for all

SPRING 2021

INTERVIEW: **Esther Duflo on the Nobel, Effective Interventions, and Diversity in Economics**

SPOTLIGHT: **For Institute Scholar, “Inequality Is Kind of Personal”**

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THE MAGAZINE OF THE OPPORTUNITY & INCLUSIVE GROWTH INSTITUTE

The Myth of the Rising Tide

FEDERAL RESERVE BANK OF MINNEAPOLIS

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About the cover

The illustrations on the cover and the "The Myth of the Rising Tide" feature article were created for *For All* by artist Paulo D. Campos, a Brazilian-Portuguese illustrator who lives and works on the East Coast. His work has been featured in numerous publications, including the *New York Times*, *Scientific American*, and the *Kenyon Review*. See more of his work at pdcampos.com.

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For All
The Magazine of the Opportunity & Inclusive Growth Institute

Federal Reserve Bank of Minneapolis

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FROM THE DIRECTOR

BY ABIGAIL WOZNIAK

Evidence we can act on

As we prepared this issue of *For All* at the end of 2020, I drafted this letter knowing it wouldn't circulate until spring of 2021. Certainly, 2020 taught us to be careful about being too confident of what lies a few months ahead. However, the more enduring lesson from 2020 is the urgent need to advance economic inclusion, in a way that allows real change to arrive quickly.

When I joined the Institute—just two years ago—I knew our mission was critically important, but I expected that we'd need to compete to make sure our focus issues received attention amid other priorities for policymakers.

Instead, 2020 brought an all-hands-on-deck urgency to addressing systemic exclusion of Black, Brown, and Indigenous communities from our economy's growth and potential. For a research effort like the Institute, this urgency challenges us to find new ways of working. As the pandemic demonstrated, we must acknowledge that the critical inquiry research demands can feel slow to provide answers. Vaccines and other medical advances were developed in truly record time. Yet, as we lived through pandemic deaths and economic damage, we all wished for quicker solutions.

The pandemic also reminded us of how important it is to do the hard work that the best scholarship requires. Repeatedly, in-depth research showed us that our first instincts and observations about the pandemic were wrong. Sometimes early research was wrong too. But, ultimately, this process gives us evidence we can act on.

What does this process look like when it works best? It starts with a clear goal. Then it asks good questions about how to reach that goal, connects with the right people to answer them, and shares insights in a way that ensures they are used.

I'm proud that our plans for 2021 work toward this ideal. To make sure we're asking the right questions, we're looking at how a major source of guidance for the Fed—the economics profession—can eliminate racist influence and assumptions from its work. We looked to our April event for the Fed's "Racism and the Economy" series, "Focus on the Economics Profession," to provide important guidance on this. Our interdisciplinary advisory board and diverse visiting scholars program are both in their fifth year. They are critical to helping the Institute connect with experts who can bring a range of tools and perspectives to big questions about how to foster opportunity and economic inclusion. And we're launching a robust communications effort in 2021 to make sure a broad range of community leaders and decision makers can benefit from the research we connect with.

In both of our 2021 issues of *For All*, we're starting with the first part of that process and taking a closer look at the Institute's goals. We'll focus on what inclusive growth looks like in this issue and on opportunity in the fall issue. I'm excited to share conversations between our Institute economists and advisors on what defines inclusive growth in "The Myth of the Rising Tide" on page 6.

I'm grateful for your attention to our work. I look forward to sharing the new insights 2021 brings. ★

Abigail Wozniak is the director of the Opportunity & Inclusive Growth Institute and a senior research economist at the Minneapolis Fed.

UPDATE

Tackling racism from within

Challenging racist assumptions and practices in the economics profession BY ALYSSA AUGUSTINE

On Memorial Day 2020, America was hurled into a reckoning with racism. Thousands took to the streets—amid a global pandemic—to protest the killing of George Floyd by Minneapolis police.

Black and Brown people engage with the criminal justice system at higher rates than Whites and often face more severe consequences. But it is not the only institution tangled in racism's tentacles.

Days after Floyd's death, Institute advisor and Howard University Professor William Spriggs wrote an open letter to economists, imploring his colleagues to consider the role racism plays not only in their empirical assumptions but also in their profession. "Their training as economists has let them silently accept lots of 'givens' they now understand should not be presumed," Spriggs wrote.

Economists inform and shape policymaking processes in fundamental ways. Race and economic outcomes are intertwined, and yet "the overwhelming majority of explorations of racial disparities in economic outcomes remains deeply tied to [the] view of race as an exogenous variable." For Spriggs, it is high time to eliminate the "othering" of Black people by economists, both within their ranks and in their research.

Similarly moved, Minneapolis Fed President Neel Kashkari, alongside Atlanta Fed President Raphael Bostic and Boston Fed President Eric Rosengren, launched "Racism and the Economy," a series of conferences designed to explore the effects of and solutions to institutionalized racism.

This spring, the Institute joined the series to organize a conversation on racism in economics. Guided by Director Abigail Wozniak, participants examined the ways racism persists in the field. From conditions influencing the professional pipeline to assumptions about race, panelists thoroughly examined the mechanisms enabling racism in the discipline.

To watch a recording of the event and learn more, go to **minneapolisfed.org/policy/racism-and-the-economy**. ★

The research community at the Institute includes visiting scholars, consultants, economists, and research analysts. These scholars bring a diversity of backgrounds, interests, and expertise to research that deepens our understanding of economic opportunity and inclusion as well as policies that work to improve both. We talked with four of them about their work.

SERGIO BARRERA

Research Analyst, Federal Reserve Bank of Minneapolis

MAKING COLLEGE WITHIN REACH

Growing up in Arizona, Sergio Barrera dreamed of going to college but never thought it was a realistic option. No one in his working-class immigrant family had attended college, and his peers weren't familiar with college either.

"The other Mexican American kids that I grew up with—a lot of the low-income kids I grew up with—all of us just had in mind that college was really expensive," he said. "And we also had in mind that you had to be really smart to get into college."

It wasn't until after a stint in the Marines, where he picked up academic confidence in language school and gained access to the GI bill, that college seemed within reach.

Now, as a doctoral student at the University of Minnesota's Economics Department and a research analyst with the Opportunity & Inclusive Growth Institute, Barrera is trying to understand how lack of exposure to higher education contributes to growing educational inequality in the United States.

The problem, he believes, isn't just lack of money for tuition, but the "information friction" he and his friends experienced.

In his dissertation work, he has found that children with less-educated parents are less optimistic that their future earnings would justify the high debt they would incur as students. Now he's trying to understand how college costs affect those beliefs. The larger goal is to predict the impact of government interventions such as free college tuition or arming students with better data about the job market and college costs to help them make better decisions.

Barrera has also worked with Luisa Blanco, a former Institute visiting scholar, and others on a recently published paper examining causes of the racial and ethnic gap in financial literacy, another kind of information disparity that has long been correlated with financial outcomes.

"For me, inequality is kind of personal," he said. "This is about helping people that come from a similar background to me. And the way to help people is to understand their problems."

—Tu-Uyen Tran

"Inequality is kind of personal."

—Sergio Barrera

ABDOULAYE NDIAYE
Assistant Professor of Economics,
New York University Stern School of Business

INEQUALITY, SOCIAL INSURANCE, AND PROGRESSIVE TAXATION

For visiting scholar Abdoulaye Ndiaye, studying public finance is his way of deepening our understanding of how to address income inequality.

Struck that many rules of government benefit programs in Senegal, where he grew up, seemed ad hoc, Ndiaye started researching their structure and funding challenges.

To assist those with little income, governments offer social insurance, such as unemployment and retirement benefits, which are funded by progressive taxes. In the United States, despite profound income inequality, the top marginal tax rate is lower than it is in many other developed countries, limiting the government's ability to redistribute.

Proposals to increase the marginal tax rates on high earners, Ndiaye explained, have been met with the criticism that they fail to consider how wages will respond to higher taxes. If taxes go up, the critique goes, then wage contracts will become riskier—that is, employers will pay employees less in base salary and more in performance-based pay—because now that the government is providing more insurance, workers will be willing to work for riskier wage contracts. This would mean the taxes that are intended to redistribute income won't have much effect.

Ndiaye and his co-authors set out to study if this critique is valid by building a model of the economy that takes into account how wages are formed. About 50 percent of jobs in the U.S. feature performance-based pay, including many low-wage jobs in sales and agriculture.

They find that making the tax code more progressive has two effects, not just one. The increase in social insurance that results from more progressive taxes does make wage contracts riskier. At the same time, higher taxes mean workers want to work less, and so firms need to write wage contracts that are *less* risky for workers to accept them. "On net, the amount of risk in people's earnings does not change" when taxes become more progressive, Ndiaye said. Performance-based pay is not sensitive to how progressive taxes are.

