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## Public Insurance Expansions Crowd Out Private Health Insurance

The last two decades have seen large expansions in publicly funded health insurance programs in the United States. The share of people who are not elderly and who are enrolled in public insurance programs rose from 13.7 percent in 1984 to 17.8 percent in 2004. The fraction of the non-elderly without health insurance also rose, from 13.7 percent to 17.5 percent. Some researchers feel that the increase in the number of uninsured shows that program expansions have been simply overwhelmed by the rapid rise in the proportion of people who are uninsured. Others point out that the share of non-elderly people with private insurance fell from 70.1 percent to 62.4 percent during the same period. They suggest that the fall in private insurance occurred because public insurance “crowded-out” private insurance as the expansions of subsidized public programs encouraged people at the margin to switch from private arrangements to public ones.

**In Crowd-Out Ten Years Later: Have Recent Public Insurance Expansions Crowded Out Private Health Insurance?** (NBER Working Paper No. 12858), co-authors **Jonathan Gruber** and **Kosali Simon**

extend the literature on crowd-out by addressing family as well as individual eligibility and by using a variety of techniques to create robust estimates of crowd-

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out for the eligibility expansions that occurred between 1996 and 2002.

They find that there is considerable crowd-out associated with these recent expansions of public insurance. Their estimates suggest that for every 100 children who are enrolled in public insurance, 60 children lose private insurance. They also find that anti-crowd-out provisions, like waiting periods and cost-sharing, have increased crowd-out, apparently because the number of uninsured who join the program falls faster than the number of privately insured who drop coverage to sign up.

The estimates use the 1996 and 2001 panels of the Survey of Income and Program Participation (SIPP). They are based on 405,389 observations and include information on family and individual characteristics, individual and family public program eligibility by state, employ-

ment, and data on state waiting periods and cost sharing. Simple tabulations of changes in enrollment by income group suggest that crowd-out ranges from 47

to 92 percent. Estimates using regression analysis suggest that when the dependent variable is individual coverage, crowd-out is modest, from 24 to 37 percent. When a measure of family eligibility is substituted for individual eligibility, crowd-out is more substantial, ranging from 61 to 68 percent. Adding additional statistical controls to account for differences in state insurance trends increases the estimate of crowd-out to 78 percent to 81 percent.

Given that states are beginning substantial new experiments in public coverage, the authors conclude that it is important to understand the extent to which the people targeted by the expansions view publicly subsidized insurance programs as substitutes for private insurance.

— Linda Gorman

## Teacher Credentials Don't Matter for Student Achievement

Although people generally agree that teacher quality affects student achievement, there is much less agreement on how to measure teacher quality. Given the long held belief that more education produces better teachers, many American school districts pay teachers with master's degrees substantially more, even though a number of studies—including this one—suggest that having a master's degree has little if any effect on student achievement.

In **How and Why Do Teacher Credentials Matter for Student Achievement?** (NBER Working Paper No. 12828), co-authors **Charles Clotfelter, Helen Ladd, and Jacob Vigdor** study the effect of teacher credentialing on student achievement using data on 75 percent of all children in North Carolina in grades 3, 4, and 5 from 1994 to 2003. Their results show that having a graduate degree has little effect on student achievement. Teachers who entered teaching with a master's degree, or who earned it within five years of beginning to teach, were as effective as teachers without a master's degree. Teachers who earned a master's degree more than five years after they started teaching were less effective than those without master's degrees.

As in previous studies, the authors find here that teachers with more experience are better teachers. This is the case even after accounting for the fact that the teachers who remain teachers may, on average, be less effective than those who leave. The benefit of experience peaks at 21–27 years of teaching and adds 0.092 to 0.119 standard deviations to student achievement scores. More than half of that gain occurs during the first years of teaching. Teachers who come from competitive undergraduate institutions are somewhat more effective than those who come

from uncompetitive colleges or universities, the researchers find.

By comparison, increasing class size by five students reduces math achievement by 0.015 to 0.025 standard deviations, and reading achieve-

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ment by 0.010 to 0.020 standard deviations. Having a parent with only a high school degree decreases math scores by about 0.11 standard deviations relative to having a parent who has a college degree. Having a parent who is a high school dropout reduces achievement by another 0.11 standard deviations. The effects for reading are slightly larger than for math.

Overall, the authors find that having a math teacher with low scores on the licensing exam, little experience, an undergraduate degree from a noncompetitive college, and an emergency license, is roughly equivalent to having poorly educated parents. This suggests that schools that put teachers with weak credentials into classrooms with educationally disadvantaged children tend to widen the already large achievement gaps associated with various socioeconomic differences.

