to six-month period prior to the typical recession, and rose further to 110 basis points during the recession itself.

Friedman and Kuttner then apply a series of statistical tests to the last 30 years of U.S. data and find a significant relationship between movements in the paper-bill spread and subsequent fluctuations in real economic activity. The relationship holds even in the presence of other financial variables that previous researchers have advanced as potential business cycle indicators.

The authors offer several reasons for the spread between commercial paper rates and Treasury bill rates: the favorable tax treatment accorded Treas-

uries; the risk of default by issuers of commercial paper; and the superior liquidity of Treasuries.

Friedman and Kuttner find evidence supporting three explanations for the predictive power of the paper-bill spread. First, changing perceptions of default risk, as business prospects alternatively look more or less promising, "exert a clearly recognizable influence on the spread and also account for part of the spread's relationship to subsequent movements in real output." Second, since investors view commercial paper as an imperfect substitute for Treasury bills, a widening spread is in part a symptom of the contraction in bank lending that results from a tightening of monetary policy, driving banks' customers to borrow in the open market.

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Finally, there is evidence of a further role for independent changes in the behavior of borrowers in the commercial paper market because of their changing cash requirements over the course of the business cycle.

RN

The Link Between Education and Jobs

The 1980s was a good decade for highly educated workers. The fact that their earnings rose substantially compared with those of the less-schooled is well known. But NBER Research Associate **Jacob Mincer** has documented another important effect of education: well-educated workers are less likely to lose their jobs, and they experience shorter unemployment when they do.

In **Education and Unemployment** (*NBER Working Paper No. 3838*), Mincer examines the employment history of a sample of 1200 white male workers from 1976 to 1983. Workers with more education were significantly less likely to be unemployed at any given time than their less-educated counterparts were. For example, white men aged 25-54 with less than 12 years of schooling had an unemployment rate of 7 percent in 1979. Among college graduates, the unemployment rate was 1.9 percent.

Mincer pinpoints two reasons for this advantage. First, he finds, workers who are more educated are likely to have positions that require a long period of learning before the worker is fully qualified. This implies that both the worker and the employer must make a long-term investment in on-the-job training before the worker is able to reach full performance. Much of this training is job-specific: both the worker and the employer will lose a considerable part of their investment if the employment relationship is terminated. This, Mincer says, gives both parties a greater incentive to continue the relationship than is the case with less-educated workers, in whom employers generally invest less. As a result, the drop-outs in Mincer's sample were 70 percent more likely to lose their jobs than the college graduates were.

Mincer also finds that more-educated workers tend to have shorter spells of joblessness when they do become unemployed. He estimates that the duration of unemployment was 26 percent higher for men in his sample without high school diplomas than for college graduates. Better-educated workers are less likely to have left their jobs involuntarily, Mincer reports, but that has little to do with their briefer stints of unemployment. A more important reason is that more-educated workers are likely to search for a new job while already employed; in the sample, only one in five workers with a college degree typically quit his old job before taking a new one, while two in five workers with no college education behaved that way. This makes economic sense, Mincer points out: more-educated workers forgo more

income if they are unemployed, and unemployment compensation will make up a smaller share of their incomes.

Two other factors also have a role in educated workers' briefer unemployment. First, those workers tend to be more efficient in using labor market information, leading to a better-informed job choice and consequently to longer tenure. Second, employers tend to search more intensively to fill the more costly vacancies for positions requiring higher education levels. Highly trained workers also have strong incentives not to remain unemployed for long periods, Mincer writes, because "leaving unemployment for a longer time can erode the acquired human capital."

In a companion paper, **Education and Unemployment of Women** (*NBER Working Paper No. 3837*), Mincer reports that the dynamics of employment changes are very different among women than among men. Mincer bases his analysis on a random sample of several thousand women who were in the labor market at some point between 1968 and 1982. For women, as for men, education matters: highly educated women are far more likely to stay in the labor force continuously than less-educated women are. For instance, less than 14 percent of female college graduates in Mincer's sample enter or leave the labor force each year, compared to over one-third of female dropouts.

"While highly educated male workers change jobs less frequently than less-educated males do, there is no relationship between education and frequency of job change among women."

However, while highly educated male workers change jobs less frequently than less-educated males do, there is no relationship between education and frequency of job change among women. The key reason for that, Mincer finds, is that women, especially mature women, are less likely than men to receive in-house training from their employers. Although more-educated women have a greater chance of obtaining on-the-job training than less-educated women have, the extent of that training is not enough to reduce job turnover. Women obtain their training from outside sources more frequently than men do, so neither the female workers nor their employers have the large investment in firm-specific human capital that would give them an incentive to maintain the employment relationship. The preference for outside training may be explained by the fact that women are far more likely to quit their jobs than to be laid off, and to leave and reenter the work force as family demands dictate. Women often work for a

different firm upon reentry, and therefore get more value from the general training than from firm-specific training that might not be applicable at a new workplace.

