for all

FALL 2021

INTERVIEW: Rucker Johnson on school finance reform, quality pre-K, and integration

SPOTLIGHT: Addressing bias in the classroom

DATA DIVE: A blueprint for job training programs

THE MAGAZINE OF THE OPPORTUNITY & INCLUSIVE GROWTH INSTITUTE

CHASING OPPORTUNITY

What shapes the chances we get in our lifetimes?

FEDERAL RESERVE BANK OF MINNEAPOLIS

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COVER ART BY LISK FENG

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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

A Long Year

I once assisted with teaching a college course in American economic history, and the professor explained that the period lasting from the late 1700s to the eve of World War I was referred to as the "long 19th century." She meant that sometimes events resist our attempts to put them in clean calendar boxes. It made sense, she argued, to think of this as one period of time, even though it overran its official 100 years.

2020 certainly seems the same. It's hard to feel that 2020 ended on December 31. The pandemic continued, and only once vaccines became widely available to those of prime working age in early spring of 2021 did recovery begin to feel at hand—a feeling that reversed course in late summer as the delta variant surged. The ongoing uncertainty about health risks combined with uncertainty about financial health and returning to work reveals how valuable the expanded government safety net during COVID-19 has been and underscores the many vulnerabilities that remain in our economy.

The calls for serious investment in closing racial disparities in the United States have also continued. For many, particularly those of us in the Minneapolis area, April 2021 brought landmarks in these discussions as well. The conviction of the officer who killed George Floyd provided needed accountability (as many have noted), but the killing of Daunte Wright less than two weeks before underscored how fragile any progress from 2020 remains.

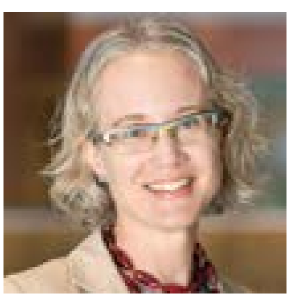
2020 has overrun its official 12 months—may yet overrun 24 months—but as we look ahead to when it finally closes behind us, we recognize that now is the time to follow through.

Many of us can sympathize with the desire to put down the anxiety, uncertainty, and discomfort from 2020. In doing so, we can't turn away from the standing challenges that year exposed. We will need to commit ourselves to following through on those lessons. This will require more than one long year.

At the Institute, the fact that we have been growing throughout this period means we've had a chance to let these lessons shape our work from its early stages. Our earliest conversations as a growing team occurred in 2020. These conversations helped us set expectations around what the Institute researches, how it conducts research, and how it communicates research that will shape our work for years to come. Much of this communication occurs behind the scenes, in conversations about how we can connect our work to others serving in leadership roles and create a genuinely inclusive scholarly environment. We hope that ultimately our commitment to follow through on the challenges 2020 exposed will be clear in the many ways our research better reflects our wider community.

We're also following through in other ways. A big one you'll notice is our cover story in this issue, "Chasing Opportunity" (page 6). This continues our commitment to examine the meanings of "economic opportunity" and "inclusive growth," which make up the Institute's mission, in this year's issues of *For All*. And turn the page for our Institute Update, with more examples of how our work is following through on lessons from a long 2020. ★

Sincerely,



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

UPDATE

How lessons from 2020 guided us in 2021

Innovative surveys, expanding scholarship, and continuing conversations

Events of 2020 continued to resonate through many Opportunity & Inclusive Growth Institute activities in 2021. At the outset of the pandemic, Institute Director Abigail Wozniak issued a proposal for a large-scale survey to help Americans share their experiences during the pandemic's downturn and recovery in a way that created actionable data. This led to Wozniak's work co-directing the **COVID Impact Survey** (CIS), a prototype that ultimately informed larger national efforts to collect a wealth of timely information about such issues as employment, financial security, physical and mental health, and pandemic disruptions.

The flexibility of the prototype led to innovative projects that used surveys and direct contact between researchers and the public to generate insights about the pandemic and its consequences. One example: The CIS provided the backbone of an ambitious seroprevalence study in Minnesota, the **Minnesota COVID-19 Antibody Study** (MCAS). By recontacting CIS respondents who had given advance permission and supplying them with home test kits for COVID-19 antibodies, researchers could study what factors early in the pandemic predicted COVID-19 infection later in the pandemic. Wozniak joined a research team from the larger MCAS project to carry out this study, and work was ongoing through 2021.

MCAS is led by an interdisciplinary team of University of Minnesota researchers working in close collaboration with the Minnesota Department of Health. The Minneapolis Fed's early commitment to supporting the CIS and experimenting with how best to learn about COVID-19's many impacts continues to provide benefits to researchers and policymakers in the Minneapolis Fed's district and elsewhere.

Our commitment to follow through on the Institute's founding principles and the lessons from 2020 extends to our annual **Visiting Scholars program.** In 2021, we are hosting our first scholar from outside of economics, Chelda Smith (see profile on page 5). This is part of our ongoing commitment to expanding the scholarship we engage with. Our Advisory Board has been interdisciplinary from the outset. We're now bringing a broader set of scholarly perspectives closer to our day-to-day work by modeling our visiting scholars after our advisors. Our current cohort of scholars are working on issues of stark importance, including education, safety net programs, and homelessness, as well as how Fed policy shapes the broader economy.

Finally, we're following up on our spring conference event on **"Racism and the Economy: Focus on the Economics Profession" with a report summarizing the event's key lessons**, including insights about specific actions to foster diversity, inclusion, and equity in the economics profession. The report is available as professors, instructors, and students return to campuses this fall.

Our commitment to carry forward important conversations about how racism enters the economics profession beyond the event led to the creation of the **Conversation Leader pledge**, which garnered more than 1,000 commitments and sparked ongoing discussions in academic departments, private companies, government agencies, and Federal Reserve Banks in the days and months that followed. ★

The research community at the Institute includes visiting scholars, consultants, economists, research analysts, and research assistants. 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.

SARAH COHODES

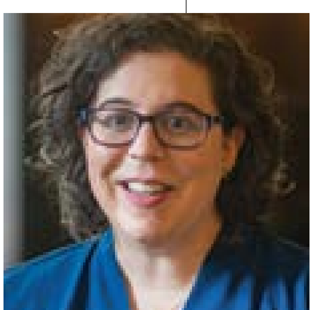
Associate Professor of Economics and Education, Columbia University

CHALLENGING ASSUMPTIONS ABOUT CHARTER SCHOOLS

Growing up in a family of public school teachers, Sarah Cohodes never had a good impression of charter schools. She believed they took resources from traditional public schools and did little to close racial, ethnic, and socioeconomic achievement gaps.

A few years after college, Cohodes went to work for a Harvard economist who studied charter school effectiveness. She wrote the computer codes used to analyze the data and was the first on her team to recognize that charter schools could be incredibly effective.

"The impacts were so big that we kept looking for an error in the code to explain why they were so big," she said. The data showed that the Boston charter schools she looked at raised test scores significantly for students who might otherwise lag behind in traditional schools. In fact, she said, they appeared to have closed the gap with a neighboring, more affluent school district.



Later studies showed they also increased four-year college enrollment.

Now, a decade later, Cohodes is an economist at Columbia University and still studies charter schools. In a 2021 paper, she and two co-authors looked at whether Boston charter schools were able to replicate their success when opening new campuses. They found that the schools that opened successful new campuses did so by having experienced teachers create standardized materials that novice teachers could employ.

"Too often we force teachers to recreate the wheel," she said. "Access to those [standardized] materials helps them focus on personalizing their approach to their students."

"Preferences don't come fully formed and descend on us based on our chromosomes. Preferences are shaped by the world that we are in."

—Sarah Cohodes

Cohodes is using her time as a visiting scholar at the Opportunity & Inclusive Growth Institute to explore a new area of research. She wants to understand how fears of sexual harassment in male-dominated fields shape female college students' preferences in majors.

Many gender-gap studies conclude that women's "preferences" for certain career paths drive differences, she said, but how are those preferences formed? "Preferences don't come fully formed and descend on us based on our chromosomes. Preferences are shaped by the world that we are in."

It's an entirely new topic for her, she said, but being at the Institute will be a big help. "One of the things I'm excited about is having a group of people to work through these new questions with."

—Tu-Uyen Tran

KUMA OKORO
Research Assistant, Opportunity & Inclusive Growth Institute

EXAMINING POLICIES AIMED AT POVERTY AND INEQUALITY

In college, Kuma Okoro had a professor who frequently argued that the federal poverty line, despite its name, is actually a pretty lousy measure of poverty.

That's because it's based primarily on the cost of food, which was among the largest expenditures for impoverished families in the 1960s when the measure was developed, but is much smaller today.

The idea that there isn't one measure of poverty really stuck with him, said Okoro, who's now a research assistant with the Institute.

"That influences my thinking about the work that we're doing," he said. "What aspect [of poverty] is this capturing? What aspect is this leaving out?"

Okoro, the biracial son of a Nigerian immigrant and a rural Iowan, grew up in the Milwaukee area, one of the most segregated metropolitan areas in the country. People living blocks apart could have entirely different life trajectories, he said, and that raised a lot of questions for him.

So when Okoro entered Georgetown University, he found himself drawn to classes that examined poverty and inequality. "As I was moving through my degree, those were really the classes that I found the most interesting and the most exciting and the most relevant to the real world," he said.

