

## IN THIS ISSUE

- High Income Taxes Inhibit the Growth of Small Firms
- Tax Rules Raise Firm Health Benefits
- Peer Effects in the Classroom
- More Working Hours Raise Future Earnings

## High Income Taxes Inhibit the Growth of Small Firms

It is a common belief among entrepreneurs and policymakers that the tax system is an obstacle to the establishment and growth of small businesses. To date, however, there has been little hard evidence to support this notion. In **Personal Income Taxes and the Growth of Small Firms** (NBER Working Paper No. 7980), authors **Robert Carroll, Douglas Holtz-Eakin\*, Mark Rider, and Harvey Rosen\*\*** use tax return data surrounding the Tax Reform Act of 1986 to determine how reductions in marginal tax rates affect the growth of sole proprietors' firms. They find that income taxes exert a significant influence on firm growth rates. For example, cutting a sole proprietor's marginal tax rate from 50 percent to 33 percent would on average increase the size of his or her business (measured by receipts) by about 28 percent.

The authors base their conclusion on the analysis of thousands of income tax returns filed by sole proprietors in 1985 and in 1988. These years bracket the Tax Reform Act of 1986, which cut the top marginal tax rate from 50 per-

cent to 33 percent. The Tax Reform, in effect, serves as a natural experiment that can be used to assess the impact of tax rate changes on entrepreneurial enterprises. The sole proprietors who

taxes on survivorship rates, they find that tax rates do not greatly affect survivorship probabilities.

However, even after controlling for differences in survivorship rates

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are the objects of this study constitute an important component of entrepreneurial economic activity. In 1985, non-farm sole proprietors had gross receipts equal to approximately 20 percent of the \$2,769.9 billion in domestic business income. The sample used in this study represents almost 90 percent of that total.

An important issue is that not all the businesses in 1985 survived until 1988. Indeed, failure rates of small businesses are notoriously high. The authors study the effect of taxes on exit rates from entrepreneurship, as well the growth rates of the firms that survive. Looking first at the impact of

among different types of entrepreneurs, the authors find that the greater the decrease in the sole proprietor's marginal tax rate between 1985 and 1988, the greater the increase in the size of his or her business. Further, the size and character of the tax effects are not markedly correlated with the entrepreneur's personal profile or the industry in which the entrepreneur operates. In short, the growth-inhibiting effect of taxes on sole proprietorships is a general and pervasive phenomenon.

— Matt Nesvisky

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## Tax Rules Raise Firm Health Benefits

When a business provides its employees with health insurance, that benefit is not subject to either individual income tax, or to the payroll tax that finances the Social Security and Medicare programs. This “tax subsidy” benefits both the company and its employees. So, what would firms do if it were to disappear or diminish in size? Would there be a reduction in employee-provided health insurance coverage and spending? In **How Elastic is the Firm’s Demand for Health Insurance?** (NBER Working Paper No. 8021), NBER Research Associate **Jonathan Gruber\*** and his coauthor **Michael Lettau** conclude that firms indeed are fairly responsive to changes in the tax subsidy given to health insurance.

The subsidy is large, costing the federal, state, and local governments more than \$100 billion in lost revenues. Individuals who buy their health insurance directly do not benefit from the subsidy and thus, in effect, pay more. The tax subsidy is also regressive, providing the largest tax break for the most well off employees. And, the subsidy may be leading to “over-insurance” and perhaps to cost inflation in the health sector. At the same time, removing all or part of this subsidy could lead to large reductions in insurance coverage.

Gruber and Lettau assess the impact of the tax subsidy on firms’ insurance decisions by comparing firm insurance-offering rates and spending levels to the tax subsidies to insurance for that firm’s workers. They use a unique dataset, the Employee Compensation Index (ECI) data collected by the Bureau of Labor Statistics (BLS). These data present information on both firms and a representative sample of workers within those firms. Using these ECI data

from 1983 to 1995, the authors compute the tax subsidy to insurance for the median worker in each firm in each year. This tax subsidy varies significantly across workers of different income levels, over time, and across states, allowing the authors to assess how the subsidy affects firm behavior.

Gruber and Lettau find that firms are fairly sensitive to tax subsidies in their decisions to offer insurance. In particular, for each 10 percent rise in the tax subsidy to insurance for the firm’s median worker, the rate of insurance offering rises by about 3 percent. The responsiveness of small

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“For firms with fewer than 100 employees, each 10 percent rise in the subsidy raises health insurance spending levels by almost 7 percent.”