Although both women and men lessen the risk of unemployment through increased education, greater education does not reduce a woman's average duration of unemployment as it does a man's. The difference, Mincer says, is caused by the fact that less-educated women have relatively short spells of unemployment because they withdraw entirely from the labor force. Over time, however, women have been spending a greater share of their lives in the work force, and this is causing unemployment patterns among women to be more like those among men. ML

Do Institutional Investors Destabilize Stock Prices?

Since the stock market crash of October 1987, investors, policymakers, and economists have sought to understand the volatility of stock prices. Often they focused on the behavior of large institutional investors, such as pension funds, which collectively hold about half of all equities in the United States and account for some 70 percent of the trading volume on the New York Stock Exchange.

One theory is that institutions cause volatility by following one of two investment strategies: "herding," in which money managers buy or sell the same stocks that other managers are buying or selling; or "positive feedback trading," in which they collectively buy stocks that are performing well and sell those that are doing badly.

In a new NBER study, **Josef Lakonishok, Andrei Shleifer, and Robert Vishny** find little evidence to support the view that pension fund managers pursue either strategy to a substantial degree, or that institutional investors destabilize the prices of individual stocks. **Do Institutional Investors Destabilize Stock Prices? Evidence on Herding and Feedback Trading** (NBER Working Paper No. 3705) is based on quarterly data on portfolio holdings of 769 all-equity pension funds between 1985 and 1989. The funds were managed by 341 different institutional money managers who compete with each other and are graded by the same pension-fund performance service. The average portfolio of a money manager in this sample was \$363 million at the end of 1989, and the assets of the entire sample totaled \$124 billion.

To determine whether institutional investors herd, Lakonishok, Shleifer, and Vishny first calculate

changes in the holdings of each stock for each manager in each quarter. They then calculate how these changes were correlated with the total changes in that stock for all managers in their sample. They find that less than 1 percent of an individual money manager's behavior in a stock can be explained by the aggregate behavior of other money managers in that stock. In other words, there is little evidence that these pension fund managers tended to move into or out of individual stocks together.

The three authors also calculate an alternative measure of herding: the difference between the fraction of managers buying an individual stock and those selling it. With no herding, this difference should be zero; with perfect herding, it would be 100 percent. In fact, they find a spread of 5.4 percent. There are similar spreads when the authors group individual stocks into industry categories, but somewhat larger spreads for small stocks than for large stocks.

Next the authors ask whether money managers tend to sell stocks that have done poorly and buy stocks that have done well (that is, whose price has increased). For the stocks in their sample, there is little evidence of such "positive feedback" behavior. However, for the smallest quintile of stocks, sales exceed purchases for the worst-performing stocks in the previous quarter by 18 percent of total value traded. Purchases exceed sales by 3 percent for the best performers.

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Lakonishok, Shleifer, and Vishny note that the market activity of pension managers is concentrated overwhelmingly in large stocks. When they group all stocks traded on the New York and American exchanges into quintiles based on their total market value at the end of each quarter, they find that the largest two quintiles represent 97 percent of the value of stocks purchased and sold by pension managers in their sample.

The authors conclude that institutional investors follow a broad range of styles and strategies. As a result, their trades tend to offset each other without having a large impact on prices, except perhaps for small stocks. In general, neither herding nor positive feedback strategies were important. However, they note that they did not examine the effect of trading within a quarter, nor the effect of institutional investors moving into or out of the stock market as a whole. RN

Recent NBER Book

NBER Macroeconomics Annual 1991

The *NBER Macroeconomics Annual 1991*, the sixth volume in a series, is now available from the MIT Press. The clothbound edition is \$35.00; the paperback sells for \$16.95.

This volume, edited by NBER Research Associates Olivier J. Blanchard and Stanley S. Fischer, includes papers on: privatization in Eastern Europe, by Jean Tirole, MIT; the transition to a common currency in the European Community, by Kenneth A. Froot,

NBER and Harvard Business School, and Kenneth Rogoff, NBER and University of California, Berkeley; the importance of macroeconomic stability in growth and development, by Stanley S. Fischer; and, how recessions serve to restructure an economy, by Robert E. Hall, NBER and Stanford University.

In addition to their NBER affiliations, Blanchard and Fischer are professors of economics at MIT.

This volume should be ordered directly from the MIT Press, 55 Haywood Street, Cambridge, MA 02142; (617) 253-2884.



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