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Income Mobility in the Families of Immigrants and US Natives

Analyzing waves of immigrants to the United States between 1880 and 2015, [Ran Abramitzky](#), [Leah Platt Boustan](#), [Elisa Jácome](#), and [Santiago Pérez](#) find that sons of first-generation immigrants have greater upward income mobility rates than sons of US-born parents. This mobility gap is observed throughout more than 100 years of data and does not vary significantly over time, despite extreme changes in the immigrants’ countries of origin and in US immigration policies.

In **Intergenerational Mobility of Immigrants in the US over Two Centuries**, (NBER Working Paper 26408), the researchers identify three cohorts of first-generation immigrants and US-born workers. The first two cohorts, totaling 4 million father-son pairings, were taken from the 1880 and 1910 censuses, which provided each person’s name, year of birth, and place of birth. These cohorts and their sons were followed 30 years later, in the 1910 and 1940 censuses, respec-

tively. (Daughters’ records were difficult to trace due to name changes upon marriage and

Sons of immigrant fathers experience more income growth than sons of US-born fathers, in large part because immigrants choose to settle where children have good prospects.

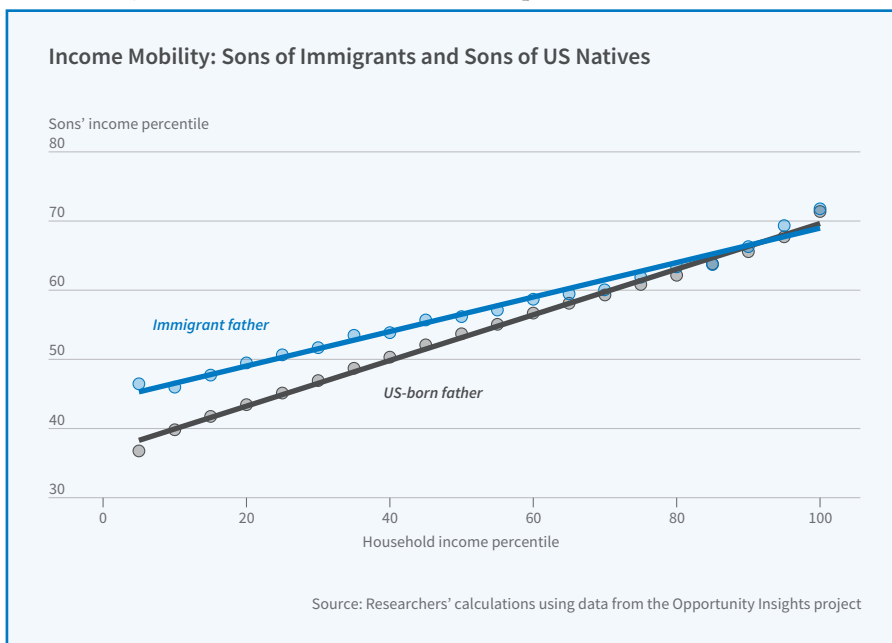
are not included in this study.) In the 1940 census, income data were reported; for the earlier census records, income data for each individual were imputed using other available information, such as occupation. The first

cohort of immigrants, those observed in the 1880 census, arrived primarily from countries

in northern and western Europe while the 1910 cohort includes more immigrants from southern and eastern Europe.

The third cohort was identified using administrative data on the income of 2.7 million father-son pairs provided by the Opportunity Insights project, as well as the General Social Survey, which includes occupational data. These immigrants arrived primarily from Latin America and Asia, and the researchers observe the children in the contemporary labor market.

Across all three cohorts, sons of immigrants at the low end of the income distribution were more likely to experience an upward move-



ment of their income levels, relative to their fathers, than sons of US-born workers. (The same is true for the daughters of immigrants, who can be studied in the modern data.) For example, among children with parents in the 25th percentile of the income distribution of the three cohorts, second-generation immigrants on average achieved a ranking 3 to 6 percentile points higher in the income distribution than children of US-born workers. This income mobility gap was smaller at the 75th percentile of the distribution and shrank over time. In the earlier cohorts, the second-generation immigrants gained 2 to 5 percentile points more than US-born workers, and in the most recent third cohort, this advantage fell to less than 2 percentile points.