As an intern working on transportation policies for the Federal City Council, a community advocacy group in Washington, D.C., Okoro had a chance to work on such real-world equity issues. For example, the area's subway gets a lot of attention from policymakers who are familiar with it, but his group pushed for more funding for buses because fares are much lower and low-income families depend on them.

Since joining the Institute in September 2020, Okoro has continued to work on issues of economic opportunity and inclusion. For a recent project with visiting scholar Krista Ruffini, a leading expert on food security policies, Okoro assembled a map showing the dates state governments planned to distribute the pandemic electronic benefit transfer, a nutrition assistance program meant to replace free school lunches for children attending school remotely.

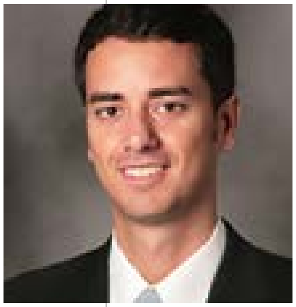
The program has proven to reduce hunger, yet many states delayed distributing the benefits—some until the end of the school year—due to bureaucratic and logistical challenges. It impressed him, Okoro said, that the Minneapolis Fed would have an institute devoted to identifying and seeking solutions to such issues.

—Tu-Uyen Tran

DIONISSI ALIPRANTIS
Senior Research Economist, Federal Reserve Bank of Cleveland

INVESTING IN NEIGHBORHOOD OPPORTUNITY

Dionissi Aliprantis has spent a lot of time in neighborhoods—from Quito to Port-au-Prince, Indianapolis to Philadelphia. In each place, he observed neighborhoods that differed greatly from one another. "I think there are instances in the U.S. right now and throughout the world," Aliprantis said, "where the environmental characteristics of where a person lives overwhelm the individual's characteristics" in determining a person's economic outcomes in life.



If economic opportunity is defined by how much success a person achieves in return for a certain level of effort—studying for school, say, or opening a business—it's clear that where a person lives plays an important role in determining what opportunities are available.

This insight has animated Aliprantis' research agenda as well as his engagement in his community. His work seeks to identify the effects of neighborhoods on people's economic opportunity, what drives changes in neighborhood demographics over time, and how wealth and race influence neighborhood sorting.

This last project emerged from the puzzle that high-income Black households and high-income White households live in neighborhoods with quite different poverty rates, unemployment rates, and educational attainment rates. Knowing that Black households have less wealth than White households at every income level, Aliprantis and his co-authors looked at whether financial constraints influence this pattern.

They found, however, that neither wealth nor housing prices explain the observed pattern of neighborhood sorting. Rather, the sole explanation appears to be race: Black households live in Black neighborhoods, White households in White neighborhoods. This finding shows that "residential segregation isn't just about the economics. It's also about our history of race," Aliprantis said.

Investing in neighborhoods is both a personal and a professional commitment for Aliprantis, who is a system affiliate of the Institute and the director of the Cleveland Fed's Program on Economic Inclusion. He is also the founder of Greater Than Math, a nonprofit that runs math enrichment programs for middle and high school students in Cleveland.

Aliprantis views the nonprofit as a means of creating opportunity: "The flexibility of mind it takes to look at a mathematical problem from all different perspectives is really helpful in our own lives, whether it's solving a personal problem or a social problem in our community," Aliprantis said.

—Lisa Camner McKay

CHELDA SMITH

Associate Professor of Elementary Education, Georgia Southern University

ADDRESSING BIAS IN THE CLASSROOM

When Chelda Smith immigrated to the United States from Haiti, one of her first lessons was about how to succeed in America. Her father explained the country's race-based structures that placed Black people at the bottom. To achieve upward mobility, she would need to learn to navigate them.

"[Many of] us understand the social hierarchy and how we're supposed to interact with one another," Smith said. This understanding informs our interactions and results in particular outcomes. Smith is focused on one context: the classroom.

Efforts to diversify teacher ranks and embrace multicultural curriculums are important, but Smith says a major piece of the puzzle is missing. Most of us—educators included—don't understand or haven't reconciled our own relationships to oppression, privilege, or marginalization.

How then can teachers effectively model or instruct cultural understanding?

As an associate professor in the College of Education at Georgia Southern University, Smith is working to highlight counternarratives—perspectives outside the dominant culture—to empower marginalized students. Counternarratives provide sources of truth beyond the dominant/White male view adopted by national curriculums.

"When people have a sense of agency, they are more ambitious all around."

—Chelda Smith

As an example, Smith offers the disputed story of the Alamo and Texas independence taught across the country. If teachers understand their own biases, they can elevate counternarratives—such as those of the enslaved, women, Indigenous people, and Mexicans.

"It is bad for everyone to learn [the false history of Texas independence], but it is especially problematic for Latinos to learn it," Smith said. "Where is your agency if you're learning false history about your people that denigrates you?"

Elevating counternarratives gives children an opportunity to see themselves in the curriculum in an appreciative—as opposed to deficit-based—way. Without these perspectives, teachers are missing opportunities to educate students toward empowerment.

"When people have a sense of agency, they are more ambitious all around," Smith said. Also, research shows that teacher efficacy is a key to student success. For Smith, it is vital that teachers and teacher educators have "asset-based dispositions" toward marginalized groups.

Using counternarratives, teachers can pave the way to better economic outcomes for all students.

"We can give children an education that allows them to feel they can achieve their goals," Smith said. "But, more importantly, they can use it to help solve the problems of their own communities."

—Alyssa Augustine

2021-22 Institute Visiting Scholars

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

Marianne Bitler
Professor of Economics, University of California, Davis

Corina Boar
Assistant Professor of Economics, New York University

Sarah Cohodes
Associate Professor of Economics and Education, Teachers College, Columbia University

Jamein Cunningham
Assistant Professor of Policy Analysis and Management and Economics, Cornell University

Diego Daruich
Assistant Professor of Finance and Business Economics, Marshall School of Business, University of Southern California

Johannes Fleck
Ph.D. Candidate in Economics, European University Institute, Florence

John Grigsby
Assistant Professor of Economics and Public Affairs, Princeton University

Ayşe Imrohoroğlu
Professor of Finance and Business Economics, Marshall School of Business, University of Southern California

Ilse Lindenlaub
Associate Professor of Economics, Yale University

Emi Nakamura
Chancellor's Professor of Economics, University of California, Berkeley

Emily Nix
Assistant Professor of Finance and Business Economics, Marshall School of Business, University of Southern California

Eric Ohrn
Associate Professor of Economics, Grinnell College

Jane Olmstead-Rumsey
Assistant Professor of Economics, London School of Economics (2022)

Monika Piazzesi
Joan Kenney Professor of Economics, Stanford University

Martin Schneider
Professor of Economics, Stanford University

Benjamin Schoefer
Assistant Professor of Economics, University of California, Berkeley

Chelda Smith
Associate Professor of Elementary Education, College of Education, Georgia Southern University

Jón Steinsson
Chancellor's Professor of Economics, University of California, Berkeley

Mallika Thomas
David M. Rubenstein Fellow, Economic Studies, Brookings Institution

Christopher Tonetti
Associate Professor of Economics, Graduate School of Business, Stanford University

Robert M. Townsend
Elizabeth & James Killian Professor of Economics, Massachusetts Institute of Technology

ILLUSTRATION BY LISK FENG

CHASING OPPORTUNITY

WHAT SHAPES THE CHANCES WE GET IN OUR LIFETIMES?

BY ANDREW GOODMAN-BACON

IN MAY 1975, 8.4 million people—9 percent of the labor force—were unemployed, the highest rate in 30 years. At the same time, consumer prices had risen by 30 percent in just three years. This presented the Federal Reserve with a dilemma, as most proposals to curb inflation would have further harmed the labor market.

To prompt bold action to lower unemployment, Sen. Hubert Humphrey and Rep. Augustus Hawkins introduced the Full Employment and Balanced Growth Act. The bill, championed by Coretta Scott King, was intended to ensure "the right of all adult Americans able, willing, and seeking to work to full opportunity for useful paid employment at fair rates of compensation."

The central question was, "How?" In congressional testimony, ideas abounded. Fed Chair Arthur Burns argued that a low-wage federal job guarantee would give workers a "strong incentive to create opportunity for themselves," and weaker environmental regulations would "improve job opportunities in this country." Later in the day, Alan Greenspan, then chair of the Council of Economic Advisers, opposed a jobs guarantee. University of Minnesota economics professor Walter Heller argued for targeted job assistance to reach the "nooks and crannies and hollows where chronic unemployment exists." Vernon Jordan, head of the Urban League, emphasized policies should target "those whose opportunities are already unequal because of racial discrimination." Ultimately, the Humphrey-Hawkins Act of 1978 left open many questions about the meaning of "full opportunity" and how to achieve it.

The economic problems of the 1970s resolved, but economic challenges did not. An even worse recession hit in the early 1980s, and while productivity continued to rise, wages at the bottom of the income distribution stayed flat. The explosion of global trade and technology reshaped the economy, and now COVID-19 may have done so again. America is larger and more diverse than at any time in its history, but our economy, wrote Minneapolis Fed President Neel Kashkari in 2020, "is afflicted by glaring distribu-

“THERE ARE ALL SORTS OF ENVIRONMENTAL FACTORS THAT AS A CHILD YOU DO NOT HAVE CONTROL OVER, AND **THEY ALL AFFECT YOUR TRAJECTORY.”**

tional inequalities and appears unable to provide opportunities for those in need of them.”

