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What Happens to LBOs?

During the 1980s there were numerous leveraged buyouts (LBOs)—that is, purchases of companies by a small number of investor-managers. These purchases were financed predominantly with debt, and often were made at prices far above the stock price prior to the LBO announcement. In 1988 alone, \$77 billion of equity was purchased in LBO transactions. Yet with all this activity, there is broad disagreement about the nature of the LBO organization.

Supporters of LBOs have argued that managers who own their own companies have stronger incentives for high performance than managers of publicly traded companies. These incentives make LBOs superior and long-lived organizations. This view also includes a role for the tax benefits of debt. Others have responded that LBOs are only temporary. The inflexibility of a huge debt load quickly forces LBOs back to the equity markets and public ownership. Still others argue that LBOs are undertaken with the expectation of breaking up the acquired company and selling off the pieces for higher prices.

In *The Staying Power of Leveraged Buyouts* (*Working Paper No. 3653*), NBER researcher **Steven Kaplan** concludes that there is some truth to each of these explanations. Kaplan examines 162 companies that underwent LBOs valued at over \$100 million each between 1979 and 1986. As of August 1990, he finds that only 38 percent of the buyouts were publicly owned. Because the sample includes buyouts of different ages, Kaplan also looks at ownership patterns relative to the time of the buyout. He finds that about 25 percent of the LBOs are publicly owned three years after the buyout; approximately 50 percent,

seven years after the buyout. The likelihood that an LBO will return to public ownership is roughly constant at 13 percent per year in the second to fifth years after the buyout. This likelihood drops somewhat thereafter, implying that some LBOs may well remain privately owned for many years.

"The large fraction of LBOs that return to public ownership suggests that the LBO is often a transitory organizational form, bridging periods of public ownership," Kaplan says. However, a large share of LBO assets remains private, and many of the "public" companies retain some of the characteristics of the LBO organization, such as high-equity ownership by managers and high debt levels. This indicates that managerial incentives and tax laws are factors in leveraged buyout transactions.

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Kaplan finds that, contrary to popular opinion, most LBOs are not broken up and sold off. More than 70 percent of the buyout companies in the sample were still independently owned in August 1990. When sales of divisions are taken into account, this percentage still exceeded 67 percent. Asset sales, therefore play a moderate but secondary role in the typical leveraged buyout.

ML

Eliminating Mandatory Retirement for College Teachers

Under current law, the minimum age for mandatory retirement for college and university teachers is 70. After 1993, mandatory retirement will be prohibited entirely. The change in the law has raised concerns that fewer academics will retire, and that few spaces will become available for younger teachers.

Indeed, a recent NBER study by **Alan Gustman** and **Thomas Steinmeier** suggests that, for the sample of high-quality colleges and universities they examine, prohibiting mandatory retirement will lead to a substantial increase in the percentage of college teachers who continue working after age 65. In **The Effects of Pensions and Retirement Policies on Retirement in Higher Education** (*NBER Working Paper No. 3593*), they examine data on faculty retirements, pension plan provisions, and retirement rules at 26 private colleges and universities.

Their sample includes active, tenure-track faculty as of January 1, 1979, and those who retired, died, or left the faculty for other reasons over the preceding five years. Gustman and Steinmeier report that, over the sample period, 88 percent of the 62-64-year-olds were working full time. However, only 39 percent of those aged 65-67, 13 percent of those aged 68-69, and 2 percent of those over 70 were working full time. Over 80 percent of the retirements in their sample were mandatory.

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Gustman and Steinmeier estimate that eliminating mandatory retirement altogether would raise to 65 percent the share of 65-67-year-old faculty working full time. The authors also estimate that 53 percent of faculty aged 68-69 and 43 percent of those over 70 would continue to work full time.

Gustman and Steinmeier also observe that many of the schools in their sample offer early retirement bonuses. But they estimate that these bonuses would increase faculty retirement by only a few percentage points, and that most bonuses would go to people who would have retired anyway.

Immigrants and Natives Have Similar Size Families

According to a new study by NBER Research Associate **Francine Blau**, immigrants to the United States have about the same number of children as native women do. In **The Fertility of Immigrant Women: Evidence from High-Fertility Source Countries** (*NBER Working Paper No. 3608*), Blau uses 1970 and 1980 U.S. Census data to study immigrant women from the Middle East, Asia, Latin America, and the Caribbean. These regions represented 77 percent of all immigrants in the 1970s, up from 29 percent in the 1950s.

Fertility rates in these areas averaged more than five children per woman in the 1960s and 1970s, compared to about three children per woman in the United States in the 1960s and two children in the 1970s. Nonetheless, women from these regions who come to the United States have fertility levels very similar to those of native-born women, Blau finds. In 1970 the immigrants had slightly fewer children than native women, and in 1980 slightly more, but the differences were minimal.

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For example, in the Philippines during the early 1960s, a woman would have about six or seven children on average during her reproductive years. But Blau estimates that in 1970 Filipino immigrant women in the United States would have only two or three children by age 45: slightly fewer than native women had.

The small differential in family size between immigrants and natives can be explained by the fact that the immigrants who come to the United States tend to have low fertility, relative both to the population of their source country and to native-born women with similar personal characteristics, Blau finds. On average, immigrant women in the United States come from the top third of their home country's educational distribution. Blau shows that the more education a woman has relative to others in her country, the lower her fertility is. Indeed, the immigrant women in Blau's study have fewer children than native women of similar age, marital status, education, color, and region of the United States, both in 1970 and in 1980.