One of the primary factors contributing to this gap seems to be that after arriving in the US immigrants have located in places where children have higher mobility prospects. The income mobility gap between children of immigrants and those of US-born workers diminishes by almost 70 percent when children's income levels are compared within a geographic region. When the researchers examined mobility data at the county level, the gap disappeared: the sons of immigrants and the sons of US-born workers earned the same when they grew up in the same county and the economic strength of the specific geographic region led to better or worse benefits for all.

Differences in education between the children of immigrants and of US-born par-

ents do not explain the income mobility gap in the historical cohorts. Across comparable families, immigrant children did not attain more education than the children of US-born workers.

The age at which a father arrived in the United States was related to upward mobility. The highest rates of upward income mobility occurred for children of fathers who arrived as adults, particularly when the fathers came from non-English-speaking countries. This could indicate that adult immigrant fathers' rank in the US income distribution did not necessarily reflect their true earnings potential, and that fathers who arrived as children had greater opportunities to acquire US-specific skills.

—Jennifer Roche

Could Undeveloped Oil Reserves Become “Stranded” Assets?

Although oil production has peaked and is now projected to be on a long-run global decline, the world is not running out of oil. Rather, particularly in North America, proved reserves and extraction have increased due to development of new production techniques such as fracking that overcome previously insurmountable technical challenges.

Total proved reserves are an important component of an oil firm's value. In an era of growing demands for action to curb climate change, however, do capital markets reflect the possibility that some reserves may become “stranded” assets in the transition to a low-carbon economy? In **Stranded Fossil Fuel Reserves and Firm Value** (NBER Working Paper 26497), [Christina Atanasova](#) and [Eduardo S. Schwartz](#) examine the relationship between an oil firm's growth in proved reserves and its value.

Assets become “stranded” if they become obsolete as a result of market, regulatory, or environmental changes. In the case of oil firms, both developed and undeveloped proved oil reserves are at risk of being stranded. Developed reserves can be extracted from existing wells, while undeveloped reserves are those which are located beneath undrilled sites or which are acces-

Capital markets place positive value on oil reserves that are already developed, while the growth of undeveloped reserves has a negative effect on oil firm value.

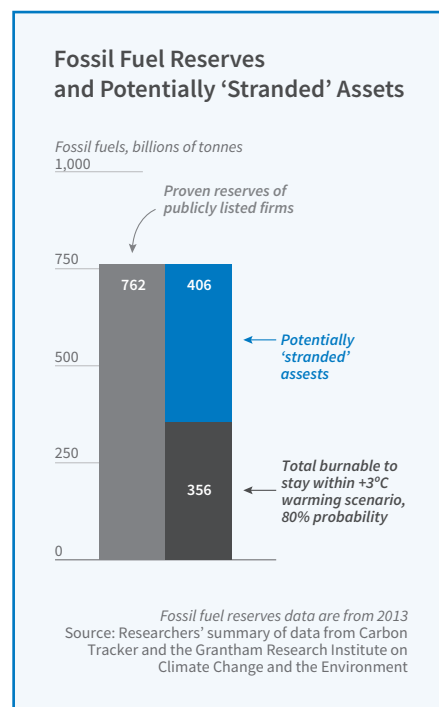
sible from existing wells only with relatively large expenditure and time commitment.

Both developed and undeveloped reserves are assets for oil producing firms,

and one might expect them both to have a positive — or at least a non-negative — effect on company value. The researchers study this question for 679 North American oil firms for the period 1999–2018. They focus on these producers because the markets for oil firms' equities and many oil products are very liquid, and because North American producers face very low political risk and foreign exchange exposure. These firms are also subject to stringent regulation and monitoring, unlike firms in countries where markets are potentially fragmented, illiquid, or vulnerable to manipulation.

