Opportunity & Inclusive Growth INSTITUTE

FEDERAL RESERVE BANK OF MINNEAPOLIS

Year in Review: Summary of 2020 Institute Working Papers

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The year 2020 set many records—many of them tragic. Economists and visiting scholars at the Opportunity & Inclusive Growth Institute responded immediately with analyses of the health and economic crises caused by the novel coronavirus, producing seven working papers on the pandemic's effects on many elements of U.S. society and economy, from industry to working parents. In all, the Institute added 17 working papers in 2020, its highest yearly output to date. These papers address a diversity of topics relating to opportunity, inclusion, and growth across the U.S. economy.

The inequitable impact of COVID-19

In May, **Sophie Osotimehin**[*] and Latchezar Popov provided an early look at the health and economic risks faced by workers in different sectors of the U.S. economy as a result of the COVID-19 pandemic and the mitigation policies governments imposed in response. In "Sectoral Impact of COVID-19: Cascading Risks," they find that risk can cascade from sectors directly affected by shutdowns, such as hospitality and retail, to other sectors that sell to or buy from those sectors, such as textile and petroleum. To quantify the economic risk, they calculate the percent of the workforce of each sector that is not needed following a 90 percent decline in demand for social consumption services.

To understand the pandemic's effect on people's economic, physical, and mental well-being, Institute Director **Abigail Wozniak** analyzed data collected in April by the COVID Impact Survey, which she co-directed. In "Disparities and Mitigation Behavior during COVID-19," she finds that Hispanic, younger, and lower-earning individuals, as well as parents of school-age children, faced bigger declines in employment than others. She also finds that in the early phase of the pandemic, individuals with a COVID-19 diagnosis in their household or who experienced a fever in the past seven days did not reduce their working hours. Wozniak recommends providing financial assistance to people with a COVID-19 diagnosis in their household so that they can afford to stay home and avoid infecting others.

[*] The names of scholars affiliated with the Opportunity & Inclusive Growth Institute are bolded.

A third paper, "Measuring Movement and Social Contact with Smartphone Data," advances pandemic-related research efforts by showing how smartphone data can be used to create measures of human movement, social contact, and economic activity, data that can then be used to analyze how policy affects people's behavior during the pandemic. Victor Couture, **Jonathan I. Dingel**, Allison Green, Jessie Handbury, and **Kevin Williams** then use their measures to explore reductions in inter-county travel and social contact in different parts of the United States in March and April 2020.

Milena Almagro, Arpit Gupta, Joshua Coven, and Angelo Orane-Hutchinson also study mobility patterns using GPS data from mobile phones, seeking to explain why Black and Hispanic populations experienced much higher rates of COVID-19 infection than White populations in New York City. In "Racial Disparities in Frontline Workers and Housing Crowding during COVID-19," they find that working outside the home at essential jobs and living in crowded housing are strongly associated with higher rates of infection. Black, Hispanic, and low-income people are more likely than others to do both, which helps explain why they have experienced higher COVID-19 infection rates.

While working outside the house will always pose a greater risk of illness than working from home, some employers have attempted to manage COVID-19's spread by requiring that employees do temperature checks and answer symptom questionnaires before coming to work. In "Who's In and Who's Out under Workplace COVID Symptom Screening?" **Krista Ruffini**, **Aaron Sojourner**, and **Abigail Wozniak** provide some of the first analyses of this new feature of the pandemic workplace. Screening will likely identify many workers as high-risk on any given day, they find, which has economic consequences for those workers. So that employers understand which groups are more likely to be ruled in and out by self-screens, the economists also analyze whether different demographic groups report symptoms differently. This paper was discussed in an article on TheHill.com.

The most recent Institute working papers related to COVID-19 examine the pandemic's impact on different groups of employees. Big cities have a higher percentage of jobs that could be done remotely than less populated areas, but until COVID-19, very few of these jobs were remote, report Lukas Althoff, **Fabian Eckert**, Sharat Ganapati, and Conor Walsh in "The City Paradox: Skilled Services and Remote Work." After the pandemic hit, many of these jobs did go remote, which reduced foot traffic in local service establishments. As a result, low-skill customer service employees in big cities saw steeper declines in employment than their counterparts in less dense areas.

Misty Heggeness focuses on the impact of school closures on working parents, a pressing topic for families and policymakers. To do this, Heggeness compares employment patterns in places that closed schools early to places that closed later or not at all. In "Why Is Mommy So Stressed? Estimating the Immediate Impact of the COVID-19 Shock on Parental Attachment to the Labor Marker and the Double Bind of Workers," she finds that when day care sites and schools shut down, mothers with school-aged children—but not fathers—took leave from work to care for their kids. "Mothers who maintained jobs in early closure states were 53.2 percent more likely not to be working than mothers in late closure states," Heggeness writes. She concludes that mothers' careers remain vulnerable to the availability of affordable child care. This article received widespread attention in national media, including the *New York Times*, *Wall Street Journal*, and Yahoo Money.

Taxes, gender, and race

Impediments to women's participation in the labor force are addressed from another vantage point in "Are Marriage-Related Taxes and Social Security Benefits Holding Back Female Labor Supply?" Margherita Borella, **Mariacristina De Nardi**, and **Fang Yang** demonstrate that because most married couples file taxes jointly, many married women experience higher marginal tax rates than they would if they were single, which discourages them from working. Eliminating joint taxation as well as spousal and survivor benefits in the Social Security program would provide a significant boost to participation in the workforce, the researchers find.

