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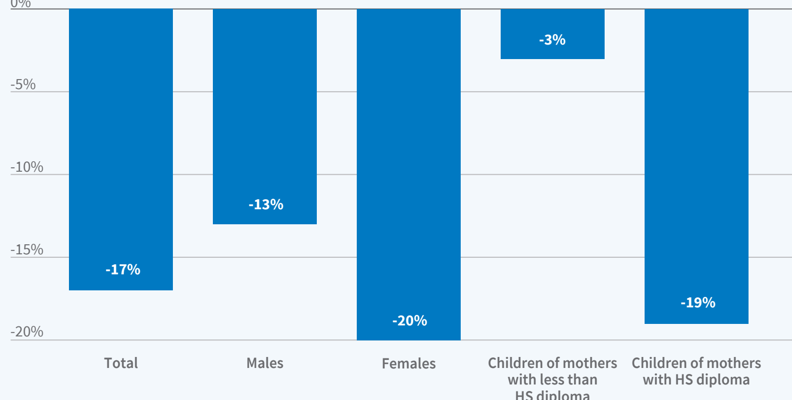
Generational Effects of Welfare Reform on Food Insecurity

In 1992, some US states began experimenting with welfare reforms. Federal waivers allowed them to develop programs to reduce cash assistance by imposing work requirements and other conditions on beneficiaries. In 1996, the federal government ended cash welfare benefit entitlements and replaced them with block grants that imposed a five-year lifetime limit on cash assistance and instituted national guidelines on work requirements. California, the last state to comply with the federal reforms, did so in 1998.

In **Effects of Welfare Reform on Household Food Insecurity across Generations** (NBER Working Paper 29054), Hope Corman, Dhaval M. Dave, Nancy Reichman, and Ofira Schwartz-Soicher examine the impact of these reforms on the food security of affected children when they become young adults. They analyze data from the Panel Study of Income Dynamics, a nationally representative sample of about 5,000 families that was launched in 1968. It follows the original respondents and their families, providing detailed information on their lives and economic circumstances, and spans the period before, during, and after welfare reform. In various years from 1999 to 2019, it included 18 US Department of Agriculture questions on food hardship. Respondents were asked questions like these: In the last 12 months were you ever hungry but didn't eat because there wasn't enough money for food? Were you often, sometimes, or never worried whether your food would run out before you got money to buy more? How often did you rely on only a few kinds of low-cost food to feed your children? The researchers combine selected food hardship questions to create standard USDA measures of food insecurity.

> Children who had greater exposure to the welfare reforms of the 1990s reported less food insecurity as adults.

The researchers focus on young adults whose mothers were at risk of relying on public assistance. These mothers, the target group, were unmarried and had at most a high school education. The comparison group consisted of married women with similar socioeconomic characteristics living in the same state. Because marriage generally precludes eligibility for cash assistance, the married women were not at risk of relying on public assistance. Members of the target group were more likely to be Black



Sample consists of children of mothers who were at risk for welfare reliance. Food insecurity is measured as marginal, low, or very low food security.
Source: Researchers' calculations using data from the Panel Study of Income Dynamics

and less likely to have completed high school than mothers in the comparison group. About 10 percent of the full sample reported low or very low food security.

Children in different birth cohorts were exposed to welfare reform to different degrees. Those born between 1975 and 1979 were not exposed to welfare reform or were exposed for only a few years, those born between 1980 and 1985 were exposed to welfare reform for up to 10 years, those born between 1986 and 1992 were exposed to welfare reform for at least half of their childhoods, and those born between 1993 and 1999 were exposed for most or all of their childhoods.

The findings suggest that eight years of exposure to welfare reform in childhood lowered food insecurity in adulthood by 6.2 to 8.4 percentage points, relative to a baseline rate of 40.4 percentage points. The effect was stronger for women, for children exposed before age five, for children who were exposed for at least 13 years, and for children whose mothers completed high school.

