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Does Research Suffer in Corporate Restructuring?

The wave of corporate leveraged buyouts (LBOs) during the 1980s has been blamed widely for the decline in corporate research and development (R and D) in the United States during the same period. The decline is real, but NBER Faculty Research Fellow **Bronwyn Hall** finds that the increase in buyouts and acquisitions is not to blame.

In **The Impact of Corporate Restructuring on Industrial Research and Development** (*NBER Working Paper No. 3216*), Hall examines the 780 purchases of publicly held manufacturing firms that occurred in the United States from 1977 to 1987. Because acquirers need steady cash flow to service their debt, LBOs and other going private transactions have taken place overwhelmingly in sectors in which R and D and the resultant technological innovations are relatively unimportant. Thus, although real corporate spending on R and D has grown less than half as fast since 1984 as it did over the previous decade, buyouts are not the cause.

LBOs facilitate the shrinkage of an older, low tech industry, according to Hall. The annual R and D spending of public companies involved in LBOs from 1977 to 1987 totaled $767 million, less than 2 percent of the total $40 billion expenditure for industrial R and D. "Even if this R and D were to be cut drastically, it would have little impact on total spending," Hall observes.

Public companies that acquire other public companies tend to do less R and D than their competitors do. This tendency has become more significant over time: by 1986, acquiring firms were spending 1.4 percent less on R and D than the average in their industry. After the firm has made an acquisition, the intensity of its R and D activity typically declines slightly relative to its competitors. The magnitude of that post-acquisition decline was small in the 1970s but grew larger during the 1980s.

R and D spending appears to suffer most when restructuring raises a corporation's indebtedness. If the ratio of a company's debt to its market capitalization rises sharply in a single year, Hall finds, a decrease in R and D activity is likely to follow. On average, each one percentage point increase in leverage leads to a drop of about 0.58 percent in the share of each dollar of sales dedicated to R and D over a three-year period. This represents a relatively large decline in R and D, since the average industrial firm devoted only 1.82 of its sales to R and D in 1982.

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Greater leverage tends to depress R and D whether or not there is a change in control of the firm. In fact, the small number of decreases in R and D spending that have been observed following an acquisition appear to be associated with increases in leverage rather than the acquisition itself. Acquisitions in general are more likely to be driven by synergistic than financial considerations.

"R and D spending in general may be an unintend-

ed victim of the drive to shift the source of financing toward debt, because the particular characteristics of this type of investment make it unsuited to the highly leveraged corporate environment," Hall asserts. But while the tendency to neglect R and D is evident at the level of individual firms that take on large debt loads, it is not significant enough to explain the magnitude of the decline in corporate research activity throughout the economy. ML

U.S. Tax Law Changes in 1980s Reduce Investment in Housing

Changes in the tax laws in the 1980s substantially reduced the incentive to own homes and to build rental housing. In the long run, these changes will reduce the fraction of national income devoted to housing. Furthermore, the 1986 Tax Reform Act alone will raise inflation-adjusted rents by about 10 percent, according to NBER Research Associate **James Poterba.**

In **Taxation and Housing Markets: Preliminary Evidence on the Effects of Recent Tax Reforms** (*NBER Working Paper No. 3270*), Poterba documents five major changes in tax laws between 1981 and 1986 that reduced incentives to own homes and to build rental housing. First, the cut in marginal tax rates in 1981, and again in 1986, raised the aftertax cost of owning a house, particularly for high-income taxpayers whose tax rates were cut most. The aftertax cost of $10,000 per year in mortgage interest and property taxes paid by a taxpayer in the pre-1981 top tax bracket of 70 percent was only $3000. But after 1981, the highest-income taxpayers paid a marginal tax rate of 50 percent. This same $10,000 in interest and property taxes per year then cost the taxpayer $5000. Thus, Poterba deduces that the cut in tax rates caused the demand for housing to decline, particularly for high-priced homes demanded by the highest-income taxpayers.

