

- Estate Taxes Appear to Increase Avoidance and to Reduce Wealth Accumulation
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## Estate Taxes Appear to Increase Avoidance and to Reduce Wealth Accumulation

Part of the original tax cut plan of President George W. Bush is elimination of the estate tax, with its projected \$294 billion of revenues, in steps over the next ten years. Whether this is a good idea depends in part on the impact of the tax on the economic behavior of well-to-do Americans.

Opponents of this tax argue that it reduces the incentive to accumulate wealth. Why work so hard to earn and then save income if so much of it will go to Uncle Sam at death, rather than, say, your children? Why not just spend the money? Supporters of the tax tend to downplay the salience of these incentives. They ascribe wealth accumulation to motives that are immune to taxation, including future security and enjoyment, the power that wealth confers, the inability to spend the money so fast, the desire to manage a large business, or the posthumous glory of dying rich. Furthermore, the Joint Economic Committee of Congress in a 1998 report asserted: "Virtually any individual who invests sufficient time, energy and money in tax avoidance strategies is capable of avoiding the estate tax altogether." And, only 2 percent of estates are big enough to be subject to this tax.

In **The Impact of the Estate Tax on the Wealth Accumulation and Avoidance Behavior of Donors** (NBER Working Paper No. 7960) coauthors **Wojciech Kopczuk** and **Joel**

**Slemrod\*** note that efforts devoted to avoidance should be counted among the costs of levying the estate tax, to be weighed against the revenue it raises. In this paper, the two economists examine the impact of the estate

could be that they are accumulating less wealth by working or saving less. This evidence, the authors write, is suggestive rather than definitive because of the difficulty of controlling for other factors related to the size of

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tax on the size of reported estates, using both aggregated and individual data from estate tax returns that span 1916 to 1996. During these years, the marginal tax rate on estates has varied widely, as have the allowable deductions. In 1981, for instance, the Economic Recovery Tax Act provided for an unlimited deduction for bequests to surviving spouses. Under previous law going back to 1948, the deduction for spousal bequests was limited to one-half of the adjusted gross estate.

Using the aggregated data, the authors conclude that when the estate tax is levied at a higher marginal level, the size of the reported largest estates does shrink, relative to national wealth. This response could occur because those anticipating being hit by the estate tax are spending more money and effort to avoid the estate tax and having some success. Or, it

estates and of ascribing causality to an observed association.

When they analyze individual tax returns, though, the authors conclude that estate taxes do have a negative impact on the accumulation of wealth. An estate tax rate of 50 percent (just below the current top rate) is associated with a reduction in the reported net worth of the richest half percent of the population of 10.5 percent when its effect is fully realized many years later, they calculate. It is not possible to say how much of this is due to increased avoidance and how much to reduced wealth accumulation. However, the fact that the reported estate is most strongly associated with the tax rate in effect during the decedent's prime working years suggests that some impact on wealth accumulation exists.

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## What Drives R and D Productivity?

In recent years, both economists and policymakers have focused increased attention on the role that R and D plays in promoting economic growth. Despite the fact that R and D activities exist in many countries, only a handful of nations consistently create leading edge technologies, from communication advances to biomedical revolutions. American scientists, engineers, and other highly skilled professionals are tops in generating "new-to-the-world" technologies; only Switzerland had a per capita patenting rate comparable to the United States in the 1970s and 1980s. However, Japan, Germany, and Sweden did join the top tier in the 1980s.

Why do some nations excel at technological breakthroughs while others lag behind? Put somewhat differently, why does location matter for innovation when ideas easily cross borders, because of global communications networks, relatively open capital markets, and consistently increasing international trade in goods and services? The answers are more than intellectually intriguing. Governments and policymakers are concerned about which resources and policies are likely to be effective in improving their science and technology infrastructures. A better grasp of the complex links between broad public policies and a nation's ability to produce genuine high-tech innovations could lead to more effective strategies for improving economic growth.

These are the ambitious issues motivating **The Determinants of National Innovative Capacity** (NBER Working Paper No. 7876) by **Scott Stern\***, **Michael Porter\*\***, and **Jeffrey Furman\*\*\***, which evaluates the factors driving variation in R and D productivity among a sample of 17 OECD countries between 1973 and 1996. The key concept framing their analysis is "national innovative capacity," defined by the authors as "the ability of a country — as both a political and economic entity — to produce and commercialize a flow of innovative technology over the long term."

