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How Tax Law Changes Lead U.S. Multinational Companies to Cut Investment and Reduce Operations

The taxation of multinational firms always has presented special problems for governments and for the multinationals themselves: One such problem arises because firms can borrow money in one country and deploy the funds elsewhere. For this reason, U.S. authorities have sought to limit how much interest expense multinationals can deduct from their U.S. income. But companies have warned that these rules increase their cost of capital and distort business decisions. Now a new study for the NBER by **Kenneth Froot** and **James Hines** shows that the loss of tax deductibility of interest expenses leads some multinationals to borrow and invest less, and to scale back the scope of their foreign and total operations.

In **Interest Allocation Rules, Financing Patterns, and the Operations of U.S. Multinationals** (*NBER Working Paper No. 4924*), Froot and Hines examine the impact on firm behavior of the change in interest allocation rules introduced by the Tax Reform Act of 1986. The act dramatically reduced the tax deductibility of the

U.S. interest expenses of certain American corporations. The change increased the tax liabilities of American multinationals and made additional borrowing more expensive for them.

One of the concerns raised during the deliberations over the 1986 act was that the additional cost of borrowing might discourage some firms from investing in new plant and equipment, since a sizable fraction of new investment is fi-

tween 1986 and 1991, and invested and equipment, compared with other firms. In addition, the affected multinationals were more likely to lease rather than to own capital assets, and to reduce the scope of their foreign operations. Certain firms, Froot and Hines estimate, reduced their foreign sales by 2 percent a year after 1986. Further evidence—suggestive but statistically inconclusive—implies that interest allocation rules can influence the

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nanced by borrowing. Froot and Hines find that the change in tax rules significantly influenced the operations of American multinational firms. Firms that were unable to deduct all of their interest expenses against their U.S. tax liabilities issued 4.2 percent less debt be-

overall magnitude of firm operations.

Froot and Hines conclude that firms substitute away from debt when debt becomes more expensive, and also that the loss of interest tax shields increases a firm's cost of capital. RN

The Economic Benefits to the United States from Immigration Are Small

In a new study for the NBER, Research Associate **George Borjas** calculates that the benefit of immigration to native U.S. workers and taxpayers probably runs about \$7 billion—only 0.1 percent of the \$7 trillion U.S. economy, or less than \$30 per native-born person per year.

duction of goods and services. Immigrants often are valued as farm workers, domestic servants, garment workers, and in other jobs in which mastery of the English language and higher education are not especially valuable. The economic benefits are larger when immigrants are sufficiently “different” from the stock of available native

or manufacturers—gain about \$140 billion, or 2 percent of GDP.

This probably explains why the debate over immigration policy usually focuses on its labor market impact, rather than on its effect on total U.S. income, Borjas writes. The slight benefits from the increased efficiency of using immigrant workers “may well be outweighed by the substantial wealth redistribution that takes place, particularly since the redistribution goes from workers to owners of capital (or other users of immigrant services),” Borjas writes.

Contrary to the conclusion of some other studies, Borjas's paper argues that the presence of immigrants does lower the wages of natives. Indeed, Borjas notes that natives tend to move out of areas where immigrants choose to live, partially because of low wages in those areas, resulting in what has been called “the new white flight.”

DRF

“[I]mmigration . . . causes a large redistribution of wealth from labor to capital.”

In **The Economic Benefits from Immigration** (*NBER Working Paper No. 4955*), Borjas does a simple “back-of-the-envelope calculation” of the benefits of immigration to weigh against the costs that are frequently discussed these days. Native-born Americans benefit from immigration, he writes, because immigrant workers complement other factors that go into the pro-

workers.

Borjas finds one serious and substantial economic impact of immigration: it causes a large redistribution of wealth from labor to capital. He estimates that native workers who compete with immigrants for jobs lose about \$133 billion, or 1.9 percent of gross domestic product, because of immigration. “Users” of immigrants—that is, producers

Do High Tech Subsidies Increase R and D?

In 1987, with the financial support of the U.S. government, 14 leading U.S. semiconductor producers concerned about their shrinking market share formed a joint R and D consortium called Sematech. The federal government granted Sematech subsidies of \$100 million a year. Although three of the firms have since left, Sematech is still receiving subsidies and still operating today. The consortium has been hailed by the Clinton administration and others as a successful model of government-industry cooperation in support of high tech R and D.

The rationale for subsidizing R and D is that its benefits may spill over to other firms in the same industry. For example, testing of semiconductor equipment may benefit other firms using that equipment. If

this case, government subsidies might be justified by the argument that they would induce firms to spend more on R and D. But a recent NBER study by **Douglas Irwin** and **Peter Klenow**, High

“[F]irms joining Sematech spent 1.4 percentage points of sales less on R and D than would have been expected given the behavior of these firms prior to Sematech.”

the firms investing in R and D cannot fully capture the marginal benefits, they may underinvest in it. In

Tech R and D Subsidies: Estimating the Effects of Sematech (*NBER Working Paper No. 4974*),

finds that Sematech induced firms to trim their R and D expenditures.