For each firm, the researchers collected annual data on developed and total proved oil reserves, oil production, and exploration costs, as well as accounting and share price data. They also collected location data for both developed and undeveloped proved oil reserves from the companies' annual reports.

The researchers found that capital markets only valued reserves that were already developed, while growth of undeveloped reserves had a negative effect on an oil firm's



value. A one standard deviation increase in the growth of undeveloped, proved oil reserves was associated with a decline of more than 1 percent in Tobin's q, the ratio of the firm's market value to the replace-

ment cost of its assets.

The negative valuation effect of the growth of undeveloped reserves was stronger for oil producers with higher extraction costs and for those possessing undeveloped

reserves located in countries with strict climate policies. This is consistent with markets penalizing future investment in undeveloped reserves growth due to climate policy risk.

—Lauri Scherer

The Economic Effects of Private Equity Buyouts

Champions of private equity (PE) buyouts claim that such deals are engines of efficiency that create value by concentrating ownership of target firms, leveraging capital structures, and introducing high-powered financial incentives. Critics argue that these transactions are often associated with reductions in employment and wages, and with a greater risk of firm bankruptcy. Steven J. Davis, John C. Haltiwanger, Kyle Handley, Ben Lipsius, Josh Lerner, and Javier Miranda investigate these competing viewpoints in **The Economic Effects of Private Equity Buyouts** (NBER Working Paper 26371). They find that the effects vary widely depending on whether the target firm is publicly or privately held, and on the external economic conditions that coincide with, and follow, the buyout.

The researchers reviewed about 9,800 PE buyouts of US firms that took place between 1980 and 2013, a period characterized by deep swings in credit market tightness and GDP growth. By analyzing US Census Bureau data on firm- and establishment-level outcomes, they estimated the buyouts' effects on employment, job reallocation, labor productivity, and compensation per worker. They found striking heterogeneity across buyouts, as well as several distinct patterns.

In the first two years after the buyout,

relative to a control sample, employment rose 13 percent at target firms that were previously under private ownership (private-to-private buyouts) and 10 percent in secondary buyouts (when one PE entity was

relative to a control sample, employment rose 13 percent at target firms that were previously under private ownership (private-to-private deals) and by 16 percent in buyouts of a division of a company. Once again, these changes are relative to a sample of control firms.

The pace of intra-firm job reallocation

activity by these firms. A post-buyout widening of credit spreads or a slowdown in GDP growth lowered employment growth at targets and sharply curtailed productivity gains in public-to-private and divisional

buyouts.

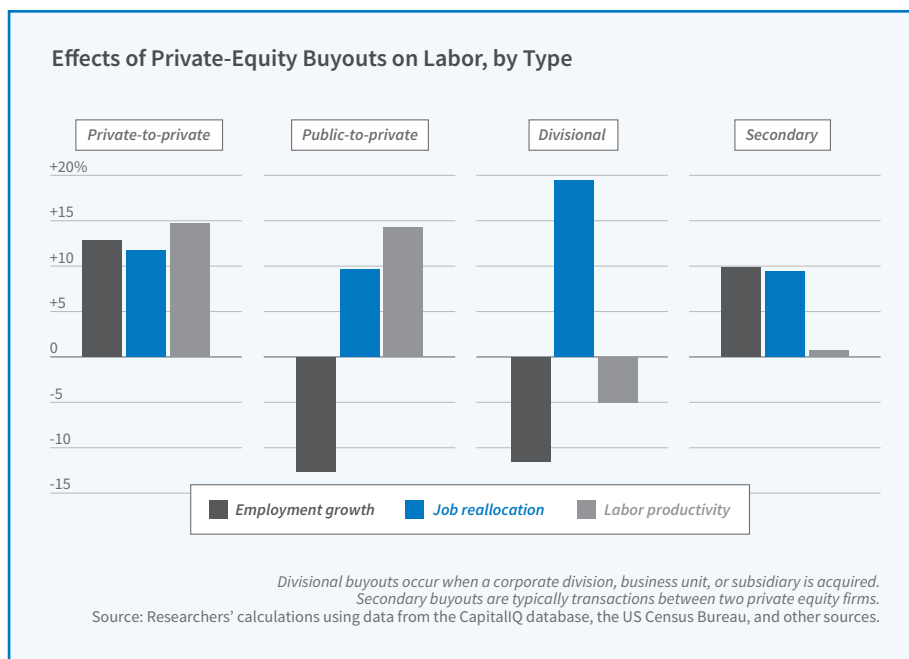
Labor productivity rose by an average of 8 percent at target firms relative to controls, a striking impact given that targets tend to be mature firms in mature industries. However, compensation per worker fell by 1.7 percent at target firms after buyouts, largely erasing pre-buyout higher wages at targets relative to controls. Wage effects also differed greatly by buyout type.