Using this new understanding of how taxes affect wages, the economists conclude that the optimal tax rate that would maximize the welfare of everyone in society, as Ndiaye said, "is more progressive than the current U.S. system."

—Lisa Camner McKay

DIANA VAN PATTEN
Assistant Professor of Economics,
Yale University School of Management (2021)

WORKER MOBILITY AND ECONOMIC GROWTH IN THE BANANA REPUBLICS

When a multinational corporation moves into a developing economy, it would be reasonable to wonder how much power workers wield over their employers.

The United Fruit Company (UFC), one of the largest multinationals of the 20th century, was born out of undeveloped land in Costa Rica and controversially inspired the term "banana republic."

For visiting scholar Diana Van Patten, the question was: When a multinational corporation starts production, what do host countries and residents get in exchange?

UFC was spending more per capita on local amenities than the Costa Rican government. "The company was investing a lot of money in … hospitals, schools, parks, [and] housing for its workers," said Van Patten, a native Costa Rican. "What was forcing this company—that the Latin American narrative has always depicted as a villain—to do good?"

Company reports indicate that UFC was having trouble retaining its workforce, primarily due to competition for labor from the coffee sector. Without housing and schools for their families within the UFC, workers returned home, forcing the company to replace them.

Worker mobility, powered by valuable alternatives, led to UFC's investment and to large, persistent positive effects for the community, Van Patten finds.

Using data from 1973 to 2011 to compare outcomes on either side of plantation borders, Van Patten finds that households inside the UFC have had better living standards than households in other comparable locations.

"The way companies shared profits was not only through wages, but also through local amenities … which is important to attract workers to a region whenever these amenities are underprovided," said Van Patten.

Had worker mobility been lower, the outcomes would have been very different. In these cases, the company can "set the wage in their area and potentially exploit the worker," said Van Patten.

In fact, worker welfare is lower than if there were no company at all.

While Van Patten says her findings do apply to developed economies, her perspective on inclusive growth is also international and is reflected by her research agenda. "Inclusive growth should not leave developing countries behind; understanding the challenges and opportunities that these countries face is key."

—Alyssa Augustine

ARIELL ZIMRAN

Assistant Professor of Economics, Vanderbilt University

EXPLORING IMMIGRANTS' ECONOMIC MOBILITY IN AMERICA

Policy is often influenced by myths we've developed about our past. In the case of immigration, an influential myth held that the immigrants who arrived in the United States from Russia, Austria, and Italy in the early 1900s failed to assimilate and achieve upward economic mobility to the extent that earlier immigrants from Germany, Britain, and Ireland did—and that the reason for this failure was their countries of origin. This belief helped to motivate new immigration policies implemented in 1921 and 1924 that heavily restricted immigrants from eastern and southern Europe.

Since then, perceptions of immigrants' ability—or inability—to work their way up the ladder have continued to influence U.S. immigration policy, explains Ariell Zimran, a professor of economics at Vanderbilt University.

But as Zimran and his colleague William Collins show, the myth isn't true—or rather, it's only half-true. "There is interesting economics to learn about the past," Zimran, who visited the Institute in the fall of 2020, said. "If you don't go back and look at how we got to this place, you have no hope of understanding the problem in its entirety."

> **"If you don't go back and look at how we got to this place, you have no hope of understanding the problem in its entirety."**
> —Ariell Zimran

That spirit led Zimran to investigate immigrants' economic advances during the Age of Mass Migration (approximately 1840–1920). He finds that European immigrants who came to the United States in the late 1800s did improve their economic status relative to U.S.-born workers, whereas European immigrants in the early 1900s did not. That part of the myth is true. However, the reason why is *not* the different countries of origin of the two groups.

The real explanation, Zimran and Collins find, is that between 1850 and 1900, the structure of the U.S. economy underwent a radical transformation. The result was a large shift in the occupational distribution of U.S.-born workers from farming, an occupation associated with little upward mobility, to unskilled labor, an occupation associated with a lot of upward mobility. Immigrants' occupational distribution, meanwhile, changed little over time—the most common occupation for immigrants in both groups was unskilled labor.

As a result, the immigrants arriving in the early 1900s were not able to work their way up relative to U.S.-born workers—but this had nothing to do with the immigrants' countries of origin and everything to do with the structure of the U.S. economy. "This tells us that the myths of history that contribute to our policy in many cases are vastly out of date," Zimran concludes.

—Lisa Camner McKay

2020-21 Institute Visiting Scholars

The Institute annually invites selected scholars from many disciplines to pursue research while in residence at the Minneapolis Fed.

Milena Almagro
Assistant Professor of Economics, Booth School of Business, University of Chicago (2021)

Costas Arkolakis
Professor of Economics, Yale University

Adrien Auclert
Assistant Professor of Economics, Stanford University

Zhifeng Cai
Assistant Professor of Economics, Rutgers University

Gabriella Conti
Associate Professor in Economics, University College London

Louphou Coulibaly
Assistant Professor of Economics, University of Pittsburgh

Terry-Ann Craigie
Associate Professor of Economics, Connecticut College

Matthias Doepke
HSBC Research Professor, Northwestern University

Maia Güell
Professor of Economics, University of Edinburgh

Nathaniel Hendren
Professor of Economics, Harvard University

Troup Howard
Assistant Professor of Finance, University of Utah

Sun Kyong Lee
Postdoctoral Associate, Yale University

Simon Mongey
Assistant Professor in Economics, University of Chicago

José V. Rodríguez Mora
Professor of Economics, University of Edinburgh

Krista Ruffini
Assistant Professor of Public Policy, Georgetown University (2021)

Diana Van Patten
Assistant Professor of Economics, School of Management, Yale University (2021)

Fabrizio Zilibotti
Tuntex Professor of International and Development Economics, Yale University

Ariell Zimran
Assistant Professor of Economics, Vanderbilt University

THE Myth OF THE Rising Tide

Economic growth doesn't guarantee economic inclusion, but ensuring inclusion can lead to growth

BY ANDREW GOODMAN-BACON

ILLUSTRATION BY PAULO D. CAMPOS

ON A WARM FALL DAY IN 1963, crowds gathered near Heber Springs, Ark., to watch President John F. Kennedy dedicate the newly completed Greers Ferry Dam. For almost three decades, residents had pushed for a dam on the Little Red River to control flooding, generate electricity, and create new spaces for outdoor recreation.

In his address, Kennedy flattered the Arkansas congressional delegation and praised the dam, while also making a bold claim that economic growth creates shared prosperity. Projects like the Greers Ferry Dam, he said, "produce wealth, they bring industry, they bring jobs." He concluded with one of the most famous lines of his presidency: "A rising tide lifts all the boats."

But even as he said it, Kennedy knew that his phrase was a hope, not a guarantee. For years, the post-World War II economic boom had been raising living standards for the average American. But not everyone was better off. A *New Yorker* article from earlier that year, read widely inside the administration, described a large, "invisible" mass of poor people in America, whose numbers "would not be significantly reduced by general prosperity." Some boats lay outside the reach of the tide.

Kennedy's aphorism now has a life of its own as shorthand for the idea that economic growth will be shared by everyone. Most presidents since have referenced it, usually more than once. It appears in the congressional record more than 300 times and in countless opinion pieces. The natural effect of a tide on boats is appealing for its simplicity. If true, then we need only worry about the tide. The boats will follow.

But what if the metaphor is wrong? It has never been true, for example, that economic benefits are evenly distributed, yet the metaphor suggests that all boats float evenly on the same tide. Social scientists, community leaders, and policymakers need to know how and for whom economies work, and what can be done for those who are excluded. The Opportunity & Inclusive Growth Institute at the Federal Reserve Bank of Minneapolis is bringing together technical expertise and on-the-ground experience to understand "What is inclusive growth?" and how it can be achieved.

The rising tide

Economic growth is a modern concept. Early writings on economic well-being from the late 1700s concluded that most people inevitably lived hand to mouth, on the edge of survival. Advances in technology and the growth of trade since the industrial revolution, however, have created vast amounts of wealth. Even while global population has increased 12 times since 1700, output *per person* is about 10 times higher. Per person, the United States produced $65,000 worth of goods and services in 2019. That is $260,000 for a family of four, or as much as the 95th percentile family makes today. The tide is high.

But averages hide enormous gulfs in lived experiences. Half of American households in 2019 had annual incomes of $68,000 or less—nothing close to the $260,000 that per capita gross domestic product (GDP) implies for a family of four. This inequality exists despite the fact that workers can produce much more than they used to. "Output per hour worked is about 85 to 90 percent higher than it was four decades ago," said David Autor, Ford professor of economics at MIT, "but median wages have not increased very much and at the bottom it's even worse." Our growth has been "inclusive" only in the roughest sense.