Irwin and Klenow find that firms joining Sematech spent 1.4 percentage points of sales less on R and D than would have been expected given the behavior of these firms prior to Sematech, and given the behavior of U.S. firms that did not join Sematech. Although it sounds small, the 1.4 percentage point reduction translates into a \$300 million reduction in R and D spending in 1991, the equivalent of about 10 percent of member firm R and D budgets.

The authors point out that be-

cause Sematech allowed firms to get together and share their research results, these companies may have curtailed wasteful duplication of research, allowing them to do more effective research with less R and D spending. But if the benefit from Sematech is solely that it permits sharing of research, they write, then there is no obvious justification for government funding. If joint ventures such as Sematech make R and D more efficient, then firms have ample incentive to pool their research, as long as the government does not prevent it.

Was Sematech a vital ingredient

in the resurgence of the U.S. semiconductor industry since 1987? The authors suggest not. They point to other factors occurring since Sematech was formed. For example, the foreign exchange value of the dollar has fallen substantially, making U.S.-produced semiconductors more competitive in terms of price. A semiconductor trade agreement with Japan helped insulate U.S. firms from Japanese competition. Finally, U.S. firms have a comparative advantage in the fast-growing microprocessor segment of the chip market. DRH

Declining Fertility Rates Explain Some of the Increase in Cesareans

Rising medical costs have been a primary impetus for health care reform in the United States. Yet the causes of these cost increases are not well understood. Clearly, the diffusion of costly new medical technologies makes modern health care more expensive. But to what extent do financial incentives play a role in the adoption of new medical procedures?

In **Physician Financial Incentives and Cesarean Section Delivery** (*NBER Working Paper No. 4933*), **Jonathan Gruber** and **Maria Owings** investigate the role of financial incentives in the substitution of cesarean (c-section) childbirth for normal delivery between 1970 and 1982. They conclude that physicians' financial incentives played a significant role in the trend toward cesarean childbirth. This role was small relative to other factors, however: increased pressure on the incomes of obstetricians (ob/gyns) explains only 16 percent of the substitutions of c-sections for normal childbirth.

Used in only 5.5 percent of births in 1970, cesarean delivery rose by over 240 percent over the next 12 years. It is now the second most frequently performed major surgical procedure in the United States, with a rate of 23.5 cesarean deliveries per 100 births. The most frequently cited explanation for the

“[P]hysicians' financial incentives played a [small but] significant role in the trend toward cesarean childbirth.”

increase in cesarean utilization is the introduction of technologies for diagnosing fetal distress, such as electronic fetal monitoring. It is true that the percentage of deliveries with no reported complication fell from 70 percent in 1970 to 39 percent in 1984. However, c-section rates grew within diagnosis

categories as well: 11.6 percent of breech presentations were delivered by c-section in 1970; by 1984, 80 percent were delivered in this fashion.

An alternative explanation for this increase is physicians' financial incentives. Physician charges for cesarean delivery are roughly 40 percent higher than for vaginal childbirth, now as they were in the 1970s. The structure of private insurance coverage during the 1970s also may have contributed to the financial rewards to cesarean delivery. Many insurance policies limited coverage of normal childbirth but fully covered the costs of cesarean delivery.

Gruber and Owings examine a period when ob/gyns' incomes otherwise would have been declining because of falling rates of fertility in the United States. They argue that the 13.5 percent fall in fertility between 1970 and 1982 increased the income pressure on ob/gyns, and may have led them to substi-

tute from normal childbirth toward a more highly reimbursed alternative: cesarean delivery. They carry out their study by assessing whether cesarean deliveries rose most in states where fertility was falling most. In fact, they find a strong correlation between fertility declines within states and increases in c-section delivery rates in those states. A 10 percent decline in the fertility rate is associated with a 0.97 percentage point increase in the cesarean delivery rate, they estimate. They find that this effect is strongest for privately insured patients and weakest for the uninsured, which is consistent with the reimbursement incentives facing providers.

What was the dollar effect of all of this? In 1989, cesarean delivery was reimbursed \$561 more than normal childbirth, and the typical physician performed 168 births per year. A 1 percentage point increase in cesarean utilization translates to an increase in income of \$943, the authors estimate. In 1989, the average ob/gyn income was \$194,300, so this represents a rise in income of only 0.5 percent. At the same time, since one-half of ob/gyn income is from obstetrics, the 13.5 percent decline in fertility during 1970-82 translates to a fall in ob/gyn income of 6.75 percent. Thus the shift to cesarean delivery only offset a very small part of the negative income shock facing ob/gyns.

Similarly, the 1970-82 U.S. fall in fertility can account for only 1.45 percentage points of the increase in cesareans, the authors estimate, or only 16 percent of the growth rate of cesarean delivery.

Gruber and Owings use data on individual birth records from 1970-82 from the National Hospital Discharge Survey. There are data on approximately 20,000 deliveries annually from a wide cross section of hospitals. They use both individual-level and state-level data to control for a number of other characteristics of mothers and births, including age, birth order, and infant health, which also may be correlated with both the fertility rate and the use of cesarean delivery.

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