

IN THIS ISSUE

- Medicaid and the Long-Term Care Insurance Market
- The Work Effects of Tax Cuts on Low Income Single Mothers
- Dynamic Scoring: A Back-of-the-Envelope Guide
- Financial Development Helps the Poor in Poor Countries
- Trade Openness Reduces Financial Vulnerability
- Alcohol Policies and Sexually Transmitted Disease Among Youth

Medicaid and the Long-Term Care Insurance Market

Most health insurance in the United States is provided through a mix of public and private sources. Often the public insurance — although heavily subsidized from the individual's perspective — offers only limited protection. This holds true in many other countries as well, where public insurance against risks such as longevity and high medical expenditures usually provides only partial coverage.

In *The Interaction of Public and Private Insurance: Medicaid and the Long-Term Care Insurance Market* (NBER Working Paper No. 10989), authors **Jeffrey Brown** and **Amy Finkelstein** examine the relationship between public and private insurance for one of the largest uninsured financial risks facing the elderly in the United States today: long-term care expenditures. At \$135 billion annually, long-term care expenditures represent over 8.5 percent of total health expenditures for all ages, or roughly 1.2 percent of GDP. Real expenditures for long-term care are projected to triple over the next 35 years because of rising medical costs and the aging of the baby boomers. Private insurance reimburses only 4 percent of long-term care expenditures, while about one-third of expenditures are paid for out-of-pocket. To put this in perspective, for the health sector as a whole, private insurance pays for 35 percent of expenditures, and only 17 percent are paid for out of pocket.

The authors investigate how Medicaid affects the demand for private long-term care insurance by

estimating a risk-averse individual's willingness to pay for a long-term care insurance contract; they use detailed actuarial data on the risk of long-term care expenditures, information on the current structure of the public Medicaid program, and the characteristics of existing private insurance policies. Their results are broadly consistent with the patterns observed in survey data, in terms of the limited fraction of the elderly who buy insurance, and the patterns of coverage by gender and by wealth.

Brown and Finkelstein report three main findings. First, the presence of Medicaid is sufficient to explain why at least two-thirds of all households would prefer not to purchase private long-term care insurance, even if there were no

for most individuals go to pay for benefits that are redundant given what Medicaid would have paid if the individual had not bought private insurance. The authors refer to this as the "implicit tax" that Medicaid imposes on private insurance, which they estimate to be quite large. For example, for the median male (female), Medicaid imposes an implicit tax rate of about 60 (75) percent. The authors suggest that recent state and federal reforms designed to stimulate demand for private insurance are unlikely to have much impact because they fail to adequately reduce this implicit tax.

Third, since Medicaid itself provides far from comprehensive insurance, reliance on public insurance alone leaves most individuals exposed to substantial out-of-pocket

"The presence of Medicaid is sufficient to explain why at least two-thirds of all households would prefer not to purchase private long-term care insurance."

other factors limiting the size of the market. One important implication of this finding is that, absent changes to the Medicaid program, correcting whatever market failures may exist in the private long-term care insurance market is unlikely to substantially increase private insurance coverage.

Second, the authors demonstrate that Medicaid's large crowd-out effect stems from the fact that — because of its design (specifically, means testing and its status as a secondary payer) — a large portion of the premiums for private insurance

expenditure risk. For a median male (female), for example, the authors find that Medicaid leaves approximately 40 (30) percent of expected long-term care expenditures uninsured. This indicates that a public insurance system can substantially crowd out private insurance, even when the public insurance itself only provides limited coverage against risk exposure. As a result, public provision of insurance has the potential to reduce total insurance coverage and thus to increase overall risk exposure.

— Les Picker

The Work Effects of Tax Cuts on Low-Income Single Mothers

Reducing taxes on low-income single mothers can have an especially favorable effect: some of these women will leave welfare and get paid employment. In **Evaluation of Four Tax Reforms in the United States: Labor Supply and Welfare Effects for Single Mothers** (NBER Working Paper No. 10935), coauthors **Nada Eissa, Henrik Kleven, and Claus Kreiner** look at the tax acts of 1986, 1990, 1993, and 2001 and find that each added to the economic well-being of the nation. Each reform reduced taxes owed by single mothers, thereby shrinking government revenues but also providing an incentive for them to substitute work for welfare payments.