— Linda Gorman

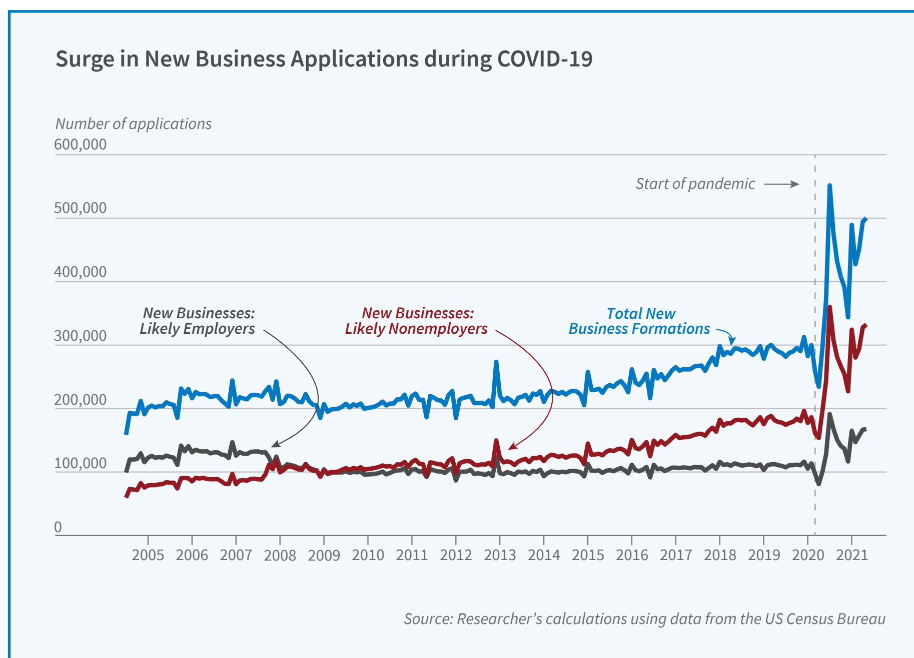
Business Formation Surged during Pandemic and Remains Strong

Applications for new businesses plunged in the early months of the pandemic-induced recession, but rebounded before long. In July 2020, applications surged to historic heights, John C. Haltiwanger finds in **Entrepreneurship during the COVID-19 Pandemic: Evidence from the Business Formation Statistics** (NBER Working Paper 28912).

Haltiwanger studies the Business Formation Statistics, a weekly report from the US Census Bureau based on the number of applications for Employer Identification Numbers (EINs) filed with the Internal Revenue Service. Between 2004 and 2019, he finds an upward trend in "likely nonemployer startups," businesses that are unlikely to hire any workers, and a long-term decline in "likely employer startups," those that have a good chance of creating jobs for someone other than their owner. When the pandemic hit, business applications of both types declined.

While the number of EIN requests dropped from March through May 2020, the count in June 2020 was the highest since January 2019. Applications in July 2020 hit an all-time peak, and in each month between August 2020 and April 2021, the number was higher than in any month between 2004 and the onset of the pandemic. Total applications rose more than 20 percent between 2019 and 2020, a rate of increase more than twice that of any previous year. Haltiwanger also studies the composition of startups, noting that "from March 2020 through May 2021, new applications for likely employers were almost 500,000 greater [than] over a similar period from March 2018 through May 2019." For likely nonemployer startups, the comparable statistic was an increase of 1.3 million. Three-quarters of the recent surge in startups was concentrated in just 10 industries, including Non-store Retail, which accounted for a third of the growth, Personal, Professional, and Food Services, and Truck Transportation. The rapid growth of likely nonemployer startups, which reflects self-employment activity, highlights the increasing importance of gig workers in the modern economy.

> The number of new business applications was higher during the summer of 2020 than at any time in the past 15 years, and it has remained strong ever since.



To place the recent developments in perspective, Haltiwanger also analyzes the Great

Recession. Business startups declined then, particularly among employer startups. For more than a year after the collapse of Lehman Brothers in 2008, the number of applications for employer startups was below the average of the previous two years. Applications for nonemployer startups increased during the Great Recession, but only by about one-quarter as much as during the COVID-19 recession. One explanation for this difference is that financial conditions, which can affect the rate of startup activity especially for new employer businesses, were more robust during the COVID-19 recession than during the Great Recession.