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firms in their offering decisions is particularly large; for firms with fewer than 100 employees, each 10 percent rise in the subsidy leads to a rise in offering rates of 6 percent. And, such firms are much more responsive in their spending decisions to tax subsidies: each 10 percent rise in the subsidy raises health insurance spending levels by almost 7 percent.

The authors also use their data on the distribution of workers within the firm to ask: which workers’ preferences appear to be relevant to firm decisionmaking? Do firms pay attention just to their most highly compensated workers, who have the largest tax subsidies? Or does the “typical” worker have the largest vote? The authors conclude that the right answer is some mix of these two views: firms’ insurance decisions are influenced jointly by the tax price of the worker with the median wages in the firm, and by the tax price of the highest paid workers.

The implications of these findings are that tax reforms can have major

impacts on employer-provided insurance. For example, a radical reform that included health insurance spending by firms in both the state and federal income tax base (but continued to exclude that spending from the payroll tax base) would eliminate 60 percent of the existing subsidy to employer-provided insurance. Such a change would lead to 10–19 percent fewer firms offering insurance, and a reduction in insurance spending among those offering insurance of 20–28 percent. Assuming that those firms that stopped offering insurance were spending the average amount, the total spending per individual on

insurance would decline by 30–42 percent, or \$760–\$1080.

Such a decline would mean that 16–29 million people would lose their employer-provided coverage. That amounts to 36–66 percent of the size of the current pool of uninsured Americans. Of course, not all of these individuals would become uninsured; some would seek coverage from other sources. But the net result could be a large rise in the number of persons without access to health insurance.

Should income tax rates be cut 10 percent, which is comparable to the proposal of President Bush, the insurance tax price would rise 3.4 percent. Firms would reduce their offerings of insurance by 1.1–1.9 percent, and spend 3.3–4.7 percent less. “Thus, even this very modest tax reform could have a non-trivial impact on the spending of employers on health insurance in the U.S.,” Gruber and Lettau note.

— David R. Francis

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## Peer Effects in the Classroom

How can advanced economies get the biggest increase in human capital for their education dollar? That is, how productive are their investments in education? In answering these questions, one tricky problem is “peer effects”: students are “good” peers if they produce positive learning spillovers, so that students exposed to them gain more for each dollar spent on their education, or “bad” peers if they have the reverse effect.

It is hard to know whether such peer effects exist, but if they do, they are crucial to current debates on which policies maximize the productivity of a country’s education spending. The United States is debating school choice; European countries are discussing whether to eliminate ability tracks from their education systems; Latin American countries are debating whether to devolve control and funding of education to localities. Many arguments against school choice, decentralized funding, and ability tracking rest on the belief that peer effects are important and have a particular asymmetry: that is, bad peers gain more by being exposed to good peers than good peers lose by being exposed to bad peers. If this asymmetry is strong, then investments in human capital are maximized when students are *forced* to attend schools with a broad array of abilities and backgrounds. Such coercion is obviously impossible with ability tracking and can be hard to achieve with choice or local funding.

In **Peer Effects in the Classroom: Learning From Gender and Race Variation** (NBER Working Paper No. 7867), **NBER Research Associate Caroline Hoxby** tries to determine whether peer effects exist and, if they do, what form they take. She begins by noting that true peer effects are hard to measure. Parents who provide home environments that are good for learning tend to select the same schools. Even within a school, interested parents lobby to have their children assigned to particular teachers. Thus, if high achievers tend to be clumped in some classrooms and low achievers in other classrooms, we should not assume that

the achievement differences are caused by peer effects. Most of the differences are probably due to parents, who would influence their children a lot even if they could not get them in classrooms with particular groups of peers.

It is not just parents’ activities that make peer effects hard to measure, though; it is also schools’ activities. Students with similar abilities may be

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“Students who are exposed to unusually low achieving cohorts tend to score lower themselves.”

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assigned to the same classroom in order to make it easier to teach. Teachers with a knack for handling the unruly students may have classes full of them. Thus, classroom achievement could differ because the initial student composition differs, not because peers influence one another.

To identify true peer effects, Hoxby compares groups within a given school that differ randomly in peer composition. To illustrate: suppose that a family shows up for kindergarten with their older son and finds that, simply because of random variation in local births, that son’s cohort is 80 percent female. The next year, they show up with their younger son and find that, also because of random variation, that son’s cohort is 30 percent female. Their two sons now will go through elementary school consistently experiencing classrooms that have different peer composition on average. Their older son will be exposed to more female students (who tend to be higher achievers and less disruptive in elementary school). Their younger son will be exposed to more male students. Because the two boys have the same parents and the same school, the main difference in their experience will be peers. If it turns out that male students systematically do better (or worse) when exposed to more female students, then that difference must be attributable to peer effects.