The authors note that the tax reforms had much less of an impact on the number of hours worked by single mothers, even though the financial incentives were sizable, than on their decisions to work. After the 1993 tax reform under President Clinton, single mothers worked fewer hours per year, but this decline was overwhelmed by a solid increase in low-income mothers going to work. The authors argue that these work patterns may be explained by fixed costs of work, such as childcare, transportation, and time lost in commuting to, preparing for, or recovering from work.

The Tax Reform Act of 1986 represented the most fundamental change in the income tax system in nearly 40 years. It not only changed the income tax rate schedule, but also broadened the so-called “tax base” by eliminating or shrinking many tax deductions and other tax breaks. It lowered the marginal tax rate for lower-income taxpayers, and increased their personal exemptions and standard deductions. Further, it expanded the Earned Income Tax Credit (EITC), which provides special tax benefits to the

working poor. By now, the EITC has evolved into the single largest cash transfer program for lower-income families at the federal level. In fact, almost two-thirds of single low-income mothers face no tax burden on their income from work.

Looking at the 1986 tax reform, the tax burden on poor working mothers fell 7.94 percent. But for every tax dollar lost or every extra dollar in EITC payments, the real income gain (dollars added to the pockets of these mothers and thus to the nation’s income) amounted to \$9.38. In the later tax episodes, the gain per dollar spent was somewhat smaller, mainly because the 1986 reform had already reduced the inefficiencies substantially. Nonetheless, the tax cut of 2001 under the Bush Administration did provide a substantial gain of \$1.69 for every tax dollar spent. For all four reforms

this taxpayer would have paid payroll taxes for Social Security and Medicare of 7.65 percent on her first dollar of earnings. And, she would be eligible for the EITC. To be eligible for the EITC, her Adjusted Gross Income (AGI) must fall below some limit (\$33,692 if she has more than one child). The size of the credit depends on the amount of earned income and the number of qualifying children. The credit is refundable if the head of household has no federal tax liability.

Twenty years earlier, the authors add, this taxpayer would have faced a very different tax scheme, with a much smaller EITC and 15 income tax brackets — ranging from zero to 50 percent. For female household heads, the changes in the EITC since then have played a central role in improving their income position.

In their analysis, the authors

“After the 1993 tax reform under President Clinton, single mothers worked fewer hours per year, but this decline was overwhelmed by a solid increase in low-income mothers going to work.”

considered, most of the gains were created by more women going to work, rather than by changes in the number of hours worked by those already working.

By 2004, a worker filing a head-of-household tax return faced a federal income tax schedule with six tax brackets, and rates ranging from 10 to 35 percent. Earnings would be shielded from taxes by the standard deduction (\$7,150) and by the personal exemption (\$3,100 per person). If the taxpayer had two children, she would pay 10 percent in federal income taxes only on earnings above \$16,450. She would face either no state income tax (in Florida or Texas) or as much as a 5 percent state income tax (in Massachusetts or Oregon).

Additionally, the authors note,

make use of March Current Population Surveys by the Census Bureau involving the tax years 1985, 1990, 1993, and 2000. Their sample includes unmarried females (widowed, divorced, and never-married) who are between 18 and 49 and have children. The sample size boiled down to a range of 4,000 to 5,000 individuals across the years.

The authors’ computation of individual, effective tax rates include federal, state, and payroll taxes, as well as cash assistance, food stamps, and Medicaid. Between 1985 and 2000, for these single mothers the average marginal tax rate, taking account of changes in benefits, drops from 57 percent to 32 percent.

— David R. Francis

Dynamic Scoring: A Back-of-the-Envelope Guide

Do tax cuts pay for themselves? To a substantial extent, yes, **N. Gregory Mankiw** and **Matthew Weinzierl** conclude in their study, **Dynamic Scoring: A-Back-of-the-Envelope Guide** (NBER Working Paper No. 11000).

Mankiw and Weinzierl note that when the staffs of the Treasury Department or Congressional committees estimate the revenue cost of tax cuts, they traditionally adopt a process known as static scoring. That is, they assume no feedback from tax changes to national income. By contrast, some observers have suggested that tax cuts can generate so much economic growth that they may more than pay for themselves. Most economists are doubtful about either such extreme. The consensus view is that tax cuts indeed influence national income, but not to the extent that they are fully self-financing.