Second, although the 1981 tax law granted more generous depreciation benefits for rental property, the 1986 Tax Reform Act reversed this policy and made depreciation even less generous than before 1981. Third, the 1986 law eliminated the favored tax treatment of capital gains, further discouraging investment in rental housing.

Fourth, the antishelter provisions of the 1986 act —particularly the limitations on "passive losses"— reduced the incentive to invest in rental housing. Poterba reports that real estate partnership sales, a crude measure of tax shelter activity, fell by 37 percent between 1985 and 1988.

Fifth, the 1986 Tax Reform Act, by increasing the standard deduction of nonitemizers, reduced the incentive to buy housing for lower and middle-income households.

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Have the tax changes reduced investment in rental housing? Poterba reports that multifamily housing starts in 1988 were 38 percent lower than between 1983 and 1986. Nor can this decline be explained by demographic factors. Poterba points out that Canada, with similar demographics but a relatively more stable tax treatment of rental housing, had a 46 percent increase in multifamily starts from 1983–6 to 1988.

Somewhat puzzling, however, is Poterba's finding that inflation-adjusted rents in the United States have risen by only 2 percent since 1986, even though the 1986 law had so many provisions that discouraged investment in rental housing. He notes that this may have been caused by overbuilding in the early 1980s. If so, writes Poterba, "recent tax changes may not be reflected in real rents for several years." DRH

Immigration, Trade, and Labor

In the 1970s and the 1980s, trade, immigration, and foreign investment became increasingly important in the U.S. labor market. However, the impact of these flows of people, goods, and capital was not experienced equally by all Americans. Certain sectors of the economy felt the effects of this increased openness far more than others did.

In **Internationalization of the U.S. Labor Market** (*NBER Working Paper No. 3321*), **John Abowd** and **Richard Freeman** document these changes. They report that exports and imports as a share of GNP rose from 10 percent in 1960 to 22 percent in 1987. During the same period, exports and imports as a share of manufacturing output rose from 18 percent to 64 percent. In goods-producing industries, the share of exports plus imports rose from 19 percent

in 1960 to 60 percent in 1987. by contrast, in the service sectors of the economy, the share of exports and imports in output rose from 6 percent to 11 percent in the same period.

Abowd and Freeman note that the dramatic increase in the share of exports and imports in goods-producing industries affects a declining fraction of the U.S. labor force. In 1960, 33 percent of the work force and 35 percent of GNP were in goods-producing sectors; by 1987, only 21 percent of the work force and 23 percent of GNP were in those sectors. In other words, the impact of foreign trade on U.S. mining, manufacturing, and agriculture has increased dramatically since 1960, but its effect has been felt directly by a shrinking percentage of the work force.

Related work by Freeman and Lawrence Katz shows that in industries in which sales are affected adversely by trade, wages tend to decline relative to wages in other industries. Wages also decline in industries in which sales are affected adversely by domestic market developments. However, workers laid off or fired because of trade appear to have greater difficulty finding new jobs than workers displaced for other reasons.

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Abowd and Freeman also report that industries with considerable imports employ a disproportionate share of immigrants, while high-export industries employ relatively few. Thus, in certain industries, native workers must compete not only indirectly with foreign workers through imported goods, but also directly with those workers who immigrate to the United States.

Although the share of immigrants in certain industries and cities has increased considerably since the 1950s, the overall share of immigrants in the work force has not gone up. The number of immigrants relative to the population increased from the 1950s to the 1980s, but the influx of women and baby-boomers into the work force during that period was also large.

According to U.S. Census figures, immigrants were 8.2 percent of the labor force in 1950, 5.2 percent in 1970, and 6.7 percent in 1980. These official figures do not include illegal immigrants, though. Estimates by George Borjas, Freeman, and Kevin Lang show that there were 1.3 million illegal immigrant workers in the United States in 1980, and that the total immigrant share in the labor force was 7.3 percent.