Which boats?

Traditional theories of economic growth sidestepped questions of inclusion. Robert Solow, who served on Kennedy's Council of Economic Advisers from 1961 to 1962, won a Nobel Prize for his theory of growth. In it, the factors that make a country's GDP grow make each of its identical workers better off by the same amount. All the boats are the same and sit on an even tide by assumption.

Economists today, however, increasingly focus on inequality and inclusion, and for them the issue begins with how we measure the economy—that is, what it is that we are trying to "grow." Julie Hotchkiss, a research economist and senior adviser at the Federal Reserve Bank of Atlanta, observes that while "economic growth is most often identified through an expanding stock market or increasing gross domestic product … these aggregate measures ignore how the benefits of growth are distributed across the population." She favors a measure that combines what happens to output—growth—with what happens to the way that output is shared—inclusion.

“INCLUSIVE GROWTH MEANS TAKING SOME OF THE REAL PRODUCTIVITY GROWTH THAT WE’RE EXPERIENCING AND ENSURING THAT IT DOESN’T ALL JUST TRICKLE UPWARD.”

Economists typically define inclusion by the income distribution. In 2019, Solow himself argued that income inequality in the United States is “a topic you can’t ignore,” adding: “One of the ways in which the society has changed is, as everyone now knows, [we have] vastly more inequality than we used to have.” Indeed, since 1999, the annual income of a household at the 10th percentile has been stuck at $16,000, while the income of a household at the 90th percentile grew by 20 percent, from $165,000 to $201,000. Even among households whose incomes grew, the amount of that growth varies widely. “Inclusive growth means taking some of the real productivity growth that we’re experiencing and ensuring that it doesn’t all just trickle upward,” Autor said. Over the past 20 years, though, median household income grew by only half as much as the income of households in the 90th percentile.

Whose boats are lifted?
Excelso Sabulau, a 35-year-old independent contract delivery driver for Amazon Flex, carries deliveries to his car at a Whole Foods Market in Dublin, Calif.
SHANNON STAPLETON/REUTERS

Opposite page: President John F. Kennedy greets guests at the dedication of Greers Ferry Dam in Arkansas in October 1963.
OFFICE OF HISTORY, U.S. ARMY CORPS OF ENGINEERS

Squeezed and stretched
Anna (not her real name) and her two sons live with Anna's parents in a 28-foot RV parked on a city-sanctioned "safe lot" behind the Google complex in Mountain View, Calif. Anna earns $30/hour as a medical assistant at Stanford University Hospital, but her income isn't enough for the family to afford rent in the area; the cheapest apartment the family could find runs $1,700 a month. At night, Anna takes online classes to complete her bachelor's degree when the unstable internet connection allows.

NINA ALEXANDRIA RIGGIO

Being able to measure inclusiveness is an essential first step—imagine if we had no information about how richer and poorer households are doing—but measurement illustrates how a broad view of inclusion is also complex. How many people need to see higher incomes for growth to be inclusive? Even if growth is positive for everyone, when does the divergence in growth rates equal exclusion? Is growth inclusive if it simply maintains existing inequality? "I would say no," says William Darity Jr., the Samuel DuBois Cook distinguished professor of public policy, African and African American studies, and economics at Duke University. Growth like that can actually worsen disparities between groups, "which I think is what we ultimately have to be concerned about," he added.

Economists, however, are cautious about taking a stand here. Once you start "thinking about distributions," says Trevon Logan, the Hazel C. Youngberg trustees distinguished professor of economics at Ohio State University, "you immediately come up with this idea of wanting to be equitable." Greg Kaplan, professor of economics at the University of Chicago, suggests that one place to start is in areas "where it's going to be very easy to reach agreement. … 'People shouldn't live in extreme poverty.' Seems hard to find anyone who is going to disagree with that statement. 'People shouldn't have billions of dollars of wealth.' You're going to find very different views on that statement, maybe surprisingly." In practice, "inclusive growth" combines measurement with values.

We are not rudderless, though. "If we can understand the root causes of different distributional outcomes and identify potential policy solutions, we believe it is the Federal Reserve's responsibility to summon our resources to do that research and suggest remedies," said Federal Reserve Bank of Minneapolis President Neel Kashkari when describing the role of the Institute. Indeed, a range of ideas from both inside and outside economics provides solid footing for how and why to pursue inclusive growth.

"THE ISSUE BEGINS WITH HOW WE MEASURE THE ECONOMY— THAT IS, WHAT IT IS THAT WE ARE TRYING TO 'GROW.'"

We can (and must) do better

As useful as it has been politically, the analogy between boats on a tide and the way the economy works is too simple. Perhaps a sentiment from the late Minnesota Sen. Paul Wellstone would work: "We all do better when we all do better."

One way that we can do better is by doing what we already know is right: striving for a more just economy. The history and reality of exploitation of Black, Brown, and Indigenous people in the United States is our most glaring exclusion. In her keynote address for the Federal Reserve's "Racism and the Economy" series last fall, Angela Glover Blackwell, founder in residence at the research and advocacy group PolicyLink, reflected: "During my lifetime, deal[ing] with racism and the toxic inequality that is associated with it has been the right thing to do and the moral thing to do." People with the power to shape ideas and policies can do better by acknowledging this history and acting on it.

Since racism creates economic exclusion, addressing it will also mean that people at the bottom of the income distribution do better. This has happened before. While he spoke in Arkansas, Kennedy's administration was negotiating what would become, after his death, the 1964 Civil Rights Act. After it banned discrimination in employment and public accommodations, the gap between Black and White wages in the South nearly halved. But racial inequality persists. More than a quarter of households in 2019 who made less than $15,000 were Black, while less than 7 percent of households who made more than $200,000 were Black. Working toward racial justice *is* working toward economic equality.

For economists to contribute to racial justice, though, they will have to do better economics. The field, Logan said, lacks a "theory of race, per se" and cannot account for wide racial disparities "in some sort of rationalizable economic way." Last fall, William Spriggs, chief economist for the AFL-CIO and professor of economics at Howard University, made a similar call in the wake of George Floyd's death at the hands of Minneapolis police officers. "Hopefully, this moment will cause economists to reflect and rethink how we study racial disparities" and to get out from behind "veiled and sometimes ugly assumptions of inferiority." "We will get far better policy," Spriggs wrote, "and we will have a better discipline for it."

Inclusion puts wind in our sails

Economists have made progress on another argument for inclusive growth: Inclusion will actually create more growth. A concern among some who embrace the "rising tides" metaphor has been that trying to foster inclusion by redistributing resources, for example, will hamper economic growth

Toxic inequality
People demonstrating for the rights of essential immigrant workers drove in a caravan in midtown Manhattan in April 2020.
MIKE SEGAR/ REUTERS

"WHY DO WE AS A SOCIETY NOT MAKE INVESTMENTS THAT WOULD LEAD TO DEVELOPING THE INTELLECTUAL AND INNOVATIVE CAPACITY OF THE ENTIRE POPULATION?"

Robbed of their contributions
An estimated 250,000 people attended the March on Washington for Jobs and Freedom on Aug. 28, 1963, to demand civil and economic rights for Black Americans. The final speaker was Martin Luther King Jr., who delivered his "I Have a Dream" speech.
U.S. NATIONAL ARCHIVES

by reducing incentives to strive for high incomes. "Income inequality," wrote the late Harvard economist Martin Feldstein, "is not a problem in need of remedy."

But better economic theory and statistical evidence clarify how exclusion and inequality act as a drag on the economy. To contribute to their fullest, people have to be able to invest in their own productivity. But "because the U.S. is so unequal at so many levels," Autor said, "a lot of our citizenry is being under-invested in in terms of skills, in terms of health, in terms of safety. Not only is that morally unjust, it is also a wasted opportunity."

Exclusion and inequality also mean that talented people can't pursue their ideas, make discoveries, and expand knowledge. In Solow's classic growth model, for example, the key determinant of prosperity is technology. "If it's all about technological change," Logan asks, "then why do we as a society not make investments that would lead to developing the intellectual and innovative capacity of the entire

High demand, low pay Jennifer Washington is a home health care aide who juggles multiple clients in Oakland, Calif.
JIM WILSON/THE NEW YORK TIMES

population?" Indeed, research by Michigan State University economist Lisa Cook shows that lynching led to fewer patents by Black inventors. When we do better on inclusion, we all do better economically.

These arguments are gaining new traction among economists, but activists have used them for a long time. Even Kennedy heard them. Five weeks before he spoke of rising tides in Arkansas, he met with the civil rights leaders who organized the March on Washington for Jobs and Freedom. They argued that "the twin evils of racism and economic deprivation" excluded racial minorities from the economy, concluding: "All [of] America is robbed of their potential contribution."