Another factor explaining lower fertility among immigrants than natives is the tendency of immigration itself to disrupt childbearing. Over the 1970s, there was a trend for immigrant women's fertility to

catch up to natives with similar personal characteristics. However, these immigrant women never quite caught up. By 1980, though, married immigrant women who had arrived in the United States by 1970 had about the same number of children as natives with similar wages and husbands' income.

Finally, Blau finds that new arrivals to the United States had higher fertility, relative to natives and to longer-term immigrants, in 1980 than in 1970. She explains that fact by declining U.S. birthrates from 1970-80 coupled with fairly constant fertility in the source countries. DRF

Changing Times for the FHA's Mutual Mortgage Insurance Fund

The Federal Housing Authority's Mutual Mortgage Insurance program (FHA's MMI)—one of the New Deal's apparent successes for more than 40 years—came to grief in the 1980s. By mid-1990 the MMI fund had become actuarially unsound, according to a new NBER study by **Patric Hendershott** and **James Waddell**. Although legislative steps taken in 1990 should improve its financial position, the future of the program, which insures \$300 billion in mortgages, is uncertain.

In **The Changing Fortunes of FHA's Mutual Mortgage Insurance Fund and the Legislative Response** (NBER Working Paper No. 3592), Hendershott and Waddell examine the changes in mortgage markets in the 1980s and the responses of the federal government to those changes: the reasons for the severe deterioration in the MMI fund. Then they analyze the solvency and soundness of the fund as of the summer of 1990, suggest how its finances could be improved, and review the steps that Congress took later in 1990 to shore up the fund.

For most of its history, the MMI program fostered innovation in the mortgage market and helped expand opportunities for homeownership—all the while operating on an actuarially sound basis. Over that period, the 30-year fixed-rate mortgage supplanted the then-common 5- and 10-year loans; the aggregate homeownership rate increased by nearly 20 percentage points, and the MMI fund built up a substantial reserve.

"The 1980s have been a far different story," according to Hendershott and Waddell. The FHA failed to develop new mortgage products (its adjustable-rate mortgage flopped), and the aggregate homeownership rate declined. Most worrisome, the MMI fund lost between \$5.5 and \$6 billion, causing its economic value to decline from 5.3 percent of insurance-in-force to less than 1 percent.

The FHA failed to respond to changes in the mortgage market, according to the NBER study. House prices, which increased at an average 8.2 percent per year from 1970-6 and by 12 percent from 1976-81, rose by less than 3 percent in the 1980s—and in some regions actually fell. Private mortgage insurers responded in the mid-1980s by raising the insurance premium charged and tightening their underwriting standards; they are in relatively solid shape today. The FHA, however, did not raise the premium charged, and actually increased its risks, resulting in rising defaults and deteriorating finances.

To analyze the financial viability of the MMI Fund, Hendershott and Waddell use data on household defaults and mortgage prepayments to project future cash flows. Using a consensus economic forecast for housing prices, interest rates, and unemployment, they conclude that the fund is solvent: it has positive economic value under conditions that are reasonably expected to occur. But, they find, the fund is not actuarially sound, as is required by law. (If it continued to write business on the terms prevailing in 1990, eventually it would be insolvent.)

Meeting this higher standard would require the fund to have economic value greater than a specific percentage of insurance-in-force: "a percentage designed to provide enough equity to cover a reasonably adverse, but not catastrophic, economic situation." Hendershott and Waddell estimate that the fund's economic capital—about \$2.3 billion in the summer of 1990—is \$1.45 billion short of the minimum needed for actuarial soundness.

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Hendershott and Waddell suggest several ways in which the MMI fund's financial position could be improved. The most feasible way would be to charge high enough insurance premiums on the riskiest loans so that they would no longer be subsidized by low-risk borrowers.

Finally, the authors review legislation passed by Congress in October 1990 that is designed in part to shore up the MMI fund. The new law imposes stiffer down payment requirements on borrowers and orders somewhat higher insurance premiums on risky, low down payment loans, although high down payment loans would still be subsidizing low down payment loans. These changes should improve the economic value of the fund's future insurance, but may also make FHA insurance less attractive, causing business volume to decline. RN

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Tax Policy and the Economy, Volume 5, edited by David F. Bradford, is available from the MIT Press. The cloth volume is \$26.95; the paperback is \$13.95.

Among the topics discussed in this latest volume in the series are: restructuring U.S. corporations in response to tax changes; the income distribution of gasoline tax payments; and measuring the effect of today's economic policies on future generations.

Bradford is director of the NBER's Program in Taxation and a professor of economics at the Woodrow Wilson School, Princeton University.

Order this volume, either cloth or paperback, directly from the MIT Press, 55 Hayward Street, Cambridge, MA 02142; (617) 253-2884.

National Saving and Economic Performance

National Saving and Economic Performance, edited by B. Douglas Bernheim and John B. Shoven, is now available from the University of Chicago Press for \$47.50.

In this volume, leading experts debate the need for more accurate measurement of official saving data; examine how corporate decisions to retain or distribute earnings affect household-level consumption and saving; and investigate the effects of taxation on saving behavior, correlations between national saving and international investment over time, and the influence of economic growth on saving.

This volume should interest academic and government economists, and provide a valuable introduction to the economics of saving for graduate students.

Bernheim is an NBER research associate and the John L. Weinberg Professor of Economics and Business Policy at Princeton University. Shoven is an NBER research associate and professor of economics at Stanford University.

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