Credit conditions were associated with buyout performance. Buyouts executed amidst easy credit conditions had smaller productivity gains than those completed when credit was tight. When credit is easily available, PE groups may select or structure buyouts to deliver private

returns via financial engineering rather than operating improvements.

Because of the significant heterogeneity across buyout types, the researchers

Outcomes differ systematically across buyout type and with macroeconomic and credit conditions at the time of and after the buyout.



tion at target firms rose relative to control firms following a buyout. This pattern held across all buyout types, much of it reflecting greater acquisition and divesti-

conclude that there is little reason to treat all buyouts as homogeneous in their effects on jobs, reallocation, wages, and productivity. In particular, while private-to-private buyouts appear to create value by relaxing

financial constraints and improving management practices, public-to-private buyouts, which have been shown elsewhere to involve greater leverage and bankruptcy risk, involve substantial job cuts. This find-

ing has important implications for buyout-related public policies, and particularly casts doubt on the efficacy of “one-size-fits-all” policies that address private equity.

—Lauri Scherer

Behavioral Changes Triggered by Information about Pollution

Although China has long had some of the most polluted cities in the world, few Chinese residents had access to accurate information about pollution levels. Then, in 2013, the country rolled out an air-quality monitoring and disclosure program, providing residents with real-time air pollution information from over 1,400 monitoring stations throughout the country. In **From Fog to Smog: The Value of Pollution Information** (NBER Working Paper 26541), Panle Jia Barwick, Shanjun Li, Liguo Lin, and Eric Zou find that the program has dramatically increased households’ awareness of pollution issues, and that this has triggered a range of behavioral changes to mitigate the health impacts of pollution.

Prior to the advent of the program, accurate information about pollution levels and consumer awareness of pollution impacts were limited. The researchers first confirmed that the program, which was rolled out in a staggered manner across three groups of cities over two years, successfully increased awareness of pollution levels. The program resulted in a noticeable increase in articles about air pollution in the government’s official newspaper, *People’s Daily*, as well as a surge in the number of mobile phone apps providing users with air pollution data. The word “smog” also became more prevalent on social media platforms. Web searches for information about pollution skyrocketed, and purchases of air purifiers doubled within a year of program implementation in areas where the program was rolled out.

The researchers next explored how households changed their behavior in response to the new information about pollution. Using data on credit- and debit-card transactions, they found that the program increased pollution-

polluters: houses within three kilometers of a major polluter were found to be 27 percent less valuable (relative to those that were 10 kilometers away) after pollution data were available.

The behavioral modifications that

In China, an air-quality monitoring and disclosure program focused on fine particulate matter pollution led residents to buy air purifiers and to delay going out when pollution was high.

avoiding behaviors, particularly in consumption categories that are comparatively flexible and easy to delay, such as trips to the supermarket or meals outside the home.