Community leaders today continue to pursue this vision of inclusion that also spurs growth. "Inclusive growth is what happens when everyone has access to the resources and opportunities they need to thrive," said Chanda Smith Baker, chief impact officer and senior vice president of the Minneapolis Foundation. Last year, the Thriving by Design Network released a sweeping set of proposals to address racial and rural/urban inequality in Minnesota. The Minnesota Equity Blueprint grew out of agreement that "disparate access to personal and economic opportunity has always been morally wrong, costly to taxpayers, and has been a significant limiting factor on the state's economy." Dane Smith, former president of Growth & Justice, a Minnesota think tank, who helped produce the Blueprint, explained: "Reducing economic and racial inequality and poverty rates … increase[s] the demand for the stuff that business produces."

Community groups are also at the forefront of solutions. Minnesota's Center for Economic Inclusion works with businesses to "apply an anti-racist lens to all decisions to ensure that all corporate actions reinforce the racial inclusion and equity agenda." CEO Tawanna Black urged business leaders to invest in minority-owned businesses: "To build that inclusive economy takes supplier diversity strategies that allow us to grow supply chain efforts, which allows small businesses to hire folks in their communities."

Michael Goze, chief executive officer of the American Indian Community Development Corporation, is concerned with populations who may not be directly reached by business policies. "We have probably a large population that is not in any type of data. They're not drawing unemployment, they're not employed, and there's a whole lot of folks who are disengaged from general data collection points," he said. His organization also works on housing and substance abuse issues in Native communities, but with an eye toward the future. "If you invest in youth today," Goze said, "you can uninvest in the department of corrections in 18 years."

Our evolving view

There is, of course, no single definition of "inclusive growth." It is multidimensional and complicated, not a natural law to which we are subject like the tides. It challenges the technical abilities of researchers and organizations like the Institute. It demands clear values from local leaders and policymakers. We cannot achieve it by staying in our separate boats. But it also holds the promise that if we do a better job thinking about and working toward inclusive growth, we will all do better in the end. ★

Andrew Goodman-Bacon is a senior research economist with the Opportunity & Inclusive Growth Institute. He holds a Ph.D. in economics from the University of Michigan.

INTERVIEW

PETER TENZER

Esther Duflo on the Nobel Prize, effective program interventions, diversity in economics, and

deciding how to share

BY DOUGLAS CLEMENT

MIT's Esther Duflo has received virtually every major award the economics profession can bestow, culminating in the 2019 Nobel prize—its youngest recipient and only the second woman to be so recognized.

But the achievement she highlights now is a recent initiative she helped design, a massive effort in May 2020 to alert villagers in West Bengal, India, of pandemic risks. "I'm convinced that it saved thousands and thousands of lives," she noted in the following conversation from November 11, toward the end of the Duflo's term as an Institute advisor. "I'm very proud that we were able to seize the moment."

Focusing on what's truly important is central to Duflo's success as a scholar. It's also key to her leadership of one of the world's premier policy research institutions, the Abdul Latif Jameel Poverty Action Lab.

As the name suggests, alleviating poverty through effective intervention is J-PAL's mission. Duflo had the same objective as an advisor to the Institute. Economic growth should increase opportunity, not inequality, she says. "It's a question of what societies decide about how to share."

Equality and economic growth: A trade-off?

As you know, the Institute is focused on broadening opportunity and ensuring that growth is as inclusive as possible. But traditionally in economics, there's a trade-off between efficiency and equality.

You've studied the relationship between growth and inequality in the developing world, and your new book looks at rising inequality in industrialized nations.

What is your broad view about the concept of inclusive growth? Must growth be sacrificed to broaden opportunity, or is the notion of a trade-off a fallacy?

I think the whole notion of a trade-off is likely a fallacy, for various reasons. First of all, there is no clear link either on theoretical grounds or empirically between higher inequality and more growth. There is no reason why inequality is necessary for growth. And there is no law of economics that says that growth increases inequality either. So I think there is

"I think the whole notion of a trade-off is likely a fallacy. There is no causality necessarily going in either direction. It's a question of what societies decide about how to share."

no causality necessarily going in either direction; therefore, there is not necessarily a trade-off.

Just as a matter of accounting, growth is equality-enhancing if most of the benefits of growth are going toward the poor. And growth is *in*equality-enhancing if most of the advantages are going toward the rich. Both are possible. I don't think there is a systematic pattern either way.

It's a question of what societies decide to do about how to share it, more than anything else. In the U.S., economists have played a big role in pushing this narrative, that maybe there was a trade-off. Starting with the Reagan administration, I think there was a powerful current of economics that started to dominate the conversation, which cast the debate in those terms.

And that was part of the narrative that led to dismantlement of institutions that put a cap or clamp on inequality: the erosion of unions, lowering the top tax rates, and letting the minimum wage erode. All of these things have led to an increase in inequality, but there is no sign that they led to an increase in growth.

It's possible that they might, but it's a limited sample, so it's hard to know. There's only one United States. But if you look at the performance of the U.S. economy and compare it to Europe since those reforms took place, there is no clear relationship. In fact, if you look at other countries that have more regressive taxes—because most tax reform since the '60s has been in the form of reducing tax rates—it is not the case that countries that have reduced tax rates more have grown faster. In general, there is no clear relationship either way, which suggests that actually there is probably not much of a trade-off.

In fact, we don't seem to have much of a handle on what causes growth anyway, although we might have interesting theoretical narratives on growth. If there is a consensus among macroeconomists, it's on what should be avoided at all costs, like hyperinflation. But there is not a set of recipes that guarantees growth, and it's not that these recipes therefore lead to a trade-off. So, I think there is actually no trade-off.

COVID-19's unequal impact

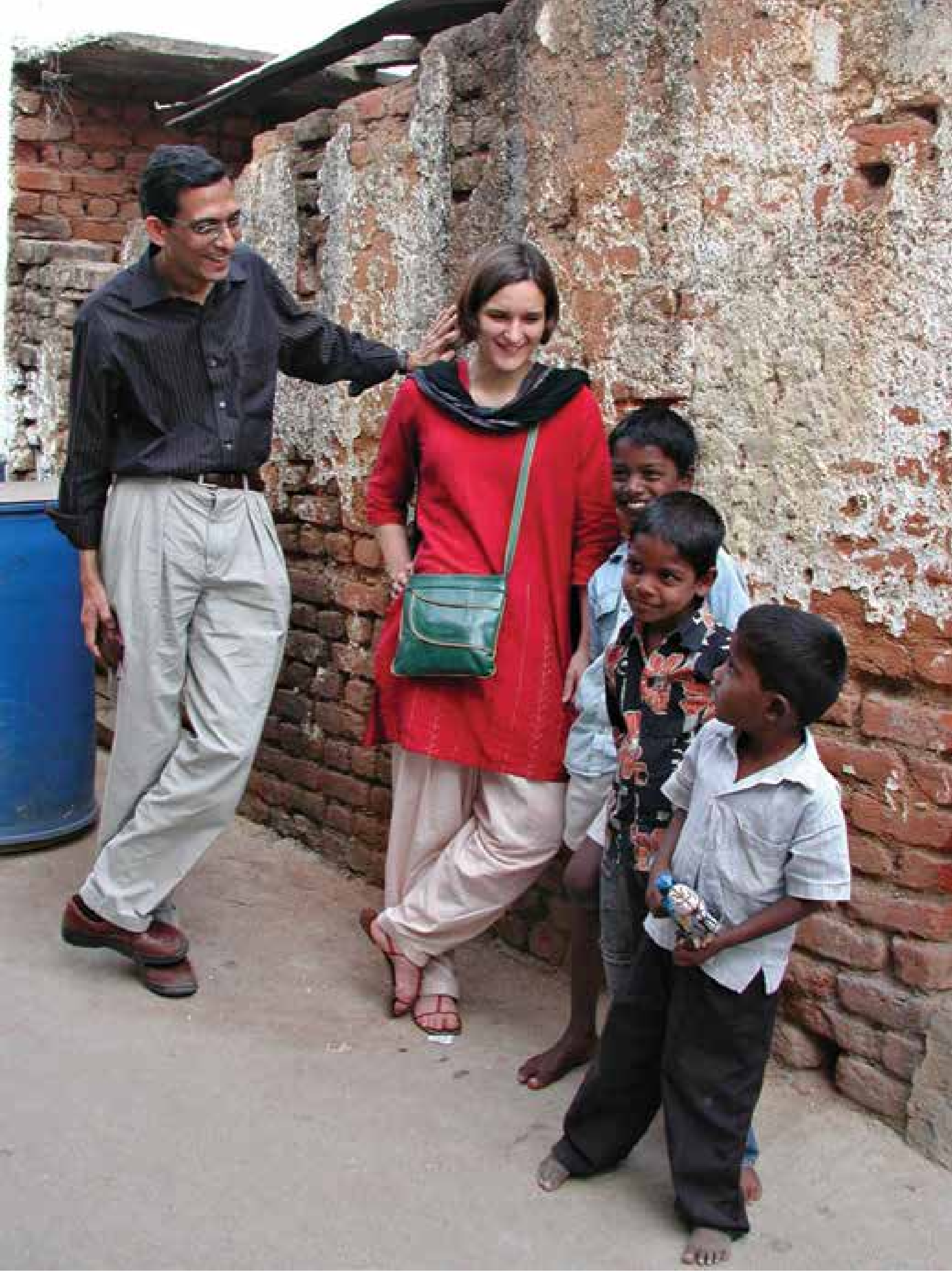
"We're all in this together" is a common slogan in the U.S. these days. But, of course, the pandemic's impact is highly unequal. Low-income groups and people of color bear the brunt of both its health and economic consequences. Women face disproportionate economic impact. Is that true in the developing world as well?