In 2002 Congress undertook the difficult task of “dynamic scoring” of tax policy. This means developing a set of economic models that can be used to estimate the true revenue effect of tax proposals, including the feedback effects of taxes on national income. This task is challenging, because there is little agreement among professional economists about how best to model long-run economic growth and the impact of taxes on the economy.

Mankiw and Weinzierl consider the problem in light of a particular theory of economic growth, called the neoclassical growth model. This theory is the most widely taught model of capital accumula-

tion and long-run growth, as well as a popular tool in scholarly literature in public finance. In this paper, they use the model to show how changes in taxes on capital and labor income affect national income and tax revenue. The model yields simple formulas for how the true dynamic estimates of these revenue effects differ from the traditionally used static estimates. These formulas in turn allow for some illuminating back-of-the-envelope calculations.

The authors begin with the simplest version of the neoclassical

approximately describe the U.S. economy. They find that, in the long run, about 17 percent of a cut in labor taxes is recouped through higher economic growth. The comparable figure for a cut in capital taxes is about 50 percent. This means that the true revenue cost of a cut in capital taxes is only half of the cost estimated with static scoring.

These results depend on a number of key assumptions, which are open to debate. Mankiw and Weinzierl acknowledge that current studies do not afford clear guidance

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growth model, but they also consider various generalizations of the model to see which conclusions are robust. One generalization of the model includes an elastic supply of labor, so that hours worked can respond to economic incentives. Mankiw and Weinzierl find that regardless of labor supply elasticity, if capital and labor tax rates start off at the same level, cuts in capital taxes have greater feedback effects in the long run than do cuts in labor taxes.

According to the researchers, the neoclassical growth model and all of its variants indicate that the dynamic response of the economy to tax changes is substantial. In almost all instances, they find, tax cuts are at least partly self-financing. The authors conduct some simple calculations, plugging in numbers that

about how best to apply the neoclassical growth model to the actual economy. Economists will need to focus next on evaluating which generalizations of the basic model are the most salient and then on estimating the key parameters. This task, the researchers say, is urgent. In 2003, Congress adopted a rule that requires the Joint Committee on Taxation to analyze the macroeconomic impact of any major tax cut bill before the House votes on such legislation. “One conclusion is impossible to escape,” say Mankiw and Weinzierl. “Difficult as it may be, the subject of dynamic scoring should remain a high priority for those economists advising lawmakers on issues of tax policy.”

— Matt Nesvisky

Financial Development Helps the Poor in Poor Countries

For decades, politicians and economists have puzzled over how to alleviate severe poverty in the world more quickly. More than half of the world's inhabitants, 2.7 billion people, lived on less than \$2 a day in 2001, and 1.1 billion lived on less than \$1 a day.

One way to help, economists **Thorsten Beck, Asli Demirgüç-Kunt, and Ross Levine** find, would be to encourage financial development in poorer nations. Their research, outlined in **Finance, Inequality, and Poverty: Cross Country Evidence** (NBER Working Paper No. 10979), indicates that increased financial development in a poor country induces the incomes of the poorest people in that nation to grow faster than the average per capita gross domestic product (GDP) — that is, the nation's output of goods and services divided by its population. In turn, income inequality falls more rapidly, and poverty rates decrease at a faster rate, than would otherwise be the case.

For example, consider Brazil: the average income of the poor in Brazil would have grown at more than 1.5 percent per year instead of not at all from 1960-99 if Brazil had the same level of financial intermediary development as Korea.

These research results are somewhat of a surprise. Much of the economic literature finds that financial development produces faster economic growth, but it has been unclear whether it also shrinks poverty. Researchers have not determined whether financial development benefits the whole population, whether it primarily benefits the rich, or whether it disproportionately helps the poor.

One theory suggests that financial market imperfections, such as inadequate information, transactions costs, and contract enforcement costs, may be especially bind-

ing on poor entrepreneurs who lack collateral, credit histories, and connections. Such credit constraints could impede the flow of capital to poor individuals with high-return projects, thereby intensifying inequality. So, more financial development reduces poverty by easing credit constraints on the poor, reduces income inequality, and improves the allocation of capital. It thereby accelerates economic growth.