The Fed’s dual mandate to maintain stable prices and maximize employment is reflected in the Humphrey-Hawkins Act and codified in amendments to the Federal Reserve Act. To fulfill it in a changing world requires the best possible understanding of how economic opportunity and inclusion work in America today. That takes the collective efforts of open-minded scholars and bold policymakers, of brave citizens and revolutionary thinkers, who forge new ideas and deepen our appreciation for old ones. The Opportunity & Inclusive Growth Institute is pushing this process forward by bringing diverse researchers together. The spring issue of *For All* explored what inclusive growth means and how it can be achieved. Here we consider, “What is opportunity?”

Closing the gap
High-quality early childhood education can have large impacts across many measures of educational and economic attainment, both during childhood and later in life. This federally funded Head Start center in Woodbourne, New York, provides education, nutrition, and health services to children from low-income families in Sullivan County, one of the poorest counties in the state of New York.
JOHN MOORE/GETTY IMAGES

Out of the gate

In 1975, Arthur Okun, the nation’s “most inventive and effective policy economist,” according to his colleagues at the Brookings Institution, grappled with opportunity. “The concept of equality of opportunity,” he wrote, “is far more elusive than that of equality of income and it defies any meaningful measurement.” He settled on an analogy. “It is rooted in the notion of a fair race where people are even at the starting line,” but, he admitted, “it is hard to find the starting line.”

One clear starting line is where we all start: in childhood. “There are all sorts of environmental factors that as a child you do not have control over,” said Dianne Haulcy, the senior vice president of family engagement at Think Small, an early childhood advocacy group in Minneapolis and St. Paul, “and they all affect your trajectory.” When environmental factors disadvantage some children at the starting line, “these are opportunity gaps.” As Lawrence Katz, the Elisabeth Allison professor of economics at Harvard University put it: “Accidents of birth should not circumscribe what you can do in life.”

Faced with widespread, large, and consequential childhood disparities, people who care for, teach, and advocate on behalf of children believe that equal opportunity means closing those gaps. “Opportunity to me,” said Haulcy, “means full access.” Sandra Newman, professor of policy studies at the Johns Hopkins Bloomberg School of Public Health, also emphasized

Seeing possibilities
Young adults celebrate their graduation in Bethel, Alaska, from a high school in which 60 percent of students are considered economically disadvantaged. Strong support systems help students from low-opportunity neighborhoods develop the confidence and resiliency to overcome obstacles and pursue opportunities.
KATIE BASILE / KYUK PUBLIC MEDIA

healthy development. Opportunity "is seeding the ground for them to have a choice."

But there are many gaps to close and many ways to close them. Fortunately, social science is helping guide child-development policies. An emblematic example is high-quality early childhood education, which as study after study demonstrates, helps children improve their approach to school and score higher on tests, earn more as adults, and even improve social and economic outcomes of their children. These findings, however, go far beyond preschool. Nathaniel Hendren, professor of economics at Harvard University, along with Ben Sprung-Keyser summarized hundreds of studies on public programs like Medicaid, tuition subsidies, and nutritional support. When these programs targeted children, they often generated such large gains in income later in those children's lives that they paid for themselves by saving the government millions in public benefits payments and raising new tax revenue.

"It's not just resources though," said Sandra Black, professor of economics at Columbia University. When children are secure in the knowledge that "someone's out there who is going to support them," said Kraig Gratke, executive director of Minnesota Head Start, "kids can see new possibilities for themselves and think 'I can do that.'" Devinder Malhotra, chancellor of the Minnesota State Colleges and Universities, sees the converse when students face obstacles to persisting toward their degree, like car problems or medical emergencies. "Then they're so far behind," he said, "that they think, 'I was told all along this is not for me, and this just confirms it.'" Children's opportunity to develop con-

Changing course
Starting a new career is difficult, particularly for individuals with less formal education. Job training and resource fairs, like this one at Coney Island in New York, provide information about job opportunities to people looking to make a change. Less-affluent individuals may lack the connections that help the more-affluent make valuable career moves.
ERIC THAYER/REUTERS

Opposite page, from top right:
At this nonprofit in Queens, low-income New Yorkers participate in job training programs that help them acquire the skills they need to move into better-paying jobs.
JOHN TAGGART/THE NEW YORK TIMES/REDUX

Jess Varney grew up in Appalachian coal country but decided to pursue a different career trajectory in order to better provide for her family. A local job training organization helped Varney acquire the skills to land a job retrofitting buildings for energy efficiency and solar power.
BRANDON THIBODEAUX/THE NEW YORK TIMES/REDUX

fidence and resilience plays a major role in how they pursue and stick with opportunities down the line.

Opportunity in childhood appeals to both fairness, a value held for its own sake, and efficiency, a goal not to waste potential. But as a way to understand opportunity more generally, it neatly avoids a difficult question: What does one do with the opportunities afforded one in childhood? Where does adult opportunity come from?

Roadblocks and shortcuts

Probably the most common use of the word "opportunity" is to describe a chance to move up economically. Both the Employment Act of 1946 and the Humphrey-Hawkins Act use it this way, which is why the Fed's mandate focuses on both inflation and the unemployment rate.

But the interpretation of "maximum employment" and thus "opportunities" has evolved since the 1970s. The Fed now officially recognizes that maximum employment comes largely from "factors that affect the structure and dynamics of the labor market." A company may have a job opening, but who knows about it? Who evaluates applicants and how? What determines the salary and benefits package? How is performance judged? Adult opportunity is all about how the race is run.

Take the role of social networks in career paths. "When you're affluent, you think you're a genius but really you're connected to the right people and they get you opportunities no matter what,"

A COMPANY MAY HAVE A JOB OPENING, BUT WHO KNOWS ABOUT IT? WHO EVALUATES APPLICANTS AND HOW? HOW IS PERFORMANCE JUDGED?

ADULT OPPORTUNITY IS ALL ABOUT HOW THE RACE IS RUN.

said Louis King, president and CEO of Summit Academy OIC, a vocational school in North Minneapolis. Can we expand opportunity by changing people's social networks? Perhaps, but it is harder than it seems. For example, a 2021 study looked at decades of data on Harvard students from the 1920s and 1930s. Those assigned a roommate from a more elite background tended to have more elite trajectories. They were more likely to join on-campus social clubs, work in finance, and belong to country clubs after college. But this *only* happened if they had already attended a private high school. "Social interactions among the educational elite mediate access to top positions in the economy and society," the authors concluded, "but may not provide a path to these positions for underrepre-

sented groups." As King put it, "That's the way the game works."

Adult opportunity also depends on who has power in the economy. When firms know that it is hard for workers to find a better job, for example, they do not have to offer them a very good one to begin with. "Friction in the labor market is frustrating to employers, but it's scary to employees," said Steve Grove, commissioner of the Minnesota Department of Employment and Economic Development.

But when workers have the financial security to navigate a job transition and understand what job opportunities are within reach, they can negotiate to improve their current job or quit and find a new one. Grove, who oversees policies that connect unemployed workers with jobs, sees workers gaining power today. Employers are having to become more flexible, for example, by relaxing their demands for a college degree. "We are seeing a lot more on-the-job-training," he adds, "which you can argue is a huge step forward in opportunity for workers because you're being paid to learn."

Economists are also now starting to consider deeper links between unequal opportunity for some and the ability of the whole economy to generate opportunities for all. Racial discrimination, for example, restricts opportunity directly. "Pre-market" discrimination, as economists call it, systematically denies people of color opportunities to become more productive. This encompasses everything from a discriminatory medical system hurting health to exclusionary housing markets eroding educational quality to racially biased prison policy harming employment and families. "Labor market" discrimination systematically denies people of color employment opportunities compared with similarly productive White workers. There is abundant evidence that both forms of discrimination affect employment, wages, working conditions, and innovation among Black, Brown, Asian, and Indigenous Americans.

Discrimination and the economy are tightly linked, however. A discriminatory economy wastes talent and misallocates opportunity, harming everyone. Between 1960 and 2010, for example, the movement of marginalized groups like Black workers and women into new occupations accounts for

“IS EVERY KID FROM A POOR FAMILY GOING TO DO WELL? IS EVERY KID FROM A RICH FAMILY GOING TO DO WELL? NO, BUT THE QUESTION IN MY MIND IS: **ARE THEY GOING TO HAVE AN EQUAL SHOT?”**

up to 40 percent of the growth in per-capita output in the United States. That means that of the $30,000 increase in per-capita GDP in that 50-year period (adjusted for inflation), $12,000 came from expanded opportunity.

A strong economy also expands opportunity. “A depressed economy has always meant but one thing for the Negro worker—widespread unemployment,” said the Black union leader Willard Townsend in a 1944 speech. “If we have an economy of full employment, it will establish a framework favorable to the continuing occupational advancement of the Black worker; and to the removal of White workers’ fear of him as economic rival.” Black and Latinx workers still benefit more from a strong labor market and are hurt more by a weak one than White workers. This is one reason why the Fed now describes maximum employment as a “a broad-based and inclusive goal” characterized by a “stable economy that benefits all Americans.”