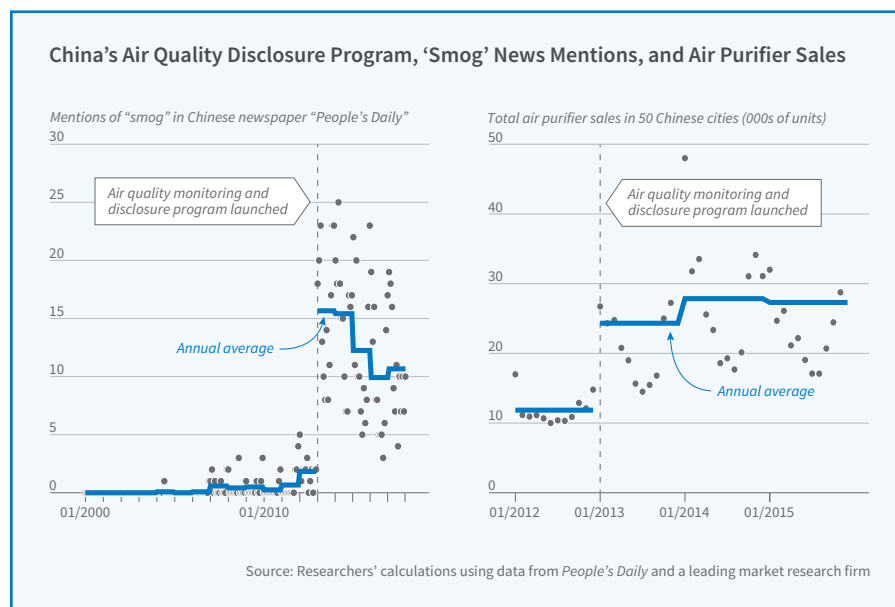
Information about local pollution levels also affected housing prices. While prior to the program the study found no correlation in the Beijing market between housing prices and proximity to polluters, an increase in pollution of one standard deviation reduced housing prices there by between 4 and 6 percent after the program. The price effects were particularly noticeable for houses located near the biggest

Chinese households made in response to the pollution information had meaningful health effects. The researchers estimate that access to pollution information reduced premature deaths attributable to air pollution exposure by nearly 7 percent. The mortality declines were concentrated among cardiorespiratory cases and were larger in areas that were more urban, had more hospitals, and used more electricity and mobile phones. In economic terms, the program delivered between Chinese ¥130 and ¥520 billion (US\$18.6 to \$74.6 billion) of benefits. These benefits outweighed the costs

of the program and associated avoidance behaviors combined.

The researchers conclude that their findings “highlight the considerable benefits of collecting and disseminating pollution information in developing countries, many of which are experiencing the worst mortality damage from pollution exposure in the world.”

—Dwyer Gunn



Worker Representation on Company Boards Raises Investment

German corporations with labor representation at the board level tend to accumulate more capital than their counterparts. This finding rejects the view that labor representatives “hold up” management for higher wages, which come at the expense of investment spending. “Overall, shared governance does not appear to lower shareholder profits...or...to reduce firms’ external finance capacity,” [Simon Jäger](#), [Benjamin Schoefer](#), and [Jörg Heining](#) conclude in **Labor in the Boardroom** (NBER Working Paper 26519).

The researchers study a 1994 corporate governance reform in Germany that allowed newly created corporations with fewer than 500 employees to dispense with the long-held tradition of one-third labor representation on their supervisory boards (a form of shared governance, or codetermination). The supervisory board oversees and decides the compensation of the executive board, which manages the day-to-day operations, and is also involved in larger financial decisions. Companies incorporated before the reform, which already had labor representation, were required to keep it. The researchers compared corporations

formed during the two years before the reform with those formed within the two years after it.

There were sharp differences: women had a higher probability of joining boards with labor representation than those without it, while the share of board members with nobility titles went down. The survival rate of the firms was unaffected, whether they had shared board representation or not.