It's true in Europe as well, by the way, both in terms of health cost and economic cost, although I think Europe has done a more consistent job in protecting its most vulnerable.

Developing countries? I actually don't know of statistics that neatly decompose it. It would be my guess that it would be something quite similar.

The economic crisis itself, if you look at the poor countries compared to the rich countries, the impact on the poor countries is much larger because they don't have a cushion. The rich countries are going to borrow themselves out of it if they want to, and that's what they have been doing, both in the U.S. and in Europe, and they were completely right to do that.

But for the poor countries, that's not been an option because if a poor country tries to raise a lot of money, its credit rating would go down. So they haven't been able to do it, and they have really not been helped much by the countries from the OECD [Organisation for Economic Co-operation and Development]. The reaction from the developed world has been, really, nonexistent. Without that protection, poor countries have felt the full brunt of the economic crisis. That has been a disaster, where people have literally gone back to poverty levels that the World Bank estimates have not seen in decades.



Abhijit Banerjee and Esther Duflo on a field visit in Hyderabad, India, in 2007. The couple has conducted numerous field experiments in India and other countries on interventions to address public health issues.
DAVID BARON / COURTESY MIT

Field experiments and progress

Fortunately, you were able to get to Sweden for the Nobel ceremony in December 2019, before the pandemic began. In your lecture, you said that every field experiment is "a dot on a pointillist painting."

Can you explain the metaphor and how, I think, it answers a common criticism of randomized controlled trials?

That's exactly right. It's the best way I've found to respond to a frequent critique of RCTs, which is, "It's nice that you get one result somewhere, but how do you know it can be generalized to other places?" The truth is that without a conceptual frame, I do not.

Likewise, even though for your entire life, you've seen the sun rise on the same side of your home, without a framework, you have no idea whether it's going to happen again tomorrow. There's nothing new there in that philosophy, in neither the question nor the answer. Any advance is a combination of empirical findings and a frame to interpret.

The idea of the pointillist painting is, imagine a painting by Seurat. It's literally made of dots, and each of these dots on its own is perfectly nice, but it doesn't generalize to anything. But if you step back and accumulate all these dots, you see the entire painting of, say, a family on the bank of the Seine having a picnic.

Suppose you're trying to assemble a jigsaw puzzle of that Seurat painting. Just by looking at the rest of the painting, you sort of know what goes next. You have a prediction about where a given piece fits. You might find that your piece doesn't fit. It might be wrong. It's not what you expected. But the frame, the painting, gives you good guidance for what you might expect.

That's how progress happens. The caricature is that you try one small experiment in one place, and then you can take the result to the entire world. That's not it. The way it actually works is: Do your small experiment; get some findings that are interesting. They might contradict or confirm the theory that you started from, but they give you fodder for the next experiment, and so on and so forth, until you have an understanding of what might be the entire shape or contour of that problem.

"Graduating from poverty"

What you've described makes me think about your 2015 paper in *Science* that describes a multifaceted intervention in six countries. The program was very effective, very powerful.

Could you give a quick description of the intervention and the results? To what extent are the findings particular to those countries and villages, or are its lessons universal? Are they isolated dots, or a coherent painting?

The program was designed and first piloted and implemented by a Bangladeshi organization called BRAC. They realized that their microfinance programs left some people out because they were too poor to even take microfinance. Usually those are people who work as farmhands, as beggars; many are single women. These are people in very, very difficult circumstances. BRAC wanted a program that

"The status of women in the economics profession is not great, but the status of African Americans and Latinos and Native Americans is much worse. We need to… tap into that talent."

addressed the needs of these people and designed this intervention that is sometimes called a "targeting the ultra poor" or "graduation" program. The idea is that participants "graduate out of poverty."

It's a big-push program. It gives participants a productive asset like a cow. It gives support for 18 months to take care of the asset. And it provides financial support in the form of a stipend in the first few weeks. So it's expensive per person.

It was evaluated in Bangladesh at a quite large scale, and they found a super large effect. We repeated this evaluation in six other countries, and what was really nice is that BRAC was sort of piloting the six others. They all met very regularly in Paris and discussed how the program was adapted in their cases. So it's very much the same program as in the philosophy of BRAC, the same approach everywhere. It's usually the case that when you replicate a program, things change. You improve it. You adapt it. But not in this case.

What's remarkable is that it was very effective everywhere, except in one country where it didn't work—Honduras.

I think we learned two things. First, from the policy point of view, when you have a program working in six different countries and most continents, you have pretty good confidence that this can be expanded elsewhere. Since that time, there has been replication in more places—even in Afghanistan—and it still works. So it seems to be super robust. It can be adapted and effective in all of these very poor countries for very poor people.

Duflo and Banerjee give remarks and answer questions at MIT following the announcement that they and economist Michael Kremer were co-winners of the 2019 Nobel Prize in economics "for their experimental approach to alleviating global poverty."
BRYCE VICKMARK / COURTESY MIT

This has an immediate policy implication and in fact, for example, in India now, the ultra-poor program is a part of anti-poverty policy of the government in some states. So, now, it's reaching hundreds of thousands of people, based on this evidence.

The second thing is that it led to a whole research agenda. This is like a very small painting, if you will. This good program that can be run in various places led to a research project trying to answer the question: "What's the *magic* of this program? Do you really need to do everything at once, or can you do it a bit more cheaply? *Why* does it have this effect? Is there a poverty trap that it allows people to get out of?" From those new experiments and findings, you learn things that are maybe more generalizable to other places.

Impact of *Good Economics*?

Let's talk about your most recent book, *Good Economics for Hard Times*. The book is a pleasure to read, partly because it's beautifully written, but also because—like the big-push strategy you've just described—it is really quite hopeful. As you put it in the preface, "We wrote this book to hold on to hope."

But you also point out that the general public doesn't trust economists, and that few people change their views when told what economists think about an issue.

Are you optimistic, then, that your book can change opinions about how to approach our current hard times?

I don't know if it will have an impact. I think one has to try. The way we tried to write this book is a bit different from the way that we see economists talking to people usually, especially on television.

When economists talk among themselves on Twitter, the conversation can be super lively, with arguments going both ways. But when you hear economists on television, usually it's to give you a prediction of what the GDP is going to be in the next month, or asserting a position without much explanation for how he or she arrived at that position.

So, "trade is good, trust us." Or "immigration is good, trust us; we know it." And "better times are right around the corner if only you tighten your belt a little longer."

What we try to do in this book is to say, "Look, give us more time and follow us along our line of reasoning. You might agree with us at the end of the day, but maybe not." We try to make it clear when we are injecting our political slant. But we also try to make clear, "These are the facts. This is some logic you might follow. This is where you might depart. And, then, come to your own conclusions."

I think we need to do a bit more of that as economists.

Diversity in economics

A last question, about diversity in economics. You know well that women and minorities are woefully underrepresented in economics. The profession finally seems to be recognizing that as a problem. The American Economic Association has taken some steps. Perhaps the Nobel committee is recognizing it, with you as just the second woman to win a Nobel in economics.

You've done research in India about the importance of women in powerful positions, and we've just been discussing the ability of stars to convey messages.

Do you think that your being recognized with a Nobel will bring more girls and young women into the field?

Yes, and I think it's not just me as a woman, although I take that as a challenge. I think that it's also about the field. It's the fact that our Nobel Prize was not for theoretical work, not for macroeconomics. What was recognized by the prize was something that directly touches people's lives in obvious ways. I think that was *very* relatable.

Many people, especially young people, who want to do good things in the world, don't go into this field because but they don't see this as the right path. They don't see that economists are doing anything to improve the world. But, in fact, we are. Many economists study inequality, discrimination, the environment, and so forth. In fact, these are some of the field's most vibrant areas. But there's not much of a public face for that for high school students, college students, et cetera.