While the effect of teacher credentials on mathematics achievement for third, fourth, and fifth graders is quite large compared to class size or parental education, the effects on reading achievement are noticeably smaller. Even highly credentialed teachers will likely not offset the effects of educationally impoverished family backgrounds on reading. In view of this, the authors conclude that a “real challenge for policymakers is to find ways to direct the teachers with

strong credentials to the students who most need them.”

The data used in this study are administrative records; they allow the researchers to link specific teachers with the reading and math per-

formance of specific children, provide substantial information on each child's socioeconomic status, and contain each child's standardized test scores. The records also identify each teacher's license type, licensing exam score, years of experience, undergraduate college or university, and advanced degrees or National Board certification.

Previous work suggests that teachers with stronger credentials tend to end up teaching students who perform better academically. This rich dataset allows the authors to correct for the possibility that, while teachers with better credentials can command better students and thus are associated with high student achievement, the better results may not stem from better teaching.

The authors focus on credentials that can be affected by policy. These include the number of years a teacher has taught, whether a teacher has a regular or an emergency license, whether the teacher has an advanced degree or National Board Certification, his score on the state's licensing exam, and the competitiveness of his undergraduate institution. A student's standardized end-of-grade test scores in reading and math are assumed to be dependent on achievement in the previous year and on student, teacher credentials, and classroom characteristics in the current year.

—Linda Gorman

## Treasury Debt and Corporate Bond Rates

In **The Demand for Treasury Debt** (NBER Working Paper No. 12881), **Arvind Krishnamurthy** and **Annette Vissing-Jorgensen** relate the yield spread between AAA-rated corporate bonds and Treasury securities to the U.S. government debt-to-GDP ratio—that is, the ratio of the face value of publicly held U.S. government debt to U.S. GDP. They find that the corporate bond spread is high when the stock of government debt is low, while the spread is low when the stock of debt is high.

The researchers believe that this negative correlation between the debt-to-GDP ratio and the corporate bond spread occurs because of variation in the “convenience yield” on Treasury securities. Investors value Treasury securities—the convenience value—beyond the securities’ cash flows. When the stock of debt is low, the marginal convenience valuation of debt is high. Investors bid up the price of Treasuries relative to other securities, such as corporate bonds, causing the yield on Treasuries to fall further below corporate bond rates, and this causes the bond spread to widen. The opposite applies when the stock of debt is high.

What are the sources of this convenience yield on Treasury securities? Studying disaggregated data from the Federal Reserve’s Flow of Funds Accounts, Krishnamurthy and Vissing-Jorgensen maintain that different groups of Treasury owners likely have different reasons for holding Treasuries. The three chief reasons are: 1) the high liquidity of Treasuries in comparison to corporate bonds; 2) neutrality, which may motivate official institutions such as U.S. Federal Reserve banks, state and local governments, and foreign central banks to hold Treasuries to avoid favoring any non-governmental borrower over another; and 3) Treasuries’ widespread reputation as

the lowest-risk interest-bearing asset.

The researchers then examine which groups of investors are the strongest drivers of the convenience value of Treasury securities, finding that Treasury demands of official institutions are the least sensi-

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tive to the corporate bond spread, while demands of long-horizon investors—such as pension plans and insurance companies—are more sensitive. Finally, they present implications of their findings for corporate bond spreads, the financing of the U.S. deficit, the riskless interest rate, and the value of aggregate liquidity.

Among their conclusions, Krishnamurthy and Vissing-Jorgensen note that investors value Treasuries, despite their relative low return, for their liquidity and convenience. They estimate that at the current level of Treasury debt-to-GDP, the convenience yield on the Treasury debt is around 0.7 percentage points. This in turn means that taxpayers benefit from being able to finance the federal debt with securities that have special benefits to investors. The implied saving is around 0.3 percent of GDP per year. In fact, the annual interest expense to taxpayers from being able to finance the current level of debt with securities that have a convenience yield is about as large as the annual benefit to taxpayers resulting from the public’s willingness to hold money at no interest.

Another implication of the results is that if foreign official investors decide to quit the U.S. Treasury market (thus selling roughly 29 percent of the debt back to U.S. investors), this would raise Treasury yields

relative to corporate bond yields. They estimate this effect to be 0.3 percentage points. Furthermore, long-term investors who are seeking to build retirement funds and who do not place much value on the liquidity of Treasuries would be bet-

ter off investing in AAA corporate bonds rather than Treasury bonds.