Another theory, however, suggests that since the poor primarily rely on informal, family connections for capital, improvements in the formal financial sector primarily help the rich. At early stages of development, only the rich can afford to

development reduces poverty by exerting a disproportionately positive effect on the poor.

To analyze financial development, the authors measure “private credit” which is defined as the value of credit by financial intermediaries to the private sector, divided by GDP. This measure excludes credit issued by the central bank, development banks, and credit to state-owned enterprises. Thus it captures the amount of credit channeled from savers, through financial intermediaries of all sorts, to private firms.

In one example, in Chile — with a high private credit ratio of 54 percent — the percentage of the population living on less than \$1 a

“More financial development reduces poverty by easing credit constraints on the poor, reduces income inequality, and improves the allocation of capital.”

access and profit from financial markets. Thus financial development intensifies income inequality. If financial development increases average growth only by increasing the incomes of the rich, and hence increases income inequality, it may not lower poverty rates.

To assess the merits of these competing theories, the three authors analyze the impact of financial development on poverty alleviation in two ways, both involving comparisons between countries. First, they use data on the economies of 52 developing and developed nations, over the period 1960 to 1999, to test the relationship between financial development and changes in the distribution of income. Second, they use data on 58 developing countries for the period 1980 to 2000 to assess the direct relationship between financial development and poverty alleviation. Their data indicate that financial

day shrank at an annual rate of 14 percent between 1987 and 2000. By contrast, Peru — with a low private credit ratio of 13 percent — saw the number of people living on \$1-a-day increase at an annual rate of 19 percent. If Peru had had the same level of development among financial intermediaries as Chile, then the number of extremely poor people in the country would have increased at only 5 percent per year. So, the share of Peruvians living on less than \$1 would have been about 2 percent in 2000 rather than the actual 15 percent.

“Thus,” the authors note, “the impact of financial development on poverty is quite large.” It lowers income inequality and boosts growth without the potential disincentives to entrepreneurs and others resulting from policies that directly redistribute income and other resources.

— David R. Francis

Trade Openness Reduces Financial Vulnerability

Many a debate over the merits of free trade focuses on whether a country that is more exposed to international markets makes itself more vulnerable to a form of economic whiplash known as a “sudden stop.” The term refers to situations in which a country experiences an abrupt cessation of foreign investment, which can precipitate a currency crisis. Some argue that an economy deeply integrated into the global market is at high risk of suffering shocks from abroad. Others contend that free traders actually have an easier time withstanding tremors that occur in the world of international finance. Different economic studies have offered support for both points of view.

NBER Research Associate **Jeffrey Frankel** and co-author **Eduardo Cavallo** believe that these studies have failed to resolve the debate because they do not properly isolate the effect of variation in countries’ openness to trade. In **Does Openness to Trade Make Countries More Vulnerable to Sudden Stops or Less? Using Gravity to Establish Causality** (NBER Working Paper No. 10957), they find that a more comprehensive analysis of trade openness clearly shows that trade can lower one’s vulnerability to externally induced crises.

“Some may find this counterintuitive: trade protectionism does not ‘shield’ countries from the volatility of world markets as proponents might hope,” they write. “On the contrary, less trade open-

ness leads to greater vulnerability to sudden stops.”

They point out that a “conservative estimate yields a surprising result”: a country that increases the value of its trade from 20 percent of its Gross Domestic Product (GDP) to 30 percent — which in the real world would be going from Argentina’s situation to Australia’s

“Economies that trade less with other countries are more prone to sudden stops and to currency crises.”

— “reduces the probability of a sudden stop by 32 percent.”

Frankel and Cavallo note that in the past experts have examined the relationship between free trade and vulnerability to economic crises and reached conflicting conclusions. They point out that some studies “find that openness to trade is associated with fewer sudden stops” but others “find that openness helps trigger crises.”