I think a Nobel Prize is such a big spotlight on the field for one moment in the year that it is helpful. I want to use the platform to continue relaying that message.

My hope is that it's not just going to encourage women to enter the profession, because they see a younger woman who has won a Nobel Prize, but that it will also encourage anyone who is interested in social issues and therefore also more minorities, who now might look at economics and say, "I think I'll do law instead, and at least make some money."

In fact, there are very excellent, young Black researchers who are working on social policy issues such as discrimination. There are just not very many. You are right that the AEA is taking some steps in particular for women in the profession, though it was quite delayed in this reckoning.

But I think the steps for minorities in the profession are still quite tentative. The status of women in the economics profession is not great, but the status of African Americans and Latinos and Native Americans is *much* worse. We need to be much more imaginative and give much more priority to tap into that talent because it is there; it's just not choosing economics or, if it is choosing economics, it's not given the tools to succeed. ★

World-class research can be lengthy and complex. Here, we present the key findings, methods, and policy implications of three pandemic studies by Opportunity & Inclusive Growth Institute scholars and their colleagues. These examples represent a fraction of the Institute's growing body of research. For our full library of working papers and staff reports, and an overview of all 2020 working papers, visit minneapolisfed.org/institute/publications/working-papers.

ILLUSTRATIONS BY SOPHIA FOSTER-DIMINO

Jobs or kids? Parenting during the pandemic

When schools closed and child care shut down, moms and dads took different paths at work

BY DOUGLAS CLEMENT

What would happen to labor markets if child care didn't exist? What would the work force look like if schools didn't watch over children Monday through Friday?

We now know.

As COVID-19 forced the closure of day care facilities and schools across the nation, parents became full-time caregivers. And the impact on their work lives was enormous.

Exactly how this played out, and especially how it affected gender balance in labor markets, is the focus of new research by Misty Heggeness, a U.S. Census Bureau economist and former visiting scholar at the Opportunity & Inclusive Growth Institute.

By comparing employment patterns in states that closed early with those in states that closed later, she analyzes how parents' labor supply shifted in response to the COVID-19 shock. Did they leave their jobs altogether, take temporary leave, or devise other mechanisms to cope with increased child care responsibilities? Did the closings affect mothers and fathers differently?

In terms of reported workforce attachment and unemployment, Heggeness finds no immediately measurable impact. In the very short term, parents didn't leave the labor force entirely and they weren't fired. But the workforce *definitely* changed. Many parents took leave from their jobs. Not fathers though; just mothers with school-age children. Fathers, for their part, cut back slightly on working hours.

While stressing that these are short-term results and that labor markets will no doubt adjust over time, Heggeness speaks emphatically about both short- and long-run impacts these immediate changes are likely to have.

Balancing work with increased household responsibilities, she points out, may increase stress, reduce sleep and leisure, and potentially harm job productivity. In the long term, it may also impair job prospects for both mothers and fathers.

Her findings indicate that mothers have borne the greater burden compared with both fathers and other women, and she concludes that "a gender-equal labor market will never be fully realized unless we acknowledge the double bind of mothers and [their] dual responsibilities."

Detailed model, deep data

Heggeness starts with a standard household model but incorporates the realities of parental bargaining over resources, including time, and inequality between spouses. Beyond that, her model incorporates pan-

STUDY AUTHOR

MISTY HEGGENESS, Principal Economist/Senior Advisor, U.S. Census Bureau

> "A gender-equal labor market will never be fully realized unless we acknowledge the double bind of mothers and [their] dual responsibilities."

demic reality: school closures, business shutdowns, stay-at-home ordinances.

In normal times, parents may pay for child care if it's less expensive than what the parent can earn at his or her job. In pandemic times, that's not an option. Time spent in unpaid child care ramps up to 24/7—meaning less paid labor and less leisure. "Juggling it all," she writes.

Her data set, drawn from monthly panel data from the Current Population Survey, covers the first five months of both 2019 and 2020 and follows the same individuals over time. The final sample is devoted to parents of school-age children, including about 176,000 observations from nearly 63,000 parents.

Moms (not dads) took leave

To focus on the COVID-19 shock's impact on labor patterns, Heggeness compares workers in 18 states that closed schools early, defined as on or before the week including March 12, with those closing the following week or later (33 states). She looks at six variables to gauge labor force attachment, and amount and value of labor provided.

Heggeness' empirical analysis measures the change in weekly earnings and other labor variables that is due exclusively to closure of child care centers and schools, isolated statistically from simultaneous changes occurring in all states and pre-existing differences among them.

The results are unambiguous. In the very short term, the COVID-19 shock had no impact on employment or attachment to labor force. Nonetheless, parents with jobs had to make serious adjustments to cope with school and child care closures.

First and foremost, many mothers took immediate leave from their jobs. "Mothers with jobs in early closure states were 68.8 percent more likely than mothers in late closure states to have a job but not be working," Heggeness finds. There was no such difference for fathers, nor for women without school-age children.

How did fathers adjust? They worked a bit less, reducing weekly hours by about 1.3 percent (about half an hour per 40-hour work week), compared with fathers in late closure states. Unlike mothers, however, they didn't take work leave.

Surprisingly, household earnings didn't decline, suggesting that mothers took *paid* leave, and fathers who worked shorter hours were salaried or able to work remotely.

Implications for parents' careers

What does this mean for employees, for companies, for the economy in general? And what does it signify for families—mothers especially?

It's clear that school and child care closures affect mothers more than other women, and mothers more than fathers, reflecting gender imbalance within households in both bargaining power and child-rearing roles. Social norms and expectations also play a role, observes Heggeness. "It is more socially acceptable for mothers in the workplace to take leave for family obligations, but less so for fathers."

For both parents, balancing additional household responsibilities with work can create short-term problems: increasing stress, reducing sleep and leisure time, and impairing productivity on the job.

The long-term implications are also worrisome, leaving both parents "vulnerable to career scarring," she writes. "When mothers must take leave for childcare purposes … it has detrimental effects on opportunities for career advancement. … When fathers' hours are reduced, it leaves them [similarly] vulnerable."

But while both parents adjust work hours, Heggeness notes that taking leave from work is more drastic than working a bit less, indicating that the work-home time constraint is more binding for mothers. "The dual responsibilities of household production and formal labor market activities … are disproportionately distributed toward women, particularly mothers," she writes. "We need to prioritize discussions of child care." ★

TAKEAWAYS ↗↗

- Parental work patterns were transformed by school and child care closings
- Mothers tended to take leave; fathers decreased hours slightly
- To ensure full employment and gender equality, weekday child care is essential

How to track a killer virus with your phone

A living database of smartphone locations—designed and shared to support ongoing pandemic research