Pushing forward
Social and economic policies—from zoning laws to legacy college admission practices—can affect the ability of parents to provide opportunities for their children, impacting the extent to which intergenerational economic mobility is possible.
ROBIN RAYNE

The handoff

As the benefits of expanded opportunity are becoming clearer, so is the extent to which they last. Adults who had the opportunity to succeed provide their kids with opportunities to succeed. The race, Okun might say, is a relay.

But this is not equally true for all groups and in all places in America. Raj Chetty, the William A. Ackman professor of economics at Harvard University, and his research team at Opportunity Insights are using millions of data points on economic outcomes across generations to provide powerful new evidence on where children do better or worse economically than their parents and therefore where childhood opportunity is most lacking.

The data show that the adult income of children who grew up in low-income families can vary tremendously depending on where they come from. Two adjacent areas in South Minneapolis—Windom/Diamond Lake and Kenny/Armatage—provide a stark illustration of how local these influences can be. Together, the two neighborhoods encompass less than three square miles. Rents are nearly identical, houses are zoned mostly for the same schools, and they both contain lakes, parks, shopping, and highways. Yet at age 35, low-income children from Kenny/Armatage in the 1980s earned $46,000 on average—about 60 percent more than comparable kids from Windom/Diamond Lake.

Open road
Camden, New Jersey, fares poorly compared with U.S. median values on every measure of opportunity reported by Opportunity Insights. The group's research shows that if a child moves from a low-opportunity to a high-opportunity neighborhood, their average earnings in adulthood increase.
HANNAH YOON

These findings themselves represent an opportunity. Other research by the Opportunity Insights team shows that when children move to a higher-opportunity neighborhood, especially when they do so earlier, they earn more as adults. Now Opportunity Insights is working with the Seattle and King County housing authorities to encourage voucher recipients to move to affordable areas with high mobility. This program has been able to more than triple the share of families who live in what they characterize as high-opportunity neighborhoods.

Reading these statistics, Katz is hopeful. The best places in America for poor children to grow up prove that "high rates of mobility and opportunity really are possible within the framework of American capitalism." Ultimately, Chetty said, "Is every kid from a poor family going to do well? Is every kid from a rich family going to do well? No, but the question in my mind is: Are they going to have an equal shot?"

Old questions, new answers

The Humphrey-Hawkins bill passed in 1978 was significantly less specific, expensive, and controversial than the one proposed in 1974. The two legislators had envisioned a new New Deal that would make the federal government an employer of last resort to guarantee adult unemployment under 3 percent. Years of debate, however, revealed little agreement about why employment opportunities arise and for whom. The final bill recommits the federal government and the Federal Reserve to the goal of "maximum employment" without taking a stand on how it should be achieved.

This openness, however, sets the task for researchers. As evidence grows on the centrality of childhood development, research points the way toward effective and efficient ways to expand children's opportunity. We are better equipped than ever to trace out how the structure of our economy and society shape who really has the competitive opportunities that can benefit everyone. Vast new data resources paint a picture of opportunity generation by generation, year by year, and block by block across the United States.

Opportunity will always have many definitions, and meanings will change as the country changes. The goal of the Opportunity & Inclusive Growth Institute is to bring knowledge, expertise, and the wisdom that comes from experience to push forward old questions and use the answers to expand opportunity of all Americans, for all Americans. ★

INTERVIEW

POWERING POTENTIAL

Rucker Johnson on school finance reform, quality pre-K, and integration

BY DOUGLAS CLEMENT
PHOTO BY BRITTANY HOSEA-SMITH

> When we have concentrations of poverty, equal spending is not equal if the need is far greater.

"What we're highlighting is the synergy," says Institute advisor and University of California, Berkeley economist Rucker Johnson, describing his research on education. "The effects are more than the sum of the individual parts."

Synergies that can improve lives immediately and across generations are present in much of Johnson's work. *Children of the Dream*, his 2019 book, shows that when school integration is combined with investments in pre-K education plus well-funded public schools, racial and socioeconomic achievement gaps diminish.

Synergies can compound shortfalls too. Poor health in childhood exacerbates the ill effects of underresourced schooling, his studies show, and the deficits cascade for decades.

But Johnson is an optimist.

His grandfather, Matthew Johnson Sr., was denied admission to the University of West Virginia because of his race. Undaunted, Matthew got his master's at Columbia University and taught high school. Later, at the Minneapolis Urban League, he helped expand employment opportunities and affordable housing for people of color.

Rucker Johnson's father and mother were teachers too, and she became superintendent of schools in Boston, Memphis, and Minneapolis. Johnson—the grandchild also, he emphasizes, of *Brown v. Board of Education*—is a full professor at one of the nation's top universities.

Progress is possible, he believes. We talk with Johnson about the struggle, support, and opportunity it will take to get there.

SCHOOL SPENDING AND STUDENT ACHIEVEMENT

Since the Coleman report in 1966, the conventional wisdom has been that there's very little relationship between levels of school funding and student achievement.

But 50 years later, in a *Quarterly Journal of Economics* article with Kirabo Jackson and Claudia Persico, you come to the opposite conclusion. You find that money does matter.

You conclude that adult outcomes such as educational attainment, earnings, and poverty levels were strongly related to school spending during their childhood.

Would you elaborate on what you found? Why did increased spending improve outcomes?

It's important to understand the historical context for a lot of my work on education. Historically, school funding mechanisms have been implicitly tied to long-standing assumptions about which communities and students *deserve* adequate educational investments. Who has the greatest capacity to learn? Which students do we set high expectations for and hold to high standards versus low expectations and low standards? School segregation and unequal school resources are at the nerve center of inequitable educational opportunity that perpetuates structural racism.

In that research with Kirabo Jackson and Claudia Persico, we were looking at the timing of every state's court-ordered school finance reform and at the type of funding reform put into place, and then at the way in which its progressivity affected the distribution of school spending.

We joined this policy instrument of court-ordered reforms that took off in the 1970s and '80s and early '90s with the student trajectories of kids who were born between 1955 and 1985 and followed them into adulthood. We looked at the conditions they were exposed to in school, what level of resources and spending prevailed in their childhood years, and we followed them all the way through 2015 to document the effects of school spending on educational attainment, from high school graduation rates to college-going rates and college-completion rates, and to earnings, annual incidence of poverty in adulthood, and their likelihood of criminal involvement.

To approach this issue, you can't use just time-series data aggregated at the state level or national data. Instead, it requires looking at nationally representative micro data over an extended time period, where you're able to use longitudinal, individual-level data matched with the school policies and reform environment in which students were growing up, and having detailed information on parental and family background.

Also, a lot of these policies were compensatory, meaning they were targeted toward more disadvantaged families and communities. If you don't take that preexisting disadvantage into account, you will end up understating the significant cascading positive effects of these infusions of spending into school districts in terms of how it affected school quality.

> **The effectiveness of K-12 spending is enhanced significantly when it's preceded by quality pre-K.**

To share his research findings and learn from diverse audiences, Johnson gives research seminars at universities, policy briefings for education leaders and policymakers, and public talks. Early in 2021, he gave several presentations to the Biden/Harris education and housing policy transition teams.

KATRINA LEE

There are long-standing arguments that school desegregation was a failed social experiment, that school spending doesn't matter, that pre-K is ineffective on long-term outcomes. Not one of those arguments is borne out by the facts when you use longitudinal data and a research design that can isolate the independent effect of a policy reform from other things that are changing. In my book, *Children of the Dream*, I document that where we failed was in not sustaining those efforts to integrate our schools, to invest in them equitably, and to begin with investment in the pre-K years.

You found that for low-income children, a 10 percent increase in per pupil spending per year was associated with about a half an additional year of education, roughly 10 percent higher earnings, and a 6-percentage-point reduction in the annual incidence of adult poverty.

What mechanisms were operating here? What is the link between school spending and better outcomes many years later?

Looking at the mechanisms is an important part of figuring out *why* school resources matter and *why* per pupil spending matters. How much of that goes to class size reductions, increases in teacher salaries, additional guidance counselors, resources for socioemotional learning and development? There are various dimensions about how school spending and structural support affect outcomes.

Today, about 75 percent of per pupil spending disparities are *between* states (rather than between districts *within* states). And we've witnessed that inequality in school spending has risen since 2000. After three decades of narrowing—the '70s, '80s, and '90s—primarily due to the state school finance reforms emphasized in my work with Kirabo Jackson and Claudia Persico, there has been a significant rise in inequality, especially sharply following the Great Recession.