— Brett M. Rhyne

Estimating Long-Term Effects of the 1921 Tulsa Race Massacre

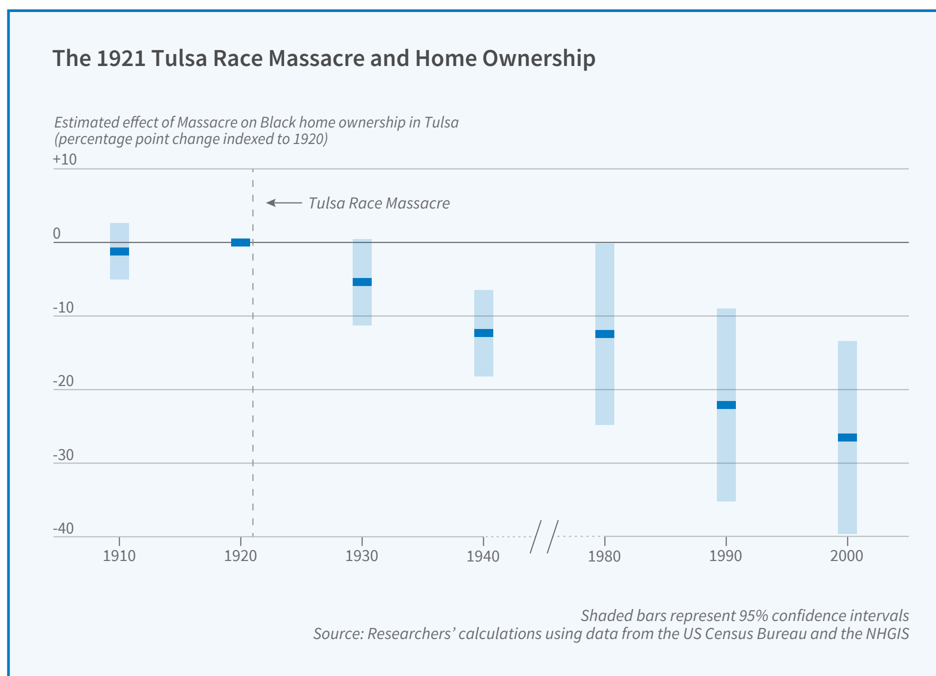
On May 31 and June 1, 1921, 35 square blocks of the Greenwood neighborhood, a thriving Black community in Tulsa, Oklahoma, were destroyed in one of the worst incidents of racial violence, murder, and destruction in postbellum US history. In this area hailed as Black Wall Street, homes and businesses were looted and burned. Estimates of the number of deaths vary, but range up to 300. Residents were taken to internment centers at gunpoint.

In **After the Burning: The Economic Effects of the 1921 Tulsa Race Massacre** (NBER Working Paper 28985), Alex Albright, Jeremy A. Cook, James J. Feigenbaum, Laura Kincaide, Jason Long, and Nathan Nunn trace the long-term effects of the race riot.

Prior to the event, the Greenwood neighborhood had 191 businesses, a library, two schools, and a hospital. The researchers examine the consequences of the massacre for those whose businesses and homes were looted and destroyed, the longer-term effects on home ownership and occupational status, and potential effects on Black entrepreneurship and home ownership in other parts of the United States. They focus in particular on the short- and medium-run effects of the massacre on Black Tulsans' home ownership and occupational status. They examine Census data spanning three decades, 1910–1940, on city or county of residence and racial group (White, Black, and other), and compare Black to White individuals within Tulsa County and elsewhere before and after the massacre.

> Destruction of Black Wall Street and the death or impoverishment of its residents reduced Black home ownership in Tulsa for decades and had spillover effects in other locations.

The researchers find consistent evidence associating the massacre with a sizeable decline in home ownership and a drop in average occupational status. They estimate that for Black individuals, the massacre reduced the likelihood of home ownership among male household heads by 4.2 percentage points. In 1920, prior to the massacre, the rate of home ownership among Black Tulsans was 30 percent. When the researchers extend their analysis past 1940 and include data from the 1980–2000 period, they find that the direct effects of the massacre persist and actually grow.



In addition to the direct impacts on those who experienced the massacre, the researchers find evidence of spillover effects on Black communities in other parts of the United States. These effects were most pronounced for those who were exposed to extensive newspaper coverage of the mas-

sacre or who lived in areas, like Tulsa, with high levels of racial segregation, which facilitated targeted destruction of Black-owned homes and businesses. The estimated spillover effect on Black home ownership in the state with the greatest newspaper exposure is about 75 percent the size of the direct effect experienced by Black Tulsans. For those in the least exposed state, there is no spillover effect.

The researchers conclude that the massacre "provided a warning of the danger of the accumulation of wealth through home ownership. In an instant, one's home and possessions could be destroyed."

— Lauri Scherer

Emissions Disclosure Requirements Lower CO_2 Output

Transparency alone can serve as a tool to reduce greenhouse gases, according to a study of a federal program mandating comprehensive emission reporting by large electric power plants.

