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Domestic Saving and Investment Linked

When a country's saving rate declines, does domestic investment also decline, or does capital from the rest of the world flow into domestic investment? When government policies cause the domestic saving rate to rise, what happens to domestic investment? A new NBER study by **Martin Feldstein** and **Philippe Bacchetta** confirms earlier NBER research by Feldstein and others that implies that domestic saving and investment are closely linked. Despite the increasing mobility of capital throughout the world, most of the additional savings in a nation add to investment.

In **National Saving and International Investment** (*NBER Working Paper No. 3164*), Feldstein and Bacchetta estimate the effect of domestic saving on domestic investment for 23 industrial countries. They find that a dollar increase in net domestic saving was associated with a 79 cent increase in net domestic investment in 1980–6, down from a 91 cent increase in the 1960s and an 86 cent increase in the 1970s.

They also report that a fall in government saving (that is, a rise in the budget deficit and a fall in private saving) has an equally depressing effect on domestic investment. Furthermore, domestic investment adjusts rather quickly to changes in domestic saving. When saving changes, one-quarter of its effect on investment occurs within a year, one-half within three years, and four-fifths within six years.

The connection between domestic saving and domestic investment is weaker in the EEC (European Economic Community) countries than in the other OECD countries. In the nine EEC countries (excluding Spain, Portugal, and Luxembourg), 74 percent of domestic saving went to domestic investment in the 1960s, 65 percent in the 1970s, and 36 percent in 1980–6. In the 14 non-EEC industrial countries, on the other hand, 96 percent of saving was retained in the 1960s, 81 percent in the 1970s, and 58 percent in the 1980s.

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Feldstein and Bacchetta suggest that these findings indicate the increasing integration, and the informational and institutional links, among European capital markets. The relationship between domestic saving and domestic investment "is lower for the EEC countries, despite formal barriers on capital exports in some countries, because of the strength of institutional links," they conclude.

A Profitable Stock Purchase Plan

The "efficient-market hypothesis" holds that investors can't profit from information that is publicly available. But in **Decentralized Investment Banking: The Case of Discount-Dividend-Reinvestment and Stock Purchase Plans** (*NBER Working Paper No. 3093*), NBER researchers **Myron Scholes** and **Mark Wolfson** show that a predictable profit may be available.

The two conducted a real-life experiment over a two-year period with $200,000 of their own cash and discount-stock-purchase programs. These stock purchase plans look like low-risk opportunities to earn excess returns. They offer stockholders the right to buy additional shares at a discount from market prices, typically 5 percent. To qualify, investors only have to hold at least one share of company stock and to sign up in the program. They then must mail a check for stock periodically. The company issues discount shares without charging a commission. These shares then can be sold in the market within a few weeks.

For example, a J. P. Morgan shareholder until recently could buy $5000 of the company's stock at a 5.263 percent discount each month. In theory at least, the shareholder could earn an annual return of more than 85 percent on the monthly investment. But what about transactions costs, other unanticipated costs, or the effect on stock prices of participation by other traders? Wouldn't they wipe out the potential gains?

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Probably not, according to Scholes and Wolfson. Between 1985 and 1986, they made an impressive pretax profit—net of brokerage fees, hedging losses, and other costs—of $421,000, far in excess of average stock market yields, simply by buying at discount and selling as soon as possible.

What do the stock purchase programs mean for the companies that offer them? In effect, corporations are paying stockholders to provide the underwriting services normally provided by investment banks—a form of "decentralized investment banking." Discount stock purchase plans are a way of letting existing stockholders earn the "underwriting fee." For instance, BankAmerica raised $350 million in two years with such a plan.

Does the company benefit? Yes, if the plans are a cheaper way to raise money. BankAmerica, which scaled back its discount as it expanded its program, offered discounts averaging well below 4 percent, less than a typical underwriting fee. Also stock purchase plans don't seem to depress the firm's stock price, a hazard encountered in conventional underwritings. To account for this difference, Scholes and Wolfson speculate that if management does not have adverse information about its firm's prospects, it can certify that by selling additional shares slowly over time.

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Can the Term Structure of Interest Rates Predict Inflation?

Some members of the Federal Reserve Board have suggested the use of changes in the term stucture of interest rates as one guide for setting monetary policy. When the term structure steepens, that is when long-term interest rates rise relative to short-term interest rates, it may mean that inflationary expectations are rising. When the term structure flattens, it may mean that inflationary expectations are falling.

In **The Information in the Longer Maturity Term Structure About Future Inflation** (*NBER Working Paper No. 3126*), NBER Research Associate **Frederic Mishkin** tests these relationships. Using monthly data from 1953 to 1987 on one- to five-year Treasury bond interest rates, he finds that an increase in long-term rates relative to short-term rates *is* correlated significantly with a future increase in inflation. This is true whether he compares bonds that mature in one year to bonds that mature in two, three, four, or five years, and is true both before October 1979, when the Fed began to target the money supply instead of interest rates, and after.