The researchers did not find any evidence that labor representation reduced owners’ investments in the firm or reduced profits. Firms with shared governance actu-

ally had capital stocks that were between 40 and 50 percent larger than firms without workers on their supervisory boards. The greater capital stock was not associated with reduced employment; rather, there was an average 12 percent increase in the share of sales produced in-house.

Even with slightly more workers, the increase in fixed capital meant a higher

general they could not distinguish the two. They conclude that, in wage negotiations, workers at shared board representation firms either did not have more bar-

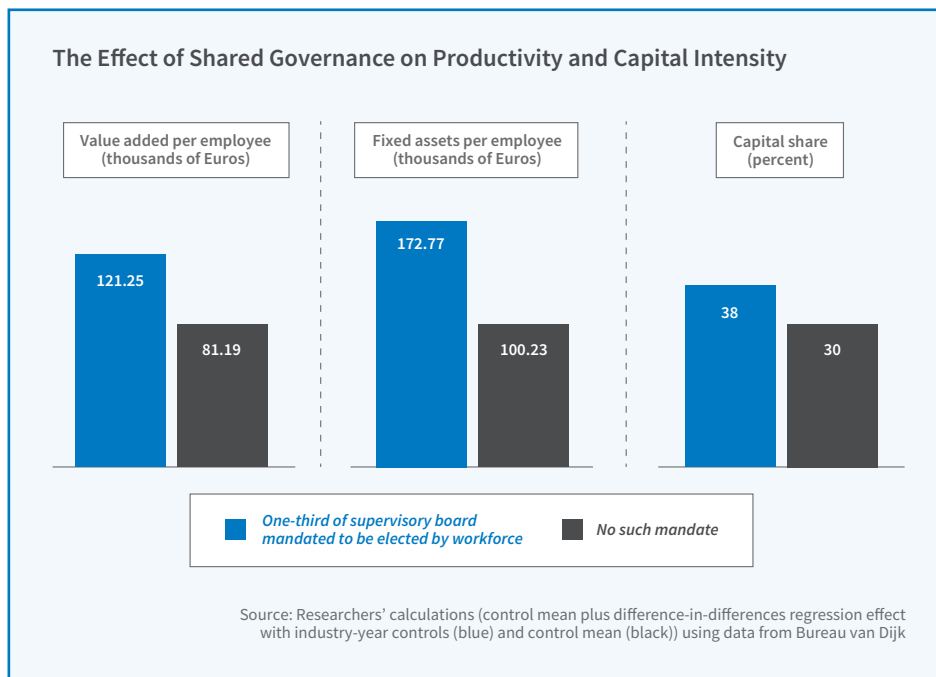
gaining power, or they did not exercise it. The estimates for both sets of companies suggested that a 20 percent rise in value-added per worker would raise worker pay by only about 2 percent.

The researchers reflect on various potential mechanisms behind these results. One interpretation is that when provided with board representation, workers may push for more capital investment because they link the company’s long-term health with job security. Alternatively, the institutionalization of regular contacts between labor and management may encourage more cooperation and, thus, more long-term investments, perhaps on both sides.

The researchers also discuss alternative interpretations in which the increased investment goes against share-

holder preferences and may lower rather than raise economic efficiency. For example, collusion between management and workers may lead cash flow to remain inside the firm and be channeled towards “empire building.” While they find no evidence of decreased profits, the researchers note that the datasets do not include dividend payouts.

—*Laurent Belsie*



capital to labor ratio for companies with shared board representation. The capital share rose by a large 8 percentage points.

What about wages? Theories of rent extraction posit that if labor gets more power on boards, it will grab more for itself in the form of wages. But the researchers found only slightly higher pay at companies with shared board representation than at those without, and in

The Mental Health Impact of Fatal Shootings at American Schools

Over 140 people have died in more than 230 shootings at US primary and secondary schools since the 1999 shooting at Colorado's Columbine High School. Some 240,000 children have been present on school grounds during a shooting. These shootings have attracted intense public attention but little research on how exposure affects survivors.