The national innovative capacity concept is built on three distinct scholarly strands. First are the theories of ideas-driven growth, closely associated with the work of Paul Romer. Then there are the microeconomic models of national competitive advantage based on an understanding of industry clusters, a research agenda largely identified with Porter. Finally, the authors draw upon the rich national innovation systems literature among whose most notable authors is Richard Nelson. The national innovative capacity framework highlights three factors that drive a nation's ability to innovate at the world's technological frontier: 1) a common innovation infrastructure, which includes support for basic research and higher education, as well as a country's cumulative stock of technological knowledge; 2) the extent to which the conditions of a nation's industry clusters promote innovation-based competition; and, 3) linkages between the common innovation infrastructure and the industry clusters that allow the resources broadly available for innovation in the economy to flow to their most competitive use. "The productiv-

protection and openness to international trade, and factors describing the composition of R and D effort in the economy, such as the share of research *performed* by the academic sector and the share *funded* by the private sector. In expanding their analysis to examine the relationship between innovativeness and competitiveness, the authors find that a country's level of national innovative capacity also has a substantial impact on commercial success in high-tech markets at home and abroad.

The authors document a striking convergence in innovative capacity among the OECD countries over the past two decades. Whereas the United States and Switzerland had been the world leaders with respect to R and D productivity in the mid-1970s, Japan, Germany, and Sweden have become their peers in the innovation marketplace. The second tier of innovator nations also has expanded with Denmark, Finland, and other countries making genuine strides in improving their commercial exploitation of frontier technologies. The trend toward convergence also may reflect a lessening of America's traditional domi-

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ity of a strong national innovation infrastructure is higher when specific mechanisms or institutions, such as a strong domestic university system and funding mechanisms for new ventures, migrate ideas from the common infrastructure into commercial practice," write the authors.

Porter, Stern, and Furman's quantitative analysis concentrates on uncovering the relationship between international patenting (patenting by foreign countries in the United States) and the variables making up the innovative capacity framework. Their results suggest that a number of factors are especially important in determining a nation's overall level of innovative outputs, including national policies, such as international patent

nance. Since the passing of the Cold War, the United States has been increasing its investments in its national innovation infrastructure at a lower rate. Consequently, the authors speculate, as a wider set of countries continue to invest substantial resources in national innovative capacity, we may see that the commercial development of emerging technologies becomes less geographically concentrated in the next few decades than it was in the 50 years of the post-World War II era.

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## The Tax Code Affects the International Location of Assets Held in U.S. Financial Services Firms

Until 1986 U.S. companies were allowed to defer U.S. taxes on active income earned in overseas subsidiaries until that income was repatriated to the parent corporation. The Tax Reform Act of 1986 (TRA'86) eliminated that deferral for active income earned in overseas financial subsidiaries, thereby subjecting financial services firms to harsher tax treatment than manufacturing firms. In **The Effect of the Tax Reform Act of 1986 on the Location of Assets in Financial Services Firms** (NBER Working Paper No. 7903), authors **Rosanne Altshuler** and **R. Glenn Hubbard\*** ask whether this change in the tax law affected the location of assets held in these firms. They find that before TRA'86, the location of assets held in financial subsidiaries was quite responsive to differences in host country tax rates across jurisdictions. After the tax changes went into effect, however, that responsiveness disappeared – differences in host country tax rates ceased to explain the distribution of assets held in financial services subsidiaries abroad.

Prior to the Revenue Act of 1962, U.S. multinational corporations were allowed to defer U.S. taxes on virtually all classes of foreign income generated in subsidiaries abroad. That legislation created the “anti-deferral” rules contained in Subpart F of the Tax Code. These rules impose accrual taxation on

certain passive foreign income to reduce tax avoidance by multinational firms. The availability of deferral had made it attractive for firms to locate foreign subsidiaries in low-tax countries. Firms were able to avoid indefinitely the higher U.S. taxes on international income by retaining it abroad in low-tax countries.

Changes made in 1986 to the “anti-deferral” laws essentially eliminated

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deferral on active financial services income. These rule changes were not applied to other forms of active income (for example, manufacturing income), however. As a result, TRA'86 created an environment in which the tax incentive to locate operations in low-tax jurisdictions depends on the type of income the subsidiary is expected to generate. After TRA'86, there is still a tax advantage to locating manufacturing operations in low-tax countries since these operations generate active income that still enjoys deferral. However, this tax incentive was greatly diminished for subsidiaries that generate relatively large amounts of active financial services income.