Finally, research by Freeman, Jonathan Leonard, and Rachel McCulloch shows that foreign direct investment in the United States has increased dramatically in the past few years, but that foreign firms employed only 2.6 percent of all workers in 1987. The foreign share of employment was considerably higher in manufacturing: 8.4 percent. The employees of foreign-owned firms are about as likely to belong to unions as employees of domestic firms, Abowd and Freeman note, but are somewhat more educated and more highly paid than their counterparts in U.S.-owned firms.

Smokers Respond to Price, but Slowly

Because cigarette smoking is habit-forming and may be addictive, a permanent increase in the price of cigarettes will take some time to have its full effect on consumption. A recent NBER study by **Gary Becker, Michael Grossman,** and **Kevin M. Murphy** estimates that a 10 percent permanent increase in cigarette prices depresses cigarette sales by only 4 percent in the first year, but by 7.5 percent in the long run.

In **An Empirical Analysis of Cigarette Addiction** (*NBER Working Paper No. 3322*), Becker, Grossman, and Murphy analyze data on cigarette sales from all 50 states and the District of Columbia for 1955–85. They note that two firms account for 70 percent of U.S. cigarette output and thus have considerable power to set prices. Because cigarette smoking responds slowly to price changes, these firms can raise profits by increasing prices even when demand is falling. This occurred during the 1980s when greater information on the health hazards of smoking discouraged sales.

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The addictive nature of smoking also can explain why cigarette prices rose sharply in the year prior to the increase in the federal excise tax on cigarettes, which took effect on January 1, 1983.

Recent NBER Books

Volume II in Developing Country Debt Series

Developing Country Debt and Economic Performance, Volume 2: Country Studies—Argentina, Bolivia, Brazil, and Mexico, is available from the University of Chicago Press for $65. Jeffrey D. Sachs is the editor.

This volume contains comprehensive case studies of four debtor countries with very different economies. Mexico is an oil exporter with significant manufactured exports; Argentina and Brazil import oil and export agricultural products; and Bolivia exports oil and other raw materials. These four countries thus were affected very differently by the sharp increase in oil prices that occurred in the late 1970s, yet all of them suffered serious debt crises beginning in 1982. This volume emphasizes that the common experience of these four debtors was an inability to keep government spending in line with government revenues and a tendency to spend money on unproductive investments.

Volume 2 in this series should be of interest to graduate students in economic development, regional area specialists, and individuals who work with developing countries.

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This volume may be ordered directly from the University of Chicago Press, Order Department, 11030 South Langley Avenue, Chicago, IL 60628. Academic discounts of 10 percent for individual volumes and 20 percent for standing orders for *all* NBER books published by the University of Chicago Press are available to university faculty; orders must be sent on university stationery.

Tax Policy, Volume 4

Tax Policy and the Economy, Volume 4, edited by Lawrence H. Summers, is now available. The cloth volume is priced at $26.95; the paperback is $13.95.

This volume presents the papers and discussions of the NBER's fourth annual tax policy conference, held in Washington last November. In the first paper, Summers and Daniel R. Feenberg ask who benefits from reductions in the capital gains tax. Next, Eytan Sheshinski contrasts the tax treatment of capital income in several industrialized countries. Mark L. Gertler and R. Glenn Hubbard investigate the effect of taxation on corporate capital structure. Alan J. Auerbach and Laurence J. Kotlikoff consider the influence of demographics on saving. Finally, Lawrence H. Goulder studies the possibility of withholding taxes on foreigners' U.S. interest income.

This volume should appeal to anyone with a basic understanding of economics who is interested in tax issues.

Summers is a research associate in the NBER's Program in Taxation and the Nathaniel Ropes Professor of Political Economy at Harvard University.

Tax Policy and the Economy may be ordered directly from the MIT Press, 55 Hayward Street, Cambridge, MA 02142; their telephone number is (617) 253-2884.

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