The finding of a convenience demand for Treasury debt furthermore suggests caution against the common practice of identifying the Treasury interest rate with asset pricing models’ riskless interest rate. This has practical implications, for example, for companies estimating their cost of capital.

Krishnamurthy and Vissing-Jorgensen summarize their findings by noting that they have shown that the demand for “convenience” provided by Treasury debt depends on the yield spread, and they provide estimates of the elasticity of demand. A hypothetical rise in the debt-to-GDP ratio from its current value of 0.38 to a new value of 0.39 will decrease the spread between corporate bond yields and Treasury bond yields between 1.5 basis points (0.015 percentage points) and 4.25 basis points. Individual groups of Treasury holders have downward sloping demand curves. Even groups with the most elastic demand curves have demand curves that are far from flat. “Our results,” the analysts say, “suggest that U.S. government debt is a special asset that offers a convenience yield to investors. Our estimates imply that the value of the liquidity provided by the current level of Treasuries is between 0.21 and 0.54 percent of GDP per year.”

—Matt Nesvisky

## Distributional Effects of Globalization in Developing Countries

One of the few uncontroversial insights of trade theory is that changes in a country's exposure to international trade, and to world markets more generally, affect the distribution of incomes within the country. Not surprisingly, the entry of many developing countries into the world market in the last three decades coincides with changes in various measures of inequality in these countries. What is more surprising is that the distributional changes went in the opposite direction from what the conventional wisdom suggests: while trade liberalization was expected to help the less skilled, who are presumed to be the relatively abundant factor in developing countries, there is overwhelming evidence that they are generally not made better off relative to workers with higher skill or education levels.

In **Distributional Effects of Globalization in Developing Countries** (NBER Working Paper No. 12885), authors **Pinelopi Koujianou Goldberg** and **Nina Pavcnik** attempt to explain this paradox. They question whether the underlying conventional wisdom is too stylized to capture the reality of the developing world and they ask whether other forces at work may have overridden the effects of globalization. They also examine the mechanisms through which globalization has affected inequality and try to determine whether general lessons can be drawn from the experience of the last three decades.

The authors' findings suggest a contemporaneous increase in various measures of globalization and inequality in most developing countries, although establishing a causal link between these

two trends has proven more challenging. However, the evidence has provided little support for the conventional wisdom that trade openness in developing countries

active demand for more educated workers within industries. In some cases, trade reforms that liberalized, in addition to goods flows, factor flows (most importantly

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would favor the less fortunate.

The authors also find little support for the premise that adjustment to changing economic conditions would occur through labor reallocation from declining to growing sectors of the economy, at least at the aggregate industry level usually considered in traditional international trade models of comparative advantage. A common finding of studies of the effects of trade reforms in developing countries is the lack (or small magnitude) of sectoral labor reallocation. In some instances, the data also suggest that the wage response to trade barrier reductions is more pronounced than the employment response.

The cumulative evidence points to constrained labor mobility as one plausible explanation for the lack of sectoral reallocation. Indeed, the strict labor market regulation that many developing countries had in place prior to the recent reforms is a potential source of labor market rigidities. The importance of these rigidities is likely to diminish in the long run, especially since many developing countries have by now significantly liberalized their labor markets.

The authors' findings highlight several globalization-based explanations for the increased rel-

capital) may have generated additional demand for skilled workers. In other instances, globalization affected not only trade in final goods, but also trade in intermediate goods that, from the developing country perspective, were skill-intensive. Even in those cases where liberalization was concentrated on final goods, the highest trade barrier reductions often were concentrated—contrary to conventional wisdom—on low-skill sectors that originally had enjoyed a higher level of protection. Technological change that favored skilled workers may have interacted with trade reforms to further depress the relative demand for low-skilled workers. Increased exposure to currency fluctuations boosted exports from developing countries in some cases and provided incentives to upgrade the product-mix of their domestic plants. These compositional changes may have fostered a quality upgrading of plants that further contributed to the widening of the wage gap between skilled and unskilled.

Overall, it appears that the particular mechanisms through which globalization affected inequality are country-, time- and case-specific; that the effects of trade liberalization need to be examined in conjunction with

other concurrent policy reforms; and that implementation details of particular policies matter. This conclusion may seem disappointing, according to the authors, as it offers no simple predictions regarding the distributional impact of globalization and hence no straightforward recipe for remedial measures to alleviate potentially adverse impacts. Yet, it is hardly surprising given the het-

erogeneity of countries, reforms, and overall globalization experience within the developing world.