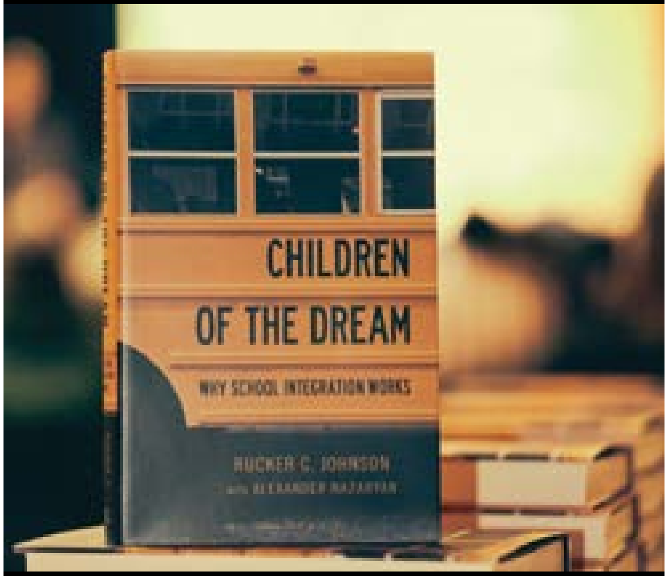
What I want to highlight here is the current disparities nationwide in school resources. School districts with the most students of color have about 15 percent less per pupil funding from state and local sources than predominantly White, affluent areas, despite having much greater need due to higher proportions of poverty, special needs, and English language learners.

Teacher quality is often the missing link that people don't consider directly when thinking about school resource inequities. For example, schools with a high level of Black and Latino students have almost two times as many first-year teachers as schools with low minority enrollment. And minority students are more likely to be taught by inexperienced teachers than experienced ones in 33 states across the country.

It's directly tied to our heavy reliance on the local property wealth to fund local schools. That dependence on the local property base and wealth leads to significant differences in access to quality schools. Basically, the housing market rations access to quality schools.

Housing prices are as much an indication of the quality of schools in those areas as the number of bedrooms or the square footage of a house. By that, I mean that it's being capitalized into housing prices. Part of it is that the invisible lines of school district boundaries are powerful tools of segregation.

> **Resegregation of public schools has contributed to the increases in racial bias, racial intolerance, and rising polarization of political views that we observe expressed in adulthood.**



Johnson's 2019 book uses original data to show that children of all races who attended integrated schools during the 1970s and 1980s were more successful in life than those who did not.

It's a way of segregating and hoarding access to opportunity. And when I say access to opportunity, I mean quality of teachers, I mean curricular opportunity.

For example, only a third of public schools with high Black and Latino enrollment offer calculus. Courses like that are gateways to majoring in STEM in college and having a STEM career. Or simply the fact that less than 30 percent of students in gifted and talented programs are Black or Latino. Part of that is the racialized tracking of kids that happens as early as the third grade and puts them into college preparatory tracks versus noncollege preparatory tracks quite early. And, again, racial disparities in parental wealth and racialized tracking can thwart the realization of equal educational opportunity.

These are things that happen very early in students' school careers that policy can do much to ameliorate. Otherwise, these schools end up becoming breeding grounds for the achievement gaps that emanate from the intersection of race, place, and parental wealth in childhood.

PRE-K INVESTMENT AND SCHOOL FINANCE REFORM

The Minneapolis Fed has a long-standing interest in early childhood education, so I was especially drawn to your 2019 article with Kirabo Jackson on "dynamic complementarity" between investments in early childhood and spending at schools.

You examine the rollout of Head Start alongside the staggered implementation of school finance reform and analyze outcomes for people born between 1950 and 1976.

Would you tell us about your findings? I was especially struck by one statement in that paper: "The complementarities imply that one could increase *both* equity and efficiency by redistributing spending from well-funded K-12 schools toward Head Start programs targeted at poor children." Economics rarely finds gains of that sort.

People often have an either/or mindset—is it pre-K or is it K-12? And discussion is very often siloed, so solutions pit pre-K versus K-12, or health investment versus educational investment.

What we're highlighting is the *synergy*. Our existing approaches to what ails the education system often detach pre-K from K-12, health investments from educational investments. Education often intersects with housing but, in policy, they're often treated separately.

But it's not just the *collection* of good policies that matters; it's the *collaboration* of policies that makes the difference. The reason is that there are significant synergistic effects that are more than the sum of the parts.

For example, it's been documented that half of the achievement gap that we observe among third graders was apparent at kindergarten entry. What that reflects, in part, is the strong footprint of early childhood experiences. And that's why access to quality pre-K can play a significant role, particularly in the lives of lower-income children. Without those public investments in early pre-K programs, they would often not have access to environments that promote nurturing interpersonal relationships and school readiness.

What's important about this is that during the initial rollout of Head Start, the first 15 years, those programs also significantly improved *health*, child health. This was because immunizations increased, the quality and continuity of pediatric care significantly increased. This predated a lot of the significant public investments in Medicaid expansions. Partly, it's that healthier children are better learners. Again, there's that connection between education and health, pre-K and K-12.

What we're able to do in that research is leverage the per pupil spending in pre-K programs and the timing of that set of increases at the county level, link it to the student level of children we're following from birth to adulthood, and connect that with the level of school resources in their K-12 years via the court-ordered timing of school funding reforms in their state and district of upbringing.

When we put those pieces together, we found that it was not just that public pre-K spending via Head Start has significant long-term beneficial effects. And it wasn't only that the K-12 spending has significant positive effects. What we found was that there was a significant synergy; we call it dynamic complementarity.

We found that when children attend poorly funded K-12 environments, the long-term effects of pre-K tend to dissipate. It's consistent with the fade-out effect that other people have documented. It's only when the pre-K investments are followed with quality K-12 investments—where they're going to schools that are well-funded and well-resourced—that we see sustained, positive effects of pre-K spending.

Similarly, the effectiveness of K-12 spending is enhanced significantly when it's preceded by quality pre-K access. In their K-12 years, children are more prepared to learn and to take advantage of the educational opportunities that occur in those K-12 years. When we do them in concert, the effects are more than the sum of the individual parts.

Tennessee did a major expansion of their public pre-K, but funding for K-12 there is regressive. Many kids who had access to pre-K subsequently went to less-well-funded K-12 schools, and the effectiveness of the pre-K investment did not translate into sustained beneficial effects beyond the elementary school years. Again, that's evidence of the dynamic complementarity—you need *both* of those effective bits to succeed.

SCHOOL INTEGRATION

In *Children of the Dream*, you make a powerful argument for improving the nation's educational system through school integration, quality preschool, and school finance reform, and you refer to this as a "three-dimensional synergy." You've just reviewed some of the evidence on the latter two—quality preschool investment and K-12 spending.

Could you explain why *integration* is the crucial third element?

We shouldn't throw money at these problems without understanding first that segregated environments make it much more difficult to equalize opportunity. When we have concentrations of poverty, equal spending is not equal if the need is far greater. The cost of providing equal programming differs across schools that have very different concentrations of need.

What we're finding is that we should be concerned about promoting integration for reasons that go beyond test scores. There are issues around how children learn in integrated environments, about learning across differences, and about the value of diversity in schools. We're able to show that this has an impact on kids' long-term attitudes along race, including racial attitudes expressed in adulthood. This is particularly true among non-Hispanic, White children who did not grow up in a diverse school environment, who were highly segregated.

So we're not just documenting positive effects of school resources and pre-K investments for lower-income and minority children, though those disproportionately have those effects there, but we're also documenting that more integrated environments have beneficial effects for *all* kids.

These are things that are not captured by test scores alone, but they have a vast impact on society in the long run. Our schools are like a microcosm of the kind of social ills that we confront many years down the road.

We're now experiencing the resegregation of our nation's public schools, where 40 percent of Black students and 42 percent of Latino students attend schools where less than 10 percent of their peers are non-Hispanic White.

By analyzing data on children followed into adulthood, I find that the resegregation of public schools has contributed to the increases in racial bias, racial intolerance, and rising polarization of political views that we observe expressed in adulthood. These effects, rooted in a lack of exposure to racial/

BRITTANY HOSEA-SMITH

ethnic diversity in schools, are most pronounced among White Americans. Not only that, but children in these schools struggle to develop the ability to empathize with others and to appreciate the validity of other cultures. For African Americans, our results show that confinement to segregated, poorly funded schools interferes with children's life chances.

CALIFORNIA'S SCHOOL FUNDING FORMULA

You've studied the impact of school funding reforms in California, and I know you're working on a new piece of research on the state's local control funding formula. Part of its importance derives from sheer numbers. California's is the largest state system, with one of every eight of the country's public schoolchildren; it's also a very diverse population. Could you tell us about this current work?

California's local control funding formula was the most significant major school funding reform in a generation in California. Passed by the legislature in 2013, it included a new commitment of $18 billion to the public education system that was not targeted by property wealth—that is, local property taxes weren't dedicated to local schools—but targeted to student need as defined by disadvantage. The funding formula became much more progressive.

We were able to leverage the whole universe of public schoolchildren data, at the student level, of all children born since 2000. The funding rolled out over a 7-year period, starting in 2013, and was fully funded by 2018-19. Because of this phase-in of funding, we were able to isolate the ways in which school spending increases affected student learning outcomes, and we could do it in every subject, for every grade, including outcomes like high school graduation rates. And we measure those academic achievement measures against the national benchmarks (National Assessment of Education Progress, often referred to as the "nation's report card"). Also, we were able to account for family background and other factors that would otherwise confound our ability to isolate the causal impact of school spending.

And what did we find? For this infusion of spending targeted to lower-income districts, we find that students in every grade experienced significant improvement in math and reading outcomes. We see significant narrowing of achievement gaps by race and poverty. And we see that every school that experienced this increase of dollars found beneficial effects from that spending.