Hoxby also compares school cohorts that differ in racial composition or initial achievement, rather than in gender composition. She uses data from the entire population of elementary students in Texas from 1990 to

1999 (the Texas Schools Microdata Sample). Her measure of achievement is a student’s score on the Texas Assessment of Academic Skills, which is administered in all Texas public schools.

Hoxby finds that peer effects do exist. For instance, having a more female peer group raises both male and female scores in reading and

math. Only some of the “good” peer effect of females can be direct learning spillovers: females do not know math better than males on average, although they are better readers. The fact that females raise *math* scores thus must be due to phenomena more general than direct learning spillovers — for instance, females’ lower tendency to disrupt.

In Texas, black and Hispanic students tend to enter school with lower initial achievement. Does this matter? Hoxby finds that students who are exposed to unusually low achieving cohorts tend to score lower themselves. Interestingly enough, black students appear to be particularly affected by the achievement of other black students. Hispanic students appear to be particularly affected by the achievement of other Hispanic students and to do better when in majority Hispanic cohorts. It may be that in classes with more Hispanics, a student who is learning English is more likely to find a bilingual student who helps him out.

Hoxby finds little evidence of a *general* asymmetry, though, such as low achievers gaining more by being with high achievers and high achievers losing by being with low achievers. After taking steps to eliminate changes in achievement that could be caused by general time trends or unusual events — such as the appearance of an especially good teacher in one school — Hoxby concludes that, on average, a student’s own test score rises by 0.10 to 0.55 points when he or she is surrounded by peers who score one point higher.

— Linda Gorman

## More Working Hours Raise Future Earnings

Europeans generally view Americans as far too obsessed with putting in hours at the office. A popular past-time among Europeans is making disapproving comments about how their American counterparts seem to be all work and no play. But while there is a tendency to view this as a cultural difference — that somehow people in the United States simply *prefer* a long workday to leisure

ferences between economies with very different levels of dispersion of earnings,” the authors conclude. In other words, compared to Germany, wages in the United States —and future earning potential as well—are determined in much more strict accordance with hours worked.

To illustrate their findings, Bell and Freeman offer the examples of two hypothetical workers, Hans and Hank. Hans works in Germany where pay differences among firms are minimal,

United States working more hours is not just important to one’s immediate salary, but has a substantial effect on future earning potential as well. They find that an American working 2,000 hours per year who increases that by 10 percent, to 2,200 hours, can generally expect a “1 percent increase in future wages.” They contrast that to estimates that a year of full-time schooling—that is about 1000 hours of study—increases earnings by about 5 percent.

“In the United States working more hours is not just important to one’s immediate salary, but has a substantial effect on future earning potential as well.”

This very pronounced cause-and-effect relationship between hours and earnings renders less puzzling a 1997 survey reported by Bell and Freeman which found “more Americans than Germans” seeking to work additional hours “despite the fact that Americans were already working longer hours per week.” But Bell and Freeman see their analysis as having implications beyond offering a rational basis for the ever lengthening American workday. For example, they point out that if wage inequality is bound to “hours worked, it will not be possible for European Union countries to increase the dispersion of wages toward American levels without giving up their relatively low hours worked; nor for Americans to reduce their ‘workaholic’ behavior without first narrowing the distribution of earnings.”

— Matthew Davis

time — the evidence points to a decidedly dollars-and-cents explanation. The United States is a country with relatively high wage inequality — one that is tied to a reward system in which pay increases and, more fundamentally, an individual’s living standards are directly related to a willingness to work more hours. That’s the central finding of authors **Linda Bell\*** and **Richard Freeman\*\*** in **The Incentive for Working Hard: Explaining Hours Worked Differences in the U.S. and Germany** (NBER Working Paper No. 8051).

“Put simply, our analysis suggests that the lower hours worked in Germany than in the U.S. is not an isolated fact about German and U.S. behavior, but rather is part of the dif-

ference between economies with very different levels of dispersion of earnings,” the authors conclude. In other words, compared to Germany, wages in the United States —and future earning potential as well—are determined in much more strict accordance with hours worked.

To illustrate their findings, Bell and Freeman offer the examples of two hypothetical workers, Hans and Hank. Hans works in Germany where pay differences among firms are minimal, he may not be promoted or given a pay increase, but this will not greatly affect his living standard,” the authors observe. “If Hank doesn’t put in the hours and effort, he may lose his job or fall in a very wide wage distribution. But if he works hard he may be rewarded by great increases in pay. So Hank works more hours than Hans does.”

Bell and Freeman note that in the

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