Finally, the authors emphasize that most of the existing evidence refers to narrow measures of inequality such as the skill premium, or wage inequality. Broader concepts of inequality that focus on consumption and general well-being have received substantially less attention. The very scant evi-

dence that exists on these issues, however, seems to suggest that the labor market effects of globalization dominate its effects on consumption through relative price changes, so perhaps the focus on wages alone is not as limiting as one would have thought.

— Les Picker

## Who Blows the Whistle on Corporate Fraud?

The large and numerous corporate frauds that emerged in the United States at the onset of the new millennium provoked an immediate legislative response in the Sarbanes Oxley Act (SOX). This law was predicated upon the idea that the existing institutions designed to uncover fraud (for example, the auditors) had failed, and that their incentives as well as their monitoring should be increased. Yet the political imperative to act quickly prevented any empirical analysis substantiating the law's premises.

In **Who Blows the Whistle on Corporate Fraud?** (NBER Working Paper No. 12882), authors **Alexander Dyck, Adair Morse, and Luigi Zingales** seek to address that question — which has implications for other countries beyond the United States — by first gathering data on a comprehensive sample of alleged corporate frauds in the United States involving companies with more than \$750 million in assets that took place between 1996 and 2004. After screening for frivolous suits, the authors end up with a sample of 230 cases of alleged corpo-

rate fraud, including all of the high profile cases such as Enron, HealthSouth, and WorldCom.

They review the history of each fraud, identify who was involved in its revelation, and

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ask what circumstances led to its detection. They also study the timing of the revelation in order to infer which mechanisms are most efficient in revealing fraud. To better understand why particular fraud detectors are active, the researchers study the sources of information and the incentives that detectors face in bringing the fraud to light. Finally, to identify the role of short sellers in all of this, the researchers look for unusual levels of short positions before a fraud emerges.

The clearest finding emerging from the data is that, in the United States, fraud detection relies on a wide range of, often improbable, actors. No single type accounts for more than 20 percent of the cases detected. This suggests that the failures

of internal governance in other countries cannot be solved easily by introducing U.S. institutions, like class action suits or the SEC, which together account for only 8.4 percent of the revela-

tion of frauds by external actors. Instead, an effective corporate governance system relies on a complex web of market actors who complement each other. Unfortunately, reproducing such a complex system abroad is much more difficult than copying a single legal institution.

The authors also find that the “mandated” approach to fraud detection did not work well at all, at least before SOX. Fewer than 6 percent of the fraud cases were identified by the authority charged with discovering them (that is, the SEC). Even when the authors enlarge the definition of “authority” to include external auditors (who have a duty to disclose fraud when they find it, but not to search for it) and industry regulators (who

are not in charge of looking for financial frauds), they find that only just over 35 percent of the cases of fraud were revealed by the people appointed to search for it.

One interpretation of these results is that information about fraud is so diffuse that it is extremely costly (and thus ineffective) to appoint an official investigator: it is like looking for a needle in the proverbial haystack. Fraud tends to be revealed by people who find out about it in their normal course of business and who do not have any strong disincentive (or, even better, some positive incentive) to reveal it. For example, in sectors like healthcare where qui tam suits are possible (qui tam is a legal provision under U.S. law which allows a private individual, or whistleblower with knowledge of fraud committed against the federal government, to bring suit on its behalf), and thus whistleblowers are rewarded, employees play a much bigger role in

revealing fraud. The authors show that in many real world situations (with auditors, analysts, and employees in other sectors) there are little or no monetary or career-related incentives to reveal fraud. The fact that only the most established newspapers and the most senior analysts are willing to come forward suggests, to the contrary, that the risks involved in blowing the whistle are substantial.

After the introduction of SOX, which significantly increased their duties and monitoring, the performance of mandated actors improved. Still, they account for only slightly more than half of the cases. According to the authors, only time will tell whether this recent surge in their relative performance is just a temporary blip, attributable to the enormous amount of public scrutiny that certain actors (like auditors) received after a few major corporate scandals, or to a permanent shift because of the changes in the incentives

imposed by legislation. Either way, the authors' analysis suggests that an alternative, cheap way to address the problem is to extend the qui tam legislation to corporate fraud. As the evidence in the healthcare industry shows, such a system seems to work very effectively.

One objection to this approach is that it might lead to an excessive number of frivolous suits. But the evidence in the healthcare industry seems to mitigate this concern. Another objection is that an explicit reward to whistleblowers might foster distrust among employees, undermining their ability to work together for the benefit of the company. The authors are not aware of any sign of this problem in sectors subject to qui tam suits, but this is certainly an aspect that deserves further study before the qui tam idea is implemented.

— Les Picker

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