A lot of school leaders are making decisions now about the new influx of federal money coming from the American Rescue Plan, and this is the first study that documents the impact of not just levels of spending, but the *types* of spending that matter most for boosting learning outcomes throughout the K-12 years.

We're really excited about the timeliness of the work and being able to document impacts for every grade, every year, and every school. Our next effort is to decompose those impacts to get at the mechanisms and pathways. By that I mean, what had the most impact on learning outcomes, from reductions of class size, higher teacher salaries, more guidance counselors, and other support systems for kids, as opposed to, say, building renovations or administrative salaries.

Now, in this COVID environment, some of the building infrastructures need to be upgraded to have proper ventilation systems. Obviously, responding to COVID increases the cost of finding healthy environments for kids to learn, because of distance learning and not having overcrowded classrooms, and doing so in ways that support lower-income and minorities. This targeted funding from the American Rescue Plan is going to be essential, and it's going to be essential that we pair that with the best evidence on *how* money matters, not just *that* money matters.

EXPANDING OPPORTUNITY

The mission of the Opportunity & Inclusive Growth Institute is to expand opportunity. What does that mean to you at a personal level?

I think that what we're really saying in some way is that hoarding opportunity and not investing in the full potential of all kids impacts all of us. And the question is whether we're going to embrace public education in a way where the public mission of education is to provide equal opportunity along curricular dimensions, along funding dimensions, to developing and retaining quality teachers, and paying them their worth with regard to how they're one of the most important aspects of students' learning and their life trajectory.

I am fortunate to have had access to some of the best teachers and education opportunities, and I had wonderful parents who were able to invest so much—they believed in me, when I certainly didn't have all the abilities to secure or even fight for those opportunities.

So the question is, How do we enlarge our discussion to not have conversations focused on budget deficits, but rather deficits of opportunity? We need to focus on children from disadvantaged backgrounds and how we intervene to remediate that disadvantage.

What I want to highlight that's relevant for this moment is that COVID has been a revealer and an accelerator of opportunity gaps that already existed. How we respond to this moment will dictate whether there's a scarring effect for a generation of children or whether this is the reset button to a new normal that takes integration seriously. The American Rescue Plan package includes $128 billion for K-12 education and hundreds of millions for state governments. It represents the single biggest federal outlay for public education and K-12 in our history. And the fact that almost $110 billion is flowing to districts through Title 1—again, that's targeted to lower income districts—means that it's imperative that we apply the best-informed evidence about why money matters so that we can target those learning loss mitigation funds to the students whose needs are greatest.

I really appreciate what the Institute is doing, its mission, the importance of documenting not just dimensions of inequality, but healthy prescriptions for social change, across education, health, criminal justice system—the full gamut.

And I'm thankful for your engagement with my research in this forum. There are a lot of challenges that we face, and the Institute is a true leader in connecting across the research, practice, and policy continuum to expand opportunity for all kids. That is really what I am most excited about in being a part of the Institute board. ★

> **"COVID has been a revealer and an accelerator of opportunity gaps. … How we respond to this moment will dictate whether there's a scarring effect for a generation of children."**

World-class research can be lengthy and complex. Here, we present key findings, methods, and policy implications from several 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, visit minneapolisfed.org/institute/publications/working-papers.

ILLUSTRATIONS BY NICK SHEPHERD

Immigration nation

How wages and public finances respond to immigration

BY LISA CAMNER MCKAY

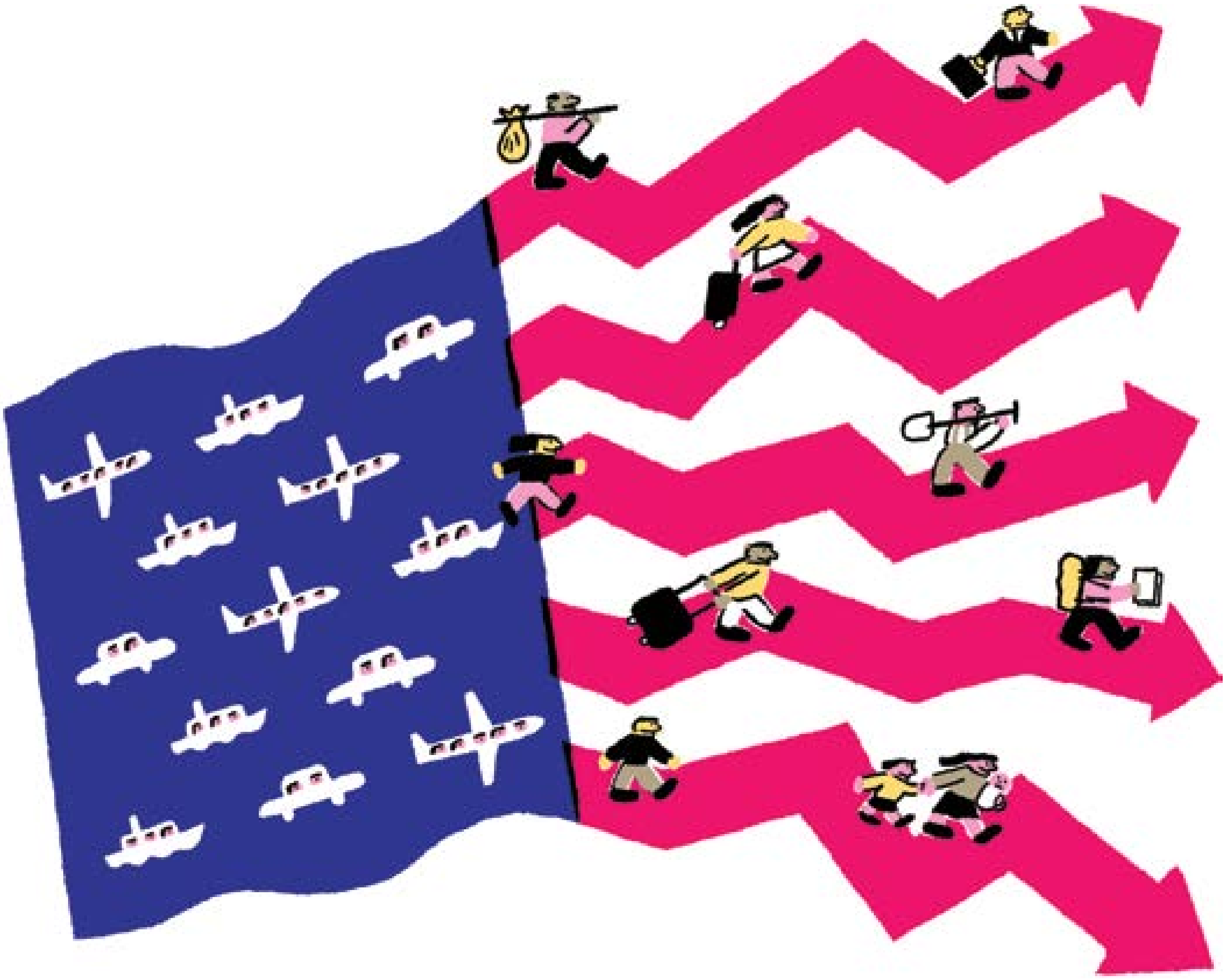
Every year, some 1 million immigrants arrive in the United States. The foreign-born population is now at 44.8 million, higher in per capita terms than it's been in 90 years, even though immigration has slowed over the last 10 years (and particularly so in 2020). The United States is a nation of immigrants, in fact and in mythology.

As a result, immigration's social and economic impacts are far-reaching. Immigrants come, many of them, for opportunity: higher wages, safer neighborhoods, educational programs. When they arrive, they become consumers. They compete for jobs. They use health care, enlist in the military, collect veteran's benefits, and invent new technologies. Their children go to school, grow up, and pay taxes.

The breadth of these effects makes measuring immigration's impact a nuanced task, one that requires understanding what happens after immigrants arrive—where they go, what they do—and how the economy responds. While many of these dynamics have been studied, former Institute visiting scholar Mark Colas extends the analysis in two important ways to form a more complete picture about the economic impacts of immigration. Doing so allows the country to address any negative impacts while reaping immigration's many benefits.

How wages respond to immigration

In "Dynamic Responses to Immigration," Colas seeks to understand how changes to the wages of existing U.S. residents play out over time. The economy is dynamic, after all, and people may choose to change jobs or move to a different city in response to changes in their local labor market that occur when immigrants (authorized or unauthorized) arrive.



Economists continue to debate how much wages change in response to immigration, but there is reason to think that, at least some of the time, there is an impact. Consider the case of a construction worker and an architect, who work in complementary jobs: Architects make designs, and construction workers bring them to life. Construction worker jobs typically require little formal education, and their median annual income is $37,890, less than the median across all occupations in the United States. Architects, meanwhile, typically require a bachelor's degree, an internship, and passing the Architect Registration Examination. Their median annual income is $82,320—more than twice as much as construction workers earn.