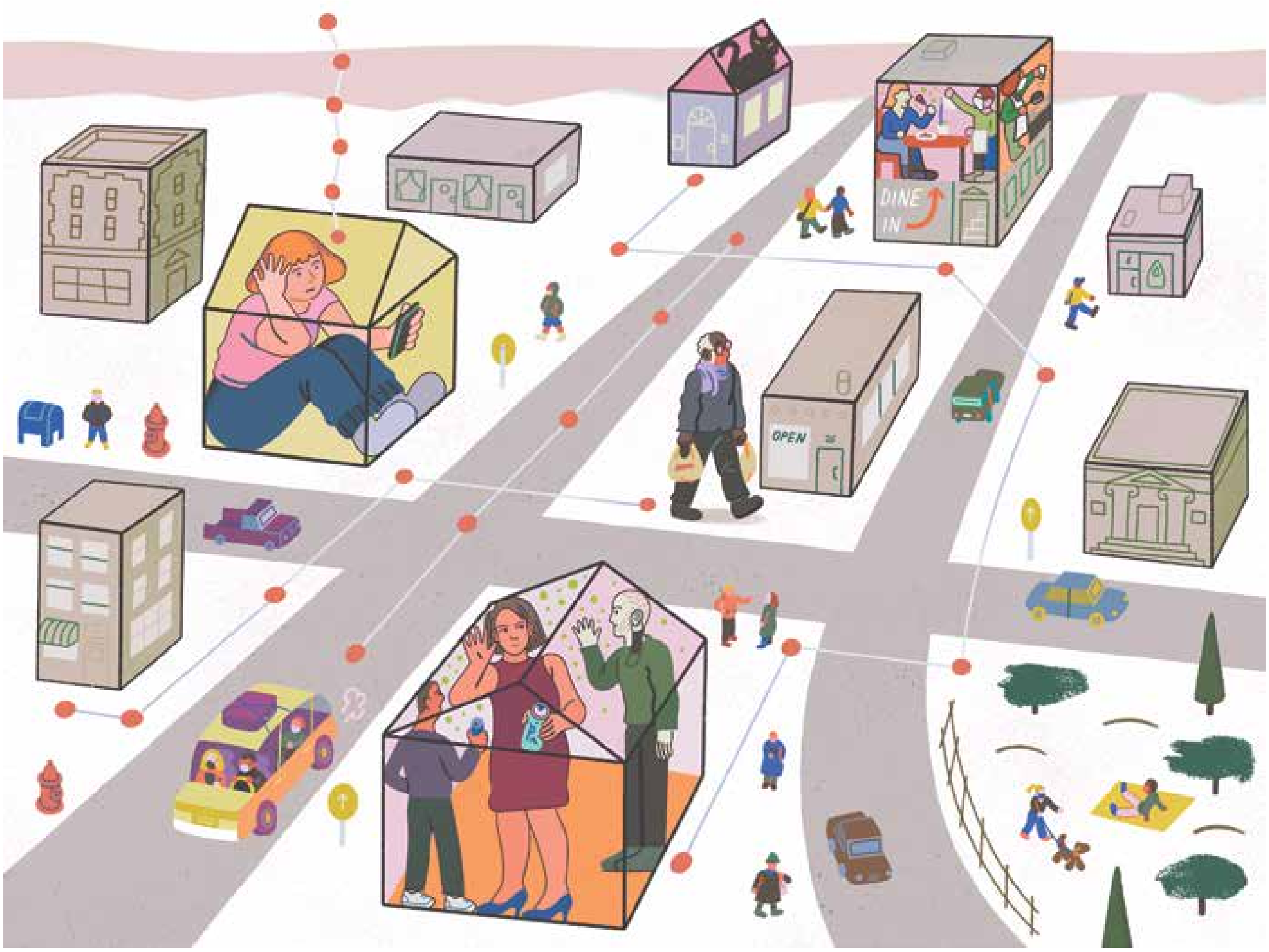
BY DOUGLAS CLEMENT

“Shelter in place.” “Social distance.”

These simple phrases express something deeply profound: human behavior to defend against a deadly infection. Their inverses, “human movement” and “social contact,” convey equally weighty concepts: the likely route and speed of viral transmission.

Mapping that route and measuring its speed are the objectives of an ongoing project by former Institute visiting scholars Jonathan Dingel of the University of Chicago and Kevin Williams from Yale, along with three colleagues. In a recent Institute working paper, they describe a rich data set they’ve created expressly for measuring human movement and social contact in the United States. And they make their data and analytical tools publicly available so that other researchers can readily use them for pandemic-related research.

The data are pinpointed, time-stamped pings emitted by smartphones, the highly personal devices that most Americans carry, almost always



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and everywhere. By geolocating and clocking each ping, the researchers determine each phone's whereabouts: Where is it? What time is it? Is it in a different location than when it last pinged? (A rigorous research protocol protects phone user privacy.)

A phone that doesn't move for days on end suggests an owner sheltering in place, by chance or intention. But pings that leave a trail show, like breadcrumbs, that its owner was on the move. The scholars also gauge each phone's proximity to other phones, yielding evidence of potential human interaction.

Movement and proximity are summarized by separate indexes, and the paper traces the paths of each index to paint a portrait of the nation's population during the first months of the pandemic. Where and when did we move, and were we close to others?

In brief: Both indexes show major declines in travel and personal visits in March and April 2020, but regions varied significantly. Travel from New York County to other counties collapsed in March, but not from Houston (Harris County) to elsewhere in the South and Southwest. Phone owners from areas with highly educated residents decreased travel and social contact at disproportionately high levels.

These and other preliminary findings in the paper are intriguing in themselves, but even more so as indicators of the database's power. For epidemiologists, economists, other researchers, and policymakers who seek information about how people are moving in relation to one another and, therefore how the virus may spread, the new database and indexes provide real-time roadmaps of the American pandemic.

Do the data represent U.S.?

The paper begins by describing database details—data sources and how they create the indexes, for example.

The researchers are meticulous in excluding extraneous or unreliable data, and in reporting limitations and selection criteria. They're also careful to protect user privacy and ensure anonymity.

Because phones are not people, there's reasonable concern that their pings don't accurately represent where their owners really are and with whom they share space. Moreover, not all Americans own a smartphone, and some demographic groups are more likely to have them.

By comparing their data with Census and other standard sources, the scholars document that, despite these limitations, their database is broadly representative of the American population.

Introducing the indexes

The researchers then create two indexes. The "location exposure index" (LEX) maps phone location over time: where a phone is, county by county, state by state. The "device exposure index" (DEX) tracks proximity to other phones—are they in the same commercial or public venue as another phone?

TAKEAWAYS ↗↗

- To aid pandemic research, scholars have built an ongoing database on human movement and social contact
- Data are from time-stamped, geolocated smartphone pings, indexed for location and for exposure to other devices
- Indexes show sharp declines in movement and contact in March 2020, with significant regional and demographic variation

Both LEX and DEX are defined with the pandemic in mind. LEX describes the share of phones in a given location that pinged from elsewhere during the prior 14 days, the virus incubation period. In short, it's the fraction of potentially infectious people who have moved between counties (or states). And DEX captures overlapping visits to venues on the same day. (Not same *hour*, since the virus can remain viable in the air and on surfaces for a considerable period.)

They then describe how these indexes evolved during the first months of the pandemic. It's a fascinating picture: the evolution of social response to ongoing biological threat.

For instance, on four national maps, dated at the end of February, March, April, and May, the scholars plot the fraction of phones that had pinged during the previous 14 days in Manhattan, an early COVID-19 epicenter. The February 29, 2020, map documents substantial nationwide exposure to incoming New York County visitors. By the end of April, the map reveals dramatic decline in travel from Manhattan.

The DEX maps tell a similar story. By late March, overlapping visits in U.S. counties declined across the nation to just one-third the levels seen in early February. By late April, visits had increased somewhat across the country, but even through late May, they remained lower than in early February, particularly to New York City, California, and Washington.

A living database

Ultimately, the paper serves as an introduction to a powerful living database that reveals how we're responding to the threat of contagious disease and death, whether by limiting our travel and visits with others or returning to life as we once knew it. By building and sharing this database, maintained with daily updates, the scholars have provided a valuable tool for others to adapt for their own research and policy aims. ★

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How well do workplace COVID-19 screens work? Do they discriminate?

A novel survey highlights strengths, drawbacks, and trade-offs of employee health screening

BY DOUGLAS CLEMENT

Many employers have implemented symptom screening protocols to safeguard employees and customers. Employees may have their temperature taken and/or answer questions about potential symptoms or high-risk behaviors.

These screening practices raise a number of difficult issues. Do they accurately detect infection? Are some questions or techniques more accurate? Do they disproportionately flag some demographic groups, potentially leading to workplace discrimination?

"How a survey is designed and the number and type of symptoms that employees are asked about will affect which individuals are identified as possibly sick. This raises issues of discrimination."

A recent working paper from the Minneapolis Fed's Opportunity & Inclusive Growth Institute sheds light on these questions, using results from a nationally representative survey that asks about employment status, financial security, COVID-19 symptoms, health status, and personal efforts to avoid infection. The paper's authors, economists Krista Ruffini of Georgetown University, Aaron Sojourner of the University of Minnesota, and Abigail Wozniak, director of the Institute, point to drawbacks and benefits of various forms of screening and provide guidance on factors employers should consider when designing workplace safeguards.

Key considerations for employers

First, workplace screens "will likely identify many workers as high-risk on any given day." Depending on the screening technique, as many as 7 percent of workers could be flagged as possibly infected.

Second, the screening method matters. How a survey is designed and the number and type of symptoms that employees are asked about will affect which individuals are identified as possibly sick. This raises issues of discrimination, since different demographic groups report symptoms at different rates.

Third, although indirect evidence suggests that positive screen rates are higher than actual infection rates, workplace screens can nonetheless serve "as an important public health tool." Positive screens could lead workers to engage in protective health behaviors that lower overall disease rates. Moreover, in the absence of routine medical testing, screens are likely to be widely used.

Finally, the economists discuss several points for employers to consider, including the importance of using methods that do not inadvertently encourage misreporting. Also, firms should weight the choice between screens that provide higher false negatives with fewer demographic disparities and those that yield lower false negatives but more disparities. Another consideration: The harms and benefits of particular strategies may change as local caseloads change.

The COVID Impact Survey

The researchers analyzed data from the COVID Impact Survey (CIS), a nationally representative survey conducted in three waves of roughly 8,000 respondents each between April and June 2020. The survey asked individuals about fever- and COVID-19-related symptoms, exposure to COVID-19, behaviors to avoid infection, and labor market engagement. About half of respondents provided their current temperature.