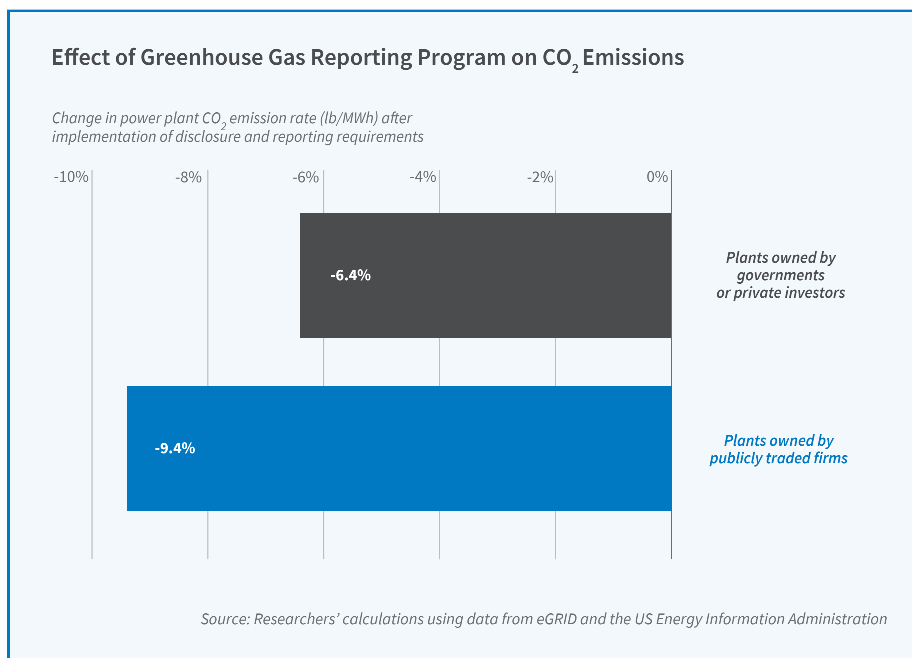
In **The Real Effects of Mandatory CSR Disclosure on Emissions: Evidence from the Greenhouse Gas Reporting Program** (NBER Working Paper 28984), Lavender Yang, Nicholas Z. Muller, and Pierre Jinghong Liang investigate whether businesses change their behavior in response to a new disclosure requirement. They study the Greenhouse Gas Reporting Program, which applied to all large emitters of greenhouse gases. The study focuses on the electric power industry, the second-largest source of greenhouse gases in the United States and the source of 27 percent of all emissions. Because of regulatory requirements, data on power plants are more extensive than data on other economic sectors with large stationary sources of carbon dioxide (CO_2) emissions.

The reporting program, which took effect in 2010, requires all emission sources, including all power plants that produce more than 25,000 tons of carbon dioxide a year, to report their emissions to federal regulators for public dissemination. Prior to this policy change, power plants of all sizes were required to report key environmental measures, but the information was not as accessible to the public as under the new program. The new regulations provided "more accessibility, standardization, comparability, higher frequency reporting ... and overall a higher national prominence of the emissions data."

When large power plants were required to disclose their carbon dioxide output, emissions fell by more than 7 percent, while at some small plants, exempt from disclosure, emissions rose at least 25 percent.

The researchers sampled US power plants over the years 2004 to 2018 and found that those subject to greater scrutiny reduced their CO_2 emission rates by 7 percent. Emissions fell 10 percent among plants owned by publicly traded firms, and by 11 percent among the largest public firms, those included in the Standard and Poor's 500. The researchers attribute these larger adjustments to direct or anticipated stockholder pressure.

The decline in emissions by major plants was partially offset by an increase in emissions by plants that fell under the 25,000-ton threshold, for which emissions reports were publicly available but not as easily scrutinized. Firms that owned plants in both categories appeared to have shifted production to their smaller facilities, where emission rates increased by between 25 and 56 percent. Major emitters were also 55 percent more likely to switch to cleaner



fuels than those unaffected by the new transparency regulations.

The researchers conclude that "standardized, mandatory CSR [corporate and social responsibility] reporting (without thresholds) has the potential to induce large-scale changes in firm behavior."

— Steve Maas

The Changing Contours of Financial Innovation

While several high-profile financial innovations, like blockchain and cryptocurrency, have attracted widespread attention, the broad landscape of financial invention — where innovation occurs, what it targets, and who is responsible for it — has not been studied systematically.