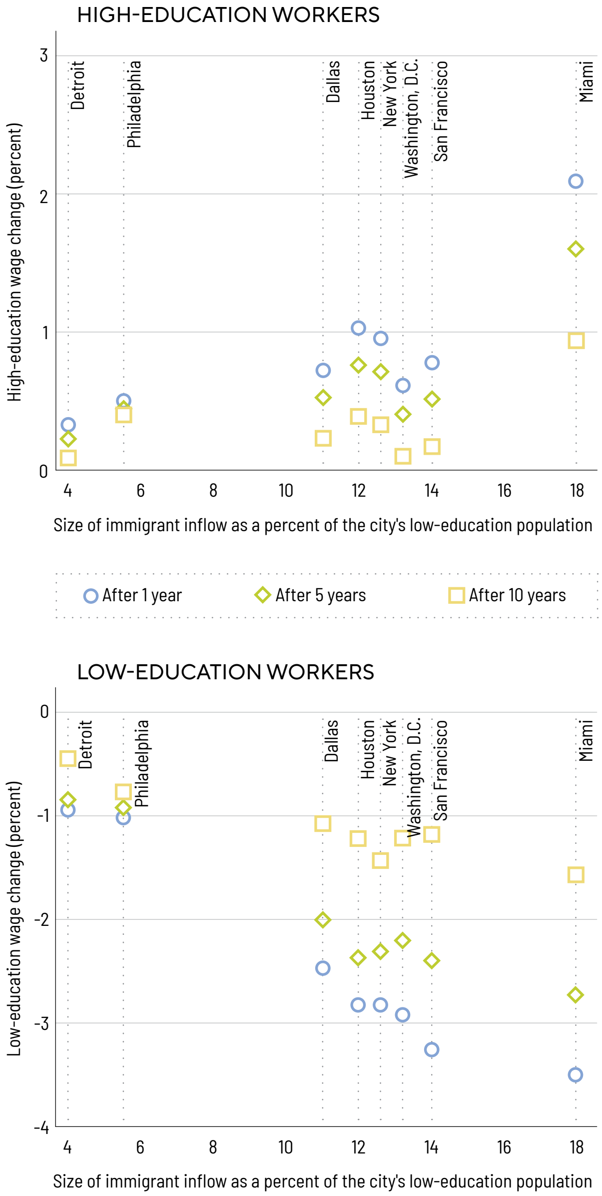
When construction wages are high, fewer people can afford to build a house, remodel their kitchen, and so on. If a large group of immigrants arrive and take jobs in construction (and data suggest around 30 percent of construction laborers are foreign-born, compared with 17 percent of all workers), construction worker wages fall. More people can now afford to build or remodel, which means architects will be more in demand. Since their supply hasn't increased much, their wages go up.

STUDY AUTHORS

MARK COLAS, Assistant Professor of Economics, University of Oregon; DOMINIK SACHS, Professor of Macroeconomics and Public Finance, University of St. Gallen

How wages evolve in different cities

How much wages change depends on the number of immigrants who arrive in a city. Of the 20 largest U.S. metro areas, Miami has the highest proportion of low-education immigrants. In the first year of an immigration influx, low-education wages fall by 3.5 percent. The median weekly earnings for a worker with a high school diploma are about $750. A 3.5 percent decline means earning $26 less a week, about $1,365 a year. After five years, the loss is 2.8 percent ($1,092/year); after 10 years, the loss is 1.6 percent ($624/year). For high-education wages in Miami, the gains are 2.1 percent, 1.6 percent, and 1 percent, respectively.



Source: "Dynamic Responses to Immigration," Mark Colas, Institute Working Paper 6 (2018), Federal Reserve Bank of Minneapolis

Why wages continue to change over time

To study immigration's effect on wages, Colas estimates what would happen if there is a large influx of approximately 5 million low-education immigrants. In the first year, low-education wages decrease by 2 percent on average, while wages for highly educated workers go up about 0.8 percent.

But these effects on wages don't necessarily persist indefinitely because workers can adjust by switching the *city* they live in or *sector* they work in. Importantly, the average wage changes hide considerable regional variation. So a low-education worker in Miami, a city that receives the most immigrants as a fraction of its low-education workforce, might choose to move to a place with less immigration to take advantage of higher wages.

These adjustments to where workers work don't happen overnight—rather, they play out over time. Just how much time it takes depends on two key factors, Colas explains.

First, adjustments depend on how costly it is for people to switch sectors or cities. Some of these costs are monetary (the cost of hiring a moving truck, say) while others take the form of time and effort (the "cost" in forgone leisure of searching for a new job or home). Some costs vary across individuals: Some people enjoy change; others dread it. And some costs depend on the structure of the economy—for instance, how much human capital will a worker lose by switching sectors?

Second, adjustments depend on how much individuals value their consumption and, therefore, their income, compared with how much they value working in a particular sector or living in a particular city. If many workers value consumption greatly but don't have strong feelings about where they live, the economy will adjust more quickly.

Using data from the 20 largest U.S. cities and a model of the economic dynamics that occur, Colas finds that after 10 years, the effect on wages is half of what it is immediately after the immigrants' arrival (see the accompanying figure).

Measuring immigration's impact requires understanding what happens after immigrants arrive—where they go, what they do—and how the economy responds.

Immigration's impact on government revenue

The economic impact of immigration goes beyond the labor market. Immigration also affects public finances. Previous research suggests that the amount the U.S. government spends on services for low-education immigrants is larger than the amount these immigrants pay in taxes. But this calculation misses an important element of the equation, Colas contends, because immigration also affects tax revenue by impacting who works, how much they work, and what their wages are, which in turn affects how much the government collects in taxes from native workers.

Because the U.S. tax system is progressive, the amount of tax the government collects changes when already-low wages go down and already-high wages go up. Estimating just how much tax revenue changes, however, is a difficult task. First, the U.S. tax system is complex, involving federal, state, and local taxes, many of which vary by family status, income, investments, state of residence, and more. Second, workers differ from each other in many ways.

In "The Indirect Fiscal Benefits of Low-Skilled Immigration," Colas and his co-author, Dominik Sachs, estimate in their model how tax revenue responds to one low-education immigrant under a host of assumptions about how people respond to changes in their wages, including *whether* they keep working and *how much* they work. In these estimations, they find that tax revenue goes up between $700 and $1,700 a year. This amount is similar in size to estimates of how much a low-education immigrant "costs" based on the services they use and the taxes they pay. When it comes to the government's coffers, then, immigrants are probably close to neutral.

Implications for worker welfare and policy

An important outcome suggested by this research is that immigration of low-education workers causes already-low wages to fall and already-high wages to rise. Even if the total amount of money employers pay to workers stays the same, the income distribution does not—income inequality increases.

However, the research also shows that the economic impact of immigration is complex and dynamic. The immigrants themselves are often earning two to three times a year what they earned previously. Immigrants contribute their ideas and their labor, without which the U.S. workforce would shrink, limiting economic opportunity for everyone. Immigrants' children often experience considerable upward socioeconomic mobility. The immediate wage changes that incumbent workers experience don't last forever, Colas shows. And additional tax revenue can be used to support those who have lost, perhaps funding relocating costs and job retraining. (See Data Dive, page 32.)

To raise more revenue, immigration fees could be set to the total lifetime cost of a low-education immigrant on all low-education workers in the United States. The model Colas uses suggests that amount is in the vicinity of $16,000.

While questions remain, Colas' research on the long-term labor market dynamics and their impact on government revenue presents a richer understanding of the economic impacts of immigration. ★

TAKEAWAYS ↗↗

- When immigrants compete for low-wage jobs, wage inequality increases
- Immigration's effects on wages dissipate as people react by moving to new cities or sectors
- With progressive taxation, these labor market responses increase government revenue

First comes love, then come taxes

How the U.S. tax code and Social Security program affect workforce participation

BY LISA CAMNER MCKAY

The U.S. tax code is notoriously complex, as anyone who has ever filed a federal tax return will confirm. While there are many reasons for this complexity, one of them is the way the tax code and Social Security program treat married couples, economists Margherita Borella, Mariacristina De Nardi, and Fang Yang explain in the Institute working paper "Are Marriage-Related Taxes and Social Security Benefits Holding Back Female Labor Supply?"

In the United States, most couples file a joint tax return and pay taxes on their combined income. To see why joint taxation matters, consider an individual, Dee, who earns $30,000 a year. Assuming Dee takes a standard deduction and has no other income or credits, Dee's marginal tax rate is 12 percent—that is, if Dee earns $30,001 this year, Dee owes $0.12 in tax on that last dollar earned.

Now imagine Dee falls in love and gets married. Dee's spouse makes $85,000. The couple files a joint tax return on their combined income of $115,000. Now if Dee earns $1 more next year, the tax on that $1 is $0.22—almost twice as high—just because Dee is married.

Effects on labor force participation

The fact that couples are taxed on their combined income means that secondary earners (that is, the spouse who earns less money) often face marginal tax rates that are substantially higher than what they'd face if they were not married. If higher marginal tax rates discourage people from working, then the dependence of the marginal tax rate on marital status is likely to affect secondary earners' decisions about both whether to work and how much to work.

Marital status may affect how much secondary earners choose to work via another channel as well: the Social Security program. Under current law, married and widowed people can claim Social Security benefits based on their spouse's contributions rather than their own. For secondary earners, this means that working less likely does not negatively impact their Social Security benefits, which reduces their incentive to work, the economists explain. Meanwhile, working more means paying more Social Security tax.