Most of these studies, irrespective of their conclusions, identify a country as open to trade through a single measure: the value of a country’s trade expressed as a percentage of its GDP. Frankel and Cavallo point out that the ratio of a country’s trade to GDP, while a potentially good measure, can be influenced by a variety of internal factors — such as income and general policy reforms — and may not necessarily succeed in identifying greater or lesser openness to trade.

Frankel and Cavallo seek to cor-

rect for this potential misreading of trade openness by looking at a broader range of trade-related information — geographic characteristics and country sizes, which determine bilateral trade flows (a set of data technically known as the “gravity instrument”) — to confirm that a country is, in fact, correctly identified as open, or not open, to

trade. When trade is a small share of GDP in a country that is landlocked or located far from the rest of the world, for example, one can be pretty confident that its low openness is genuine, and not simply a response to past financial crises.

This more thorough examination yields what the authors believe is a strong argument in favor of free trade as a way to reduce a country’s vulnerability to economic setbacks. Frankel and Cavallo wanted to correct for any bias in previous studies that might have led to an overstating of the positive benefits of trade openness. But when they “corrected” for these potential problems, it only strengthened the argument for the insulating effect of openness and the pitfalls of protectionism. “In summary, the evidence appears to be quite robust,” they conclude. “Economies that trade less with other countries are more prone to sudden stops and to currency crises.”

— Matthew Davis

Alcohol Policies and Sexually Transmitted Disease Among Youth

Studies of teenagers suggest that heavy drinkers are more likely to be sexually active, more likely to have multiple partners, and less likely to use condoms. Because all of these

behaviors are risk factors for sexually transmitted diseases (STDs), if alcohol control policies reduce alcohol consumption and thus the drunkenness that causes youths to

engage in unsafe sex, then it is also possible that these policies will reduce the incidence of sexually transmitted disease.

In **An Investigation of the**

Effects of Alcohol Policies on Youth STDs (NBER Working Paper No. 10949), co-authors **Michael Grossman, Robert Kaestner, and Sara Markowitz** use the incidence of AIDS and gonorrhea to explore the effect of alcohol control policies on these two STDs in teenagers and young adults. After collecting data across the U.S. states for the years 1981 to 2001, and testing 6 different statistical models, they find evidence that STD rates among youth can be altered with alcohol control policies.

The highest average gonorrhea rate during the sample period was in the population of 15-19 year-old girls: 457 per 100,000. Young men aged 15-19 had the lowest reported rate: 332 per 100,000. Average AIDS rates were about 37 per 100,000 for men aged 30-34. Females ages 20-29 had the lowest incidence of AIDS, about 4 cases per 100,000. These men and women were assumed to have contracted the AIDS virus 8 years earlier on average.

Because beer is the most popular alcoholic beverage among youth, the authors use state excise

taxes on beer to represent the price of alcohol. State laws on drinking and driving changed continually during the period under observation, so the models also include indicators for the presence (or absence) of 0.08 and 0.10 blood alcohol concentration laws, and the presence (or absence) of zero tolerance laws for underage drinking and driving in each state in each period.

“A 10 percent increase in the average state excise tax on beer will reduce the gonorrhea rate by 4.4 percent for boys 15-19 and by 3.7 percent for men aged 20-24.”

Variables to control for regional religious differences, income, and education also were included.

In the short run, the estimates suggest, a 10 percent increase in the average state excise tax on beer “will reduce the gonorrhea rate by 4.4 percent for boys 15-19 and by 3.7 percent for men aged 20-24.” Zero tolerance laws, which typically set the maximum blood alcohol percentage at 0.02 for underage drinkers, also reduce gonorrhea incidence by an estimated 7 to 8

percent in 15-19 year-old boys. Other drunk-driving laws appear to have no effect. Neither does living in a dry county. The female gonorrhea rate is not affected by any of the regulatory variables the authors tested.

AIDS rates are also likely to be influenced by changes in the beer tax. The authors’ analysis predicts that a 10 percent increase in the

average state excise tax on beer will reduce AIDS rates by a range of 5.1 to 8.5 percent among young males. The magnitude of the effect falls to a range of 3.2 to 6.4 percent for older males. The opposite patterns holds for female AIDS rates, where a bigger response is expected for older females. None of the drunk driving laws is associated with decreased AIDS rates for youth of either gender.

— Linda Gorman

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