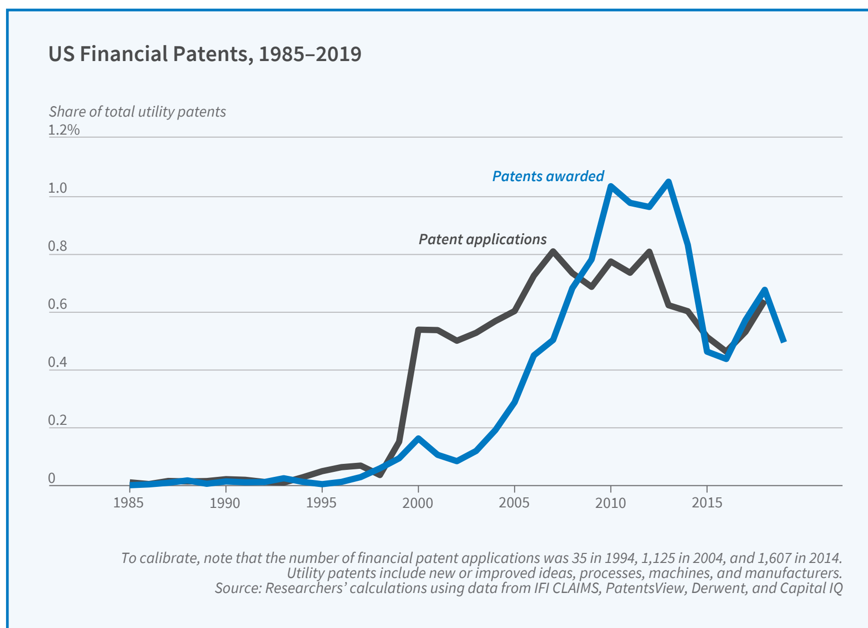
In **Financial Innovation in the 21st Century: Evidence from US Patents** (NBER Working Paper 28980), Josh Lerner, Amit Seru, Nick Short, and Yuan Sun address these issues by analyzing a new dataset of US financial patents awarded over the last two decades.

To determine which patents are finance-related, the researchers first identify a set of patents that are assigned to financial patent classes, and then train a natural-language processing model to recognize similar financial innovations that might be assigned elsewhere using the patent text and inventors' names. This process allows them to analyze financial patents in a wide range of patent classes.

The researchers identify 24,288 financial patents that were applied for between 2000 and 2018 and awarded by February 2019. They argue that these financial patents are good proxies for financial innovation during this period. While the patentability of financial discoveries was contested for most of the twentieth century, a 1998 appellate court decision in *State Street Bank & Trust Co. v. Signature Financial Group, Inc.* firmly established that they were patentable. In the subsequent two decades, financial patents climbed from a negligible share to between 0.4 percent and 1.1 percent of US patent awards. Furthermore, the financial patents identified by the researchers appear to capture legitimate innovations, in the sense that they are highly cited, include all of a list of recent key financial innovations, and were subject to relatively stringent patent-review processes.

Recent financial innovations have been driven by companies outside of finance, especially by US information technology firms.

The patent data provide a revealing look at the changing map of financial innovation. Traditional financial institutions, like banks, produce a modest and declining share of patents, with the steepest drops around the financial crisis of 2008. Financial innovation has instead been driven by companies outside of finance, and especially by US information technology (IT) firms. The share of financial patents focused on banking has also declined, shifting instead towards applications in consumer finance and back-office areas like security and communications.



To calibrate, note that the number of financial patent applications was 35 in 1994, 1,125 in 2004, and 1,607 in 2014. Utility patents include new or improved ideas, processes, machines, and manufacturers.
Source: Researchers' calculations using data from IFI CLAIMS, PatentsView, Derwent, and Capital IQ

Shifts in the topics of financial innovation have been accompanied by changes in its geographic footprint. The New York-Newark area saw a major drop in its share of financial patents between 2000 and 2018, while the San Jose-San Francisco-Oakland and Charlotte-Concord areas saw rapid growth.

The researchers suggest that the shifts in financial innovation away from New York and away from the financial sector reflect both the push of strict financial regulation and the pull of technological opportunity. Areas with more stringent banking regulation exhibited larger drops in innovation by financial companies than by IT firms, as well as larger drops in banking-focused patents. Banks also appear to have shifted the primary location of their innovation activities to areas with lighter regulation. At the same time, states with greater technological development saw particularly strong financial patenting by IT and payment firms, and payment firms displayed some tendency to shift their innovation activities from areas with weak to areas with strong technological capacity.