In a related study, **A Multicountry Study of the Information in the Term Structure About Future Inflation** (*NBER Working Paper No. 3125*), Mishkin examines the relationship between inflation and interest rates on shorter-term maturities for Belgium, Canada, France, Germany, Italy, Japan, the Netherlands, Switzerland, the United Kingdom, and the United States. He uses nominal interest rates on assets that mature in one, three, six, and twelve months from Eurodeposit markets in April 1973–December 1986, along with inflation rates for each country. Mishkin finds that only in France, Germany, and the United Kingdom do changes in the shorter end of

the term structure predict changes in future inflation rates. The term structures for the other seven countries are not reliable predictors of inflation.

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Mishkin concludes that, although changes in the term structure for bonds that mature in one to five years currently are correlated positively with future changes in inflation in the United States, this predictive ability may be lost if the Fed changes its operating procedures to focus on the behavior of the term structure.

What's Been Happening to Defined-Benefit Plans?

The early 1980s witnessed a sharp change in the character of pension coverage: a shift from defined-benefit plans to defined-contibution plans, leaving fewer workers with explicit promises of benefits. This raised concerns that new government regulations were driving employers and employees away from traditional pension coverage.

In defined-benefit pension plans, the benefits are prescribed by formula and the employer must contribute enough to the plan to fund those benefits. In 1977, of the 25 million workers with pension coverage, 90 percent were in defined-benefit plans. By 1985, there were 33 million workers with pension coverage, but only 79 percent of them were in defined-benefit plans.

A study for the NBER by **Alan Gustman** and **Thomas Steinmeier** concludes that most of the decline in the share of employees with defined-benefit plans was caused by the sharp fall in unionization from 1977–85 and by the changing industrial mix and size distribution of firms with pension plans. In **The Stampede Toward Defined-Contribution Pension Plans: Fact or Fiction?** (*NBER Working Paper No. 3086*), Gustman and Steinmeier report that the proportion of *unionized* workers in their sample who were covered by defined-benefit plans fell from 97 percent in 1977 to 96 percent in 1985. Among nonunion workers, on the other hand, the proportion with defined-benefit plans fell from 83 percent to 77 percent. Since the proportion of workers who were unionized fell sharply between 1977 and 1985—and thus the ranks of nonunion workers grew—the percentage of workers covered by defined-benefit plans fell.

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Similar shifts occurred out of such sectors as manufacturing, with a high percentage of workers in defined-benefit plans, into services and similar sectors that have lower percentages of workers in defined-benefit plans. Gustman and Steinmeier calculate that over half of the more than 10 percentage point decline in defined-benefit coverage from 1977–85 was caused by these shifts. Thus, changes in regulations, or in the general economic environment, have not had as great an effect on the type of pension plans chosen as the trend away from defined-benefit plans might suggest.

Gustman and Steinmeier use IRS data on primary pension plans with 100 or more participants. In 1977 there were 23,000 such plans; in 1985 there were 36,000 plans.

Multinationals and Productivity Growth in Mexico

Do multinational corporations promote economic growth in developing countries? Some countries exclude multinationals, fearing that they will exploit local consumers and workers, ultimately controlling the domestic economy. Other countries encourage multinationals because of the technology, capital, and access to international markets that they bring.

In a new NBER study, **Magnus Blomström** and **Edward Wolff** report that multinationals in Mexico are more productive than Mexican-owned firms. Furthermore, local firms in industries with a high fraction of employment in multinationals have significantly higher productivity growth than local firms in industries without multinationals.

In **Multinational Corporations and Productivity**

Convergence in Mexico (*NBER Working Paper No. 3141*), Blomström and Wolff estimate that a 10 percent increase in the foreign share of employment in an industry is associated with about three percentage points higher growth in the productivity of local firms. They also estimate that between 1970 and 1975 a larger gap in productivity between local and foreign firms was associated with a higher growth rate in productivity among local firms.

Blomström and Wolff calculate that in 1970 the labor productivity of domestic firms was 42 percent of the labor productivity of foreign firms. However, foreign firms used over twice as much capital per worker as domestic firms did. When the authors measure both capital and labor inputs, they find that local firms' productivity was 75 percent of foreign firms' productivity in 1970. By 1975, Mexican-owned firms' productivity had increased to 79 percent of foreign productivity.

Mexican-owned firms caught up with multinationals most in apparel, petroleum and coal, rubber and plastics, electrical and nonelectrical machinery, and instruments. In food, furniture, chemicals, and several other industries, the local firms fell behind.

Blomström and Wolff also compare the productivity of firms in Mexico with firms in the United States. They report that labor productivity in Mexican food processing firms, including both foreign and domestically owned firms, increased from 42 percent of U.S. labor productivity in 1965 to 51 percent in 1984. In chemicals, the increase was from 43 to 60 percent, and in petroleum and coal, from 22 percent to 37 percent.

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Blomström and Wolff use unpublished data on individual plants from the Mexican Census of Manufacturers for 1970 and 1975. Plants owned by companies with at least 15 percent foreign ownership are classified as foreign, unless the Mexican government owns half or more of the shares, in which case the firm is considered domestic.

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