In **Local Exposure to School Shootings and Youth Antidepressant Use** (NBER Working Paper 26563), [Maya Rossin-Slater](#), [Molly Schnell](#), [Hannes Schwandt](#), [Sam Trejo](#), and [Lindsey Uniat](#) use data on antidepressant prescriptions to analyze the effects of 44 school shootings that occurred between January 2008 and April 2013. They find large and persistent impacts on the antidepressant use of the local youth who were exposed to fatal school shootings during this time period.

The researchers found that, compared to the two years before a fatal school shooting, the increase in the number of antidepressant prescriptions written for young people in the two years after the event by providers located within five miles of a shooting-affected school was 21.3 percent higher than the change in the number written by providers located 10 to 15 miles away. When the

researchers extended the observation window to three years after the shooting, they found a 24.5 percent increase in prescriptions. They did not find any effects when shootings did not result in deaths, on antidepressant use

In the two years following a fatal shooting, antidepressant prescriptions for young people living near the affected school were 21 percent higher than in areas farther away.

among adults in areas where a fatal school shooting occurred, or on opioid prescriptions written for youth.

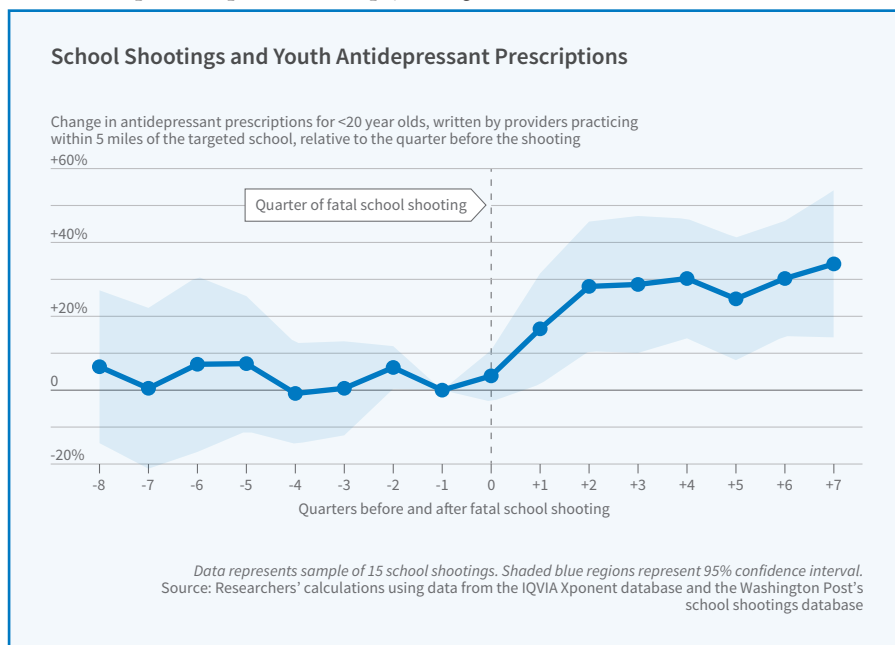
The use of prescription antidepressants after a school shooting is influenced by the types of mental health providers practicing in the affected area. Where more of the available providers are psychologists and social work-

ers, who cannot write prescriptions, youth antidepressant use does not increase as much after a fatal school shooting, even after controlling for the density of prescribing providers in the area. In fact, in areas with the

highest density of non-prescribing providers, youth antidepressant use does not increase at all after fatal school shootings. In contrast, in areas with lower densities of non-prescribing providers, there were larger increases in youth antidepressant use in the years after a shooting. These results suggest that behavioral treatment may serve as a substitute for antidepressant prescriptions in places that have a higher capacity to provide it.

The researchers conclude that their findings “demonstrate that local exposure to fatal school shootings leads to significant and persistent increases in antidepressant use among American youth,” while also noting that these effects “are unlikely to capture the full mental health consequences of these events.”

—Dwyer Gunn



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