—Lucy Elizabeth Page

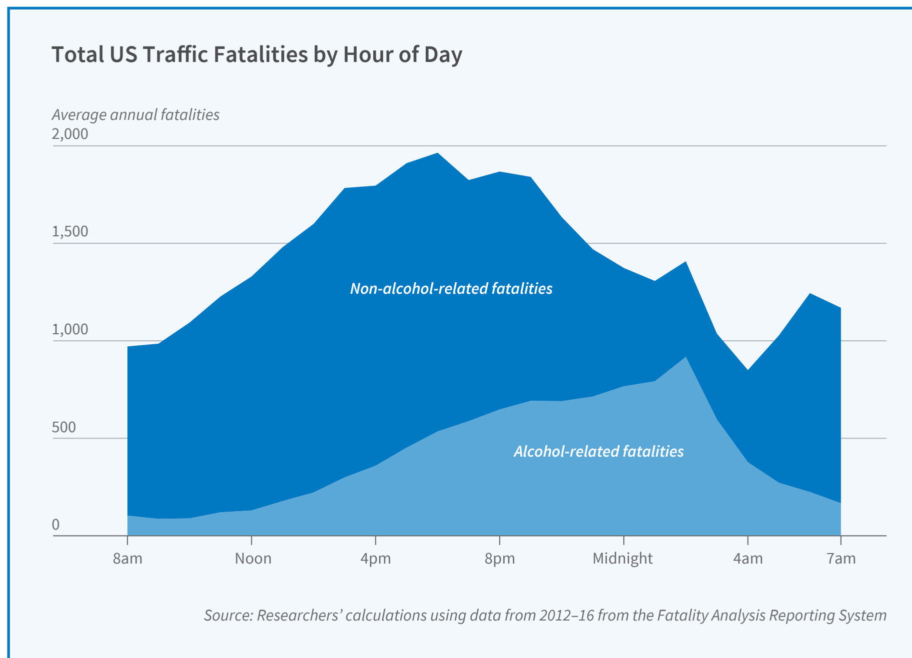
Ridesharing's Effect on Alcohol-Related US Traffic Fatalities

Alcohol-related deaths in traffic accidents have decreased by 6 percent in areas of the United States where ridesharing has become available.

Nearly a third of all traffic fatalities in the United States involve alcohol consumption. Drunk drivers are an order of magnitude more likely to be involved in fatal crashes than their sober counterparts. In **Uber and Alcohol-Related Traffic Fatalities** (NBER Working Paper 29071), researchers Michael L. Anderson and Lucas W. Davis find that ridesharing, by providing an alternative to driving after drinking, reduces alcohol-related traffic crashes, especially on nights and weekends.

The researchers examine traffic fatality data from 2001 to 2016. This allows them to detect any pre-ridesharing trends before the appearance of ridesharing firms in 2010. Using proprietary data provided by Uber, in contrast to publicly available and less detailed data that have been used in previous research, they calculate monthly ridesharing activity by census tract and compare it with federal data on traffic fatalities from the National Highway Traffic Safety Administration. Looking at all tracts with ridesharing activity by the start of 2017 — some 45,000 tracts across the US that account for nearly 16,000 annual traffic deaths — they find that 2019 levels of ridesharing activity diminished the probability of a fatal alcohol-related crash by 0.043 percentage points, a 6.1 percent decrease in these fatalities.

Combining this estimate with data on the number of traffic deaths in 2019 implies that ridesharing was associated with the avoidance of 214 deaths. Using the Department of Transportation's standard value of a statistical life, $10.9 million, to assess the economic gains associated with this mortality decline implies an aggregate gain of about $2.3 billion.



The researchers caution that their findings may underestimate the impact of ridesharing because they only have data on Uber. However, during this time period Uber dominated the industry — its closest competitor, Lyft, had 6 percent of the market in 2015 and 14 percent in 2016 — so the data in this study are likely to be a good proxy for ridesharing overall. Another measurement concern is that some fatal crashes involving alcohol may not be chalked up to drinking. Even if police charge a driver with an alcohol violation, a crash is not counted as involving alcohol unless the driver also has a positive blood-alcohol concentration or officers report alcohol involvement. This practice is likely to lead to an undercount of drinking-related auto fatalities.

— *Laurent Belsie*

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