Carlos Avenancio-Leon and **Troup Howard** turn their attention to a different part of the tax code: property taxes. In "The Assessment Gap: Racial Inequalities in Property Taxation," they report that government assessments of Black and Hispanic homeowners' property values are higher relative to the home's actual market value than assessed values of White homeowners' properties. This racial assessment gap has two causes. One, government assessors fail to pay enough attention to the specific neighborhood attributes of where properties are located. Two, minority homeowners are less likely to appeal an assessment than White homeowners; when they do appeal, they are less likely to win; and if they do win, they win less relief. A partial solution is to link assessments to ZIP-code-level home price indexes. This research received national media attention from the *Washington Post*, MPR News, and TheHill.com, among others.

Earnings, consumption, and insurance

In 2020, Institute scholars also studied individuals' and households' decisions about how much to consume, save, and work when they face an abrupt change to their wages, earnings, or income, which can be caused by events such as a job change, unemployment, or a change in health. Understanding these dynamics improves our ability to evaluate the effects of monetary policy and government benefit programs on different groups of people.

In "Wage Risk and Government and Spousal Insurance," **Mariacristina De Nardi**, Giulio Fella, and Gonzalo Paz-Pardo study the wage risks faced by households with different compositions.

Married people are subject to a sudden change in earnings of their spouse, for instance, but they can plan ahead for that possibility through joint savings and can potentially respond by changing either spouse's labor supply. The authors use this enriched understanding of households' wage risks and labor supply behavior to analyze the impact of tax and welfare policies in the United Kingdom.

In "Family and Government Insurance: Wage, Earnings, and Income Risks in the Netherlands and the U.S.," **Mariacristina De Nardi**, Giulio Fella, Marike Knoef, Gonzalo Paz-Pardo, and Raun Van Ooijen find that for male workers in the Netherlands, the risk of a sudden drop in earnings is highest at the beginning and end of their working life and for those at the bottom and top of the income distribution. In the Netherlands, government transfers are a more important form of insurance against earnings loss than in the United States, where family insurance (for example, income from a spouse) plays a larger role.

Old age presents another important source of risk to a household's income due to temporary health setbacks. In "Why Does Consumption Fluctuate in Old Age and How Should the Government Insure It?" Richard Blundell, Margherita Borella, Jeanne Commault, and **Mariacristina De Nardi** find that after age 65, people are subject to large but temporary shocks to both their income and their health. When a decline in income is due to a decline in health, households spend less on car maintenance and luxury goods—not because they don't have the resources, but rather because they don't enjoy consuming as much while experiencing poor health.

Geographic distribution of income

While it's well-known that average wages are higher in cities than in more rural areas, it has been difficult to determine if big cities make workers more productive (and thus earn higher wages) or if more productive workers choose to live in big cities. In "The Return to Big City Experience: Evidence from Refugees in Denmark," **Fabian Eckert**, Mads Hejlesen, and Conor Walsh study the wages of 80,000 refugees who were assigned where to live by the Danish government. While all refugees' wages are similar when they first arrive, those who were randomly settled in Copenhagen, Denmark's one large city, grow about 35 percent faster every year than the wages of refugees settled elsewhere. The reason, the researchers find, is that over time, refugees in Copenhagen are more likely to work at more productive firms and in more skill-intensive occupations than refugees elsewhere, which pay higher wages.

Eckert and co-authors Sharat Ganapati and Conor Walsh continue this line of research with an investigation of why wage growth in cities has been so much faster than wage growth elsewhere. This was not always the case; for much of U.S. history, economic growth was faster in the country's poorer regions than its wealthy ones. That changed around 1980. The reason, the researchers explain in "Skilled Scalable Services: The New Urban Bias in Economic Growth," is that large cities are home to service industries, such as IT and management consulting, that rely on high-skill labor and information and communication technologies. The wage growth in this sector has outpaced wage growth in all other sectors, in large part due to the decline in communication costs, which makes the products of these industries—a search algorithm, a streaming service—available to wide, even global, markets.

Across sectors, across countries

Yet other papers take an international perspective to better understand features of the economy.

In "Misallocation and Intersectoral Linkages," **Sophie Osotimehin** and Latchezar Popov study how distortions in prices in one sector spread to other sectors. This topic is particularly relevant in the current economic crisis, as some sectors have suffered greatly while others have boomed. Osotimehin and Popov find that price distortions, such as those caused by a firm's monopoly power, don't affect demand in other sectors if there is no good substitute for the particular product: When input substitutability is low, links between sectors do not necessarily amplify the effect of the price distortion. This research shows that how substitutable a particular product is affects the extent to which a price distortion will spread across the economy.

In "Firm-Embedded Productivity and Cross-Country Income Differences," Vanessa Alviarez, **Javier Cravino**, and Natalia Ramondo advance our understanding of why income per capita differs across countries, a major source of global inequality. To do this, they measure "firm-embedded productivity"—that is, factors that differ across firms within a country but can be transferred across countries within multinational firms, such as blueprints and management practices. They find that differences in firm-embedded productivity across countries is large, accounting for roughly one-third of the variation in output per worker. This finding suggests that policies that promote firm-embedded productivity, such as research grants, should reduce cross-country income differences.

Finally, **Mark Colas** and Dominik Sachs deepen our understanding of the economic impact of immigration. Analysis has shown that low-skill immigrants consume more in government benefits and services than they pay in taxes, creating a fiscal burden. Colas and Sachs extend the analysis to indirect fiscal benefits by showing that low-skill immigration should increase wages of high-skill workers, which increases the latter's tax payments. In "The Indirect Fiscal Benefits of Low-Skilled Immigration," the economists find that a low-skill immigrant adds between $700 and $2,100 a year to public finances due to this indirect effect, an amount that is similar in size to the direct fiscal cost.