From these results, the researchers develop seven COVID-19 screens, varying in type and number of symptoms queried. One screen is a simple thermometer check of temperatures 99 degrees or higher. Another asks about COVID-19 symptoms from a 17-item checklist. Screens differ in detection

STUDY AUTHORS

KRISTA RUFFINI, Assistant Professor, Georgetown University McCourt School of Public Policy (2021); AARON SOJOURNER, Associate Professor, Carlson School of Management, University of Minnesota; ABIGAIL WOZNIAK, Director, Opportunity & Inclusive Growth Institute levels, over time, and for different demographic groups.

One salient finding: "A substantial share of the workforce would screen positive under any of the screens," and results varied widely among the different screens. Over half of respondents said they'd experienced at least one COVID-19-related symptom that week, for example, but just 4 percent registered temperatures of 99 degrees or higher on a specific day.

Positive rates were fairly level over time and considerably lower when screens required two or more symptoms. These survey results are likely higher than an actual workplace screen would find, note the researchers, since workers may tend to underreport symptoms fearing loss of jobs (and income) if they screen positive. Also, many CIS questions use a week-long look-back period, while actual screens are for a specific workday.

Are screens reliable? Do they discriminate?

The wide range of positive results across the seven screens raises the question of reliability. After all, the researchers' data do not include results from a medical test for COVID-19 infection. Importantly, no single question or screen is perfect. And employers should not rely exclusively on temperature-taking when screening workers.

Examining whether workplace screens have disparate demographic impacts is "crucial," say the economists. If a particular screen flags one racial, ethnic, age, or gender group more often than another, it may unfairly deprive those workers of their livelihoods. Yet if a screen regularly fails to catch infected workers of a given group, that group could be exposed to greater probability of infection.

The CIS finds that groups do indeed differ in their rates of measured and reported symptoms. Women and young workers are more likely to report elevated temperature. Non-Hispanic Whites, women, and young workers are more likely to report at least two fever symptoms.

Trade-offs and dilemmas

This paper is the only study to date to examine U.S. COVID-19 workplace screening techniques, and its value is enhanced through the unique information provided by the nationwide CIS.

It highlights the trade-offs and dilemmas that employers will face as they implement workplace screening. Broad questionnaires will flag high percentages of employees as potential COVID-19 cases. Requiring more than one reported symptom for a positive result will permit more employees to enter the workplace. But demographic groups report symptoms at different rates, raising equity considerations.

To encourage truthful responses, employers may want to assure workers that they won't lose income should they be flagged positive by a screen. And employers should be aware that screens with higher negative rates have fewer demographic disparities, and the converse. Whatever the employer's choice, "the design of these screens ... affects how many, and which, workers screen positive." ★

"To encourage truthful responses to workplace screens, employers may want to assure workers that they won't lose income should they be flagged positive by a screen."

TAKEAWAYS

- Unique survey reveals trade-offs and concerns raised by workplace screening tools
- Screening techniques likely identify many workers as high-risk on any given day; methods vary in sensitivity
- Demographic groups report symptoms at different rates, raising issues of workplace equity

THE VALUE OF FUNDING HIGHER EDUCATION

For many, college offers an avenue to economic opportunity. However, who can attend and what their outcomes are during and after college are shaped by how, and how much, higher education is funded. Two-year community colleges, which educate millions of Americans, rely on state governments for much of their funding. But when state budgets are stressed, as may result from the pandemic's downturn, funding cuts follow. Research presented by Opportunity & Inclusive Growth Institute affiliate Rajashri Chakrabarti at the Institute's spring 2020 conference on higher education shows that increasing state funding of two-year colleges improves students' educational and economic outcomes. Inequities in higher education are not the only barrier to an inclusive economy, but more funding would have meaningful benefits for those served by community colleges, including many students of color and students from lower-income groups.

IF STATE FUNDING FOR 2-YEAR PUBLIC COLLEGES INCREASES BY $1,000 PER STUDENT

$354 Decrease in tuition per year

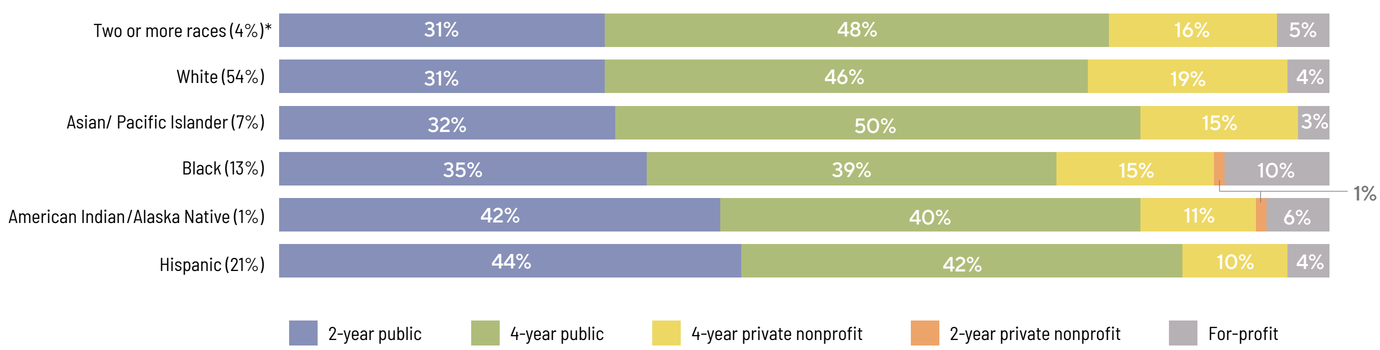
20% Increase in number of students who go on to obtain a B.A.

19-41% Decline in student loan delinquencies

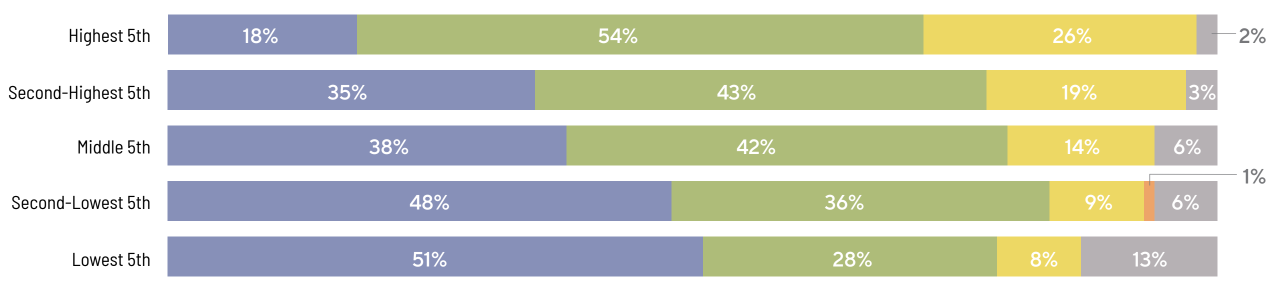
13 POINT Increase in credit score

5.5 MILLION AMERICANS ENROLLED AT 2-YEAR PUBLIC COLLEGES IN FALL 2018

Where students from different racial/ethnic groups go to college (2018)



Where students from different socioeconomic groups† go to college (2016)



*The numbers in parentheses refer to the percent of the undergraduate population of that race/ethnicity, excluding nonresident alien students.
†Socioeconomic status is measured as a composite score of parental education, occupation, and income.
Sources: For student outcomes: Rajashri Chakrabarti, Nicole Gorton, and Michael F. Lovenheim, "State Investment in Higher Education: Effects on Human Capital Formation, Student Debt, and Long-Term Financial Outcomes of Students," Federal Reserve Bank of New York Staff Report No. 941, September 2020, available at https://www.newyorkfed.org/research/staff_reports/sr941.html. For enrollment data: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Spring 2019, Fall Enrollment Component, Table 306.50. U.S. Department of Education, National Center for Education Statistics, High School Longitudinal Study of 2009 (HSLS:09), Base Year and Second Follow-up, Table 302.44.

FEDERAL RESERVE BANK OF MINNEAPOLIS

The Federal Reserve Bank of Minneapolis is home to the Opportunity & Inclusive Growth Institute and *For All* magazine. The Minneapolis Fed has a long history of research designed to inform policymakers. Some of the hallmark policy initiatives driven by pioneering research is work around banks that are too big to fail and the powerful return on public investment in early childhood education. One of 12 Federal Reserve Banks, the Minneapolis Fed monitors the Federal Reserve's Ninth District economy to help determine the nation's monetary policy and strives to promote economic well-being.

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CHANGE SERVICE REQUESTED

FINAL THOUGHT

"We're not going to solve this by deciding to pay a little more attention to people of color. It is going to take our radical imaginations."

Angela Glover Blackwell at the Racism and the Economy Series Kickoff Event

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