For the financial services industry, the changes embedded in TRA'86 moved the U.S. tax system closer to one in which “capital export neutral-

ity” is preserved for investments in low-tax countries. Capital export neutrality holds when investors pay the same level of taxes on investment projects regardless of where they are undertaken.

Using data from the tax returns of U.S. multinational corporations for 1984, 1992, and 1994, Altshuler and Hubbard examine how host country taxes affect the allocation of assets held

abroad by financial services firms before and after the Act. In order to isolate the impact of the tax policy changes, the authors compare their results to numbers for the manufacturing industry, which was not affected by the same law changes. They find that companies no longer appear to base their location decisions concerning the assets of financial services subsidiaries on the tax rate of foreign countries.

Altshuler and Hubbard also note that an important open question is the extent to which TRA'86 hampered the competitiveness of U.S. financial service firms who must compete for international market share with subsidiaries of firms from countries in which foreign-source income is exempt from taxation.

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## Building Schools Can Increase Wages in Emerging Market Countries

NBER Faculty Research Fellow **Esther Duflo\*** uses a major shift in education policy in Indonesia to test the premise that spending more money on infrastructure can in fact increase human capital and reduce poverty. In **Schooling and Labor Market Consequences of School Construction in Indonesia: Evidence from an Unusual Policy Experiment** (NBER Working Paper No. 7860), Duflo concludes that the

Indonesian government's 1973 decision to use part of its oil revenues to build more schools led to significant improvements in education and wages for the generations who benefitted from this new policy.

Duflo points out that when one studies the impact of infrastructure on schooling outcomes, it is often difficult to distinguish between the effects of the school themselves and that of the factors which led to the construction of those schools. If children are better educated in regions which invest more

in schools, is it because the investment is profitable or because communities where parents and children value education invest more in schools? Conversely, if children are less educated in regions where there is more investment in schools, is it because schools are harmful or because communities or the government invest more where children are lagging behind?

In 1973, the Indonesian government launched a major school construction program in which more than 61,000

primary schools were built over five years. This was the fastest primary school expansion ever undertaken. It was a radical turnaround in the government's thinking about education, since no investment had been made in the late 1960s. The government also decided to build more schools in regions where primary school enrollments were particularly low.

Duflo finds that the policy initiative was effective in increasing education and encouraged a significant propor-

"Each school built for every 100 children led to an average increase of 0.12 years of education and 1.5 percent in wages."

tion of the population to complete more years of primary school. Those who had already left school when the program was launched (those aged 12 or older in 1974) had completed fewer years of education in regions where more schools were built (this reflects the government's policy of building more schools where education level where low to start with). However those who were young enough to attend the newly built schools took advantage of the opportunity: the education levels rose faster over time in regions where more schools were built.

While the quantity of education certainly increased in the Indonesian

experiment, the quality could have suffered. To assess this, Duflo looks at the impact of this program on the most direct measure of productivity: wages. In 1995, those who attended the new schools as children were in the labor market. She finds that the gain in the hourly wage of those who were young enough to attend a new school, relative to the older generations, is larger as the number of schools that were built in their region of birth increases. She calculates that each school built for

every 100 children led to an average increase of 0.12 years of education and 1.5 percent in wages. Combining the two results suggests that an additional year in school increases one's wage by about 7 percent. Duflo finds no direct evidence of any deterioration in the quality of education. "But even if it has, the effect on wages shows that this decline was not sufficient to offset the impact of the increase in quantity," she concludes.

Perhaps the greatest insight into the Indonesian policy experiment comes when Duflo compares the cost of building schools to the benefits from higher wages. She warns that this type

of analysis requires additional assumptions and should be treated cautiously. Nevertheless, she finds that the cost of the program was smaller than the gains from higher wages for those exposed to new schools.

The cost of the program was large from the outset: 61,000 schools were built at a total of \$5 billion in 1990 dollars; just for the construction phase between 1973 and 1979, it amounted to 2 percent of Indonesia's GDP in 1973. Still, even though a school construction program takes a long time to generate positive returns because the costs are upfront and benefits are spread over an individual's life, "The evidence [...] suggests," Duflo writes, "that the program was a profitable investment, with an internal rate of return substantially higher than the average interest rate on government debt in Indonesia over the period."

Duflo adds that the benefits might be even larger once additional factors such as health, fertility and child health are taken into account. She suggests that further research into this area might shed light on the broader social impact of increased spending on education infrastructure in the developing world.

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