A policy experiment

To analyze the impact of these marriage-related provisions of the tax code and Social Security program, Borella, De Nardi, and Yang conduct a policy experiment: What happens to labor force participation if marginal tax rates and Social Security benefits do not depend on marital status? The economists do this by creating a model of how much single and married people work and save over their lifetimes. Their model incorporates

the possibility of marriage and divorce, child care costs, education, changes to wages, medical expenses, and the risk of death, as well as other factors that affect individuals' decisions about how much to work and save.

Because more people work as a result of these policy changes, the government collects more taxes, creating a surplus. So the economists lower the payroll tax rate in their model, which balances the government's budget.

The figure on the following page shows that eliminating the marriage-based provisions would have a big effect on individuals born between 1951 and 1955 (chosen because they've lived most of their working lives). The participation of married women (gold line) in the workforce is 12 to 25 percentage points higher from age 25 to age 60. The average yearly earnings for women also increases a lot, by $5,000–$6,000 a year for married women and by about $2,000 for single women (orange line) for most of their working years.

Married men participate less and work less because their wives work more under these policy changes, and the couple's increased savings allow the husband to retire earlier.

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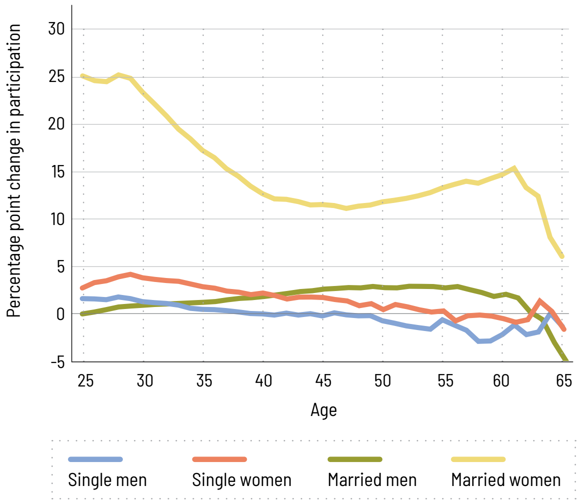
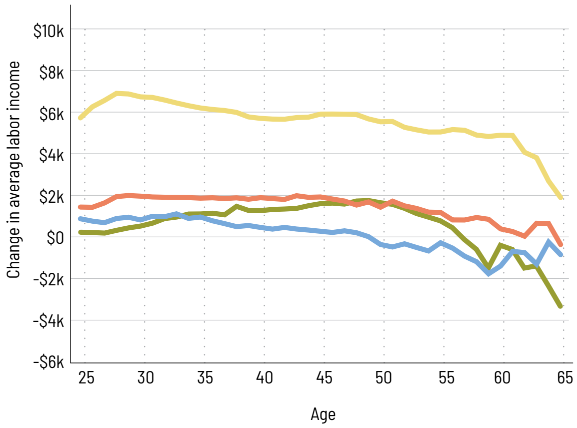
In a policy experiment eliminating marriage-based provisions of the tax code and Social Security program, the participation of married women in the workforce is 12 to 25 percentage points higher from age 25 to age 60.

Changes in workforce participation and labor income after eliminating joint income taxation and spousal Social Security benefits





Source: "Are Marriage-Related Taxes and Social Security Benefits Holding Back Female Labor Supply?" Margherita Borella, Mariacristina De Nardi, and Fang Yang, Institute Working Paper 41 (2020), Federal Reserve Bank of Minneapolis

It is also important to ask what percent of people are better off if these policies are changed (and payroll taxes decline to balance the government's budget). The economists find that in the 1955 cohort, 97.2 percent of couples, 100 percent of single men, and 70.9 percent of single women would prefer eliminating these policies. Thus, the benefits are widespread. Importantly, the economists calculate these changes to welfare assuming that people have their entire working lives to take advantage of lower tax rates and can plan appropriately for retirement.

Lifetime impact on wages and savings

The joint taxation feature of the U.S. tax code is an unusual one. Much has changed since its implementation, and the result is a disincentive to work for secondary earners that likely was never imagined by lawmakers. But the current system has far-reaching effects across people's lives. As the economists write, "This lower participation [of married women] reduces their labor market experience, which in turn reduces their wages over their life cycle." It also reduces savings and contributions to retirement accounts.

While changes to the U.S. tax code over the past 10 years have attempted to harmonize the treatment of single filers and married filers, higher marginal tax rates on secondary earners have not gone away. Together with the spousal and survivor benefits of the Social Security program, Borella, De Nardi, and Yang show that ending these policies could provide a meaningful boost to women's participation in the labor force—and to the growth of the national economy as a whole. ★

TAKEAWAYS ↗↗

- For married couples, spouse who earns less faces a higher marginal tax rate than if filing as single
- Social Security benefits can be claimed based on spouse's earnings
- Eliminating these provisions could increase participation of married women in labor force

Many jobs, few employers

Why labor markets with few firms hurt workers

BY ANDREW GOODMAN-BACON AND LISA CAMNER MCKAY

Matt Gies enjoyed his job fixing tractors at Faivre Implement, near his hometown of Berlin, Wis. Then Faivre sold its stores to a competitor who was buying up dealerships to take advantage of volume discounts from the country's largest tractor maker, John Deere. Gies' pay plateaued, while his hours increased. He had felt valued at Faivre, but after the sale, "I was just a number, an employee," Gies told the *New York Times*.

When Gies looked for a new job as a tractor mechanic, he found that most of the dealerships within commuting distance of his home had been bought up by the same company he'd left. He wanted to stay in his hometown and in his industry, but the market for tractor mechanics in central Wisconsin meant that he couldn't do both.

> Employers that face many competitors must pay workers what they are worth or risk losing them to firms that pay more, but firms only have to compete if their workers have a realistic way to leave.

STUDY AUTHORS

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At a time when employers say they can't find workers, yet the percentage of the population that is employed is lower than it's been in more than 20 years, Matt Gies' story feels emblematic of the complex interactions playing out in U.S. labor markets. Workers feeling trapped and undervalued and employers feeling desperate is a situation that policymakers have linked to labor market concentration—when employment opportunities exist at only a small number of firms. How should policymakers decide what the best remedies are?

The first step in addressing labor market concentration is understanding how and how much it affects workers and the economy. This is the focus of David Berger, Kyle Herkenhoff, and Simon Mongey's project in the Institute working paper "Labor Market Power." What matters for workers, they explain, is the degree of market concentration at a local, not national, level: When farm equipment repair shops go to hire workers, they are competing for workers with repair shops across town, not across the country. And the reality of many local labor markets is that employment in a specific industry is concentrated at only a few very large employers and many small (often single-person) ones. This concentration has at least two important impacts on the labor market, the economists explain.

Labor market power and wages

First, powerful firms underpay their workers. To stop working for low pay at a company he didn't like, Gies had to either move away from home or work in a different industry. Neither was what he wanted. In general, employers that face many competitors must pay workers what they are worth or risk losing them to firms that pay more, but firms only have to compete if their workers have a realistic way to leave. These two concepts—how difficult it is to change jobs and how difficult it is to change markets by moving to a different city—determine how much power firms have to "mark down" wages relative to a worker's productivity. The number of firms is key here: With only a few options, it's harder to switch employers, and so workers are less likely to do so.

Just how large is the wage markdown? The economists find that, in fact, "most firms in the economy are highly competitive, with narrow markdowns." However, this doesn't tell the whole story because most firms in the economy are tiny, employing a small fraction of the total workforce. When the economists weight their calculation by the size of a firm's payroll, they find that the average markdown is around 25 percent—in other words, workers receive only 75 percent of what they would receive in a perfectly competitive economy.

One tool policymakers have to address wage markdowns is setting a minimum wage. Understanding the degree of local labor market concentration is useful for determining what that minimum should be. For example, the median wage for the Minneapolis/St. Paul metro area is $23.90 per hour. In Michigan's Upper Peninsula, it's $17.67. To understand what the minimum wage should be, the economists argue, we need to understand why those are the medians. Is it because prices are lower or workers are less productive in the Upper Peninsula? If so, then a higher minimum wage will hurt employment. Or is it because the labor market there is concentrated among only a few firms, causing large wage markdowns? If so, then a higher minimum wage may raise earnings and employment because firms are now attracting workers who were pushed away when wages were marked down.

Labor market power and productivity

The second major consequence of labor market concentration is that firms do not turn out to be the optimal size. Economists would generally agree that a company that is exceptionally good at what it does should grow. And workers want to work at those productive companies because those workers will be more productive too and, therefore, earn a higher wage. But when a company has labor market power, it marks down wages. As a result, some number of workers will choose to work elsewhere rather than accept this lower wage. The most efficient firms, therefore, are smaller (though more profitable) than they would be if they paid workers what they are worth. This effect, called "misallocation," means that not enough production in the economy happens at the most productive firms, which shuts out workers from the best jobs.

The amount of misallocation that occurs is significant, for workers and for the economy. Employment levels at the most productive firms are in the vicinity of 35 to 40 percent lower than they would be in a perfectly competitive economy, Berger, Herkenhoff, and Mongey estimate. This calculation suggests that the economy would actually be more efficient, and workers better off, if the largest and most productive firms were *bigger*. This presents a catch-22: Efficient firms should be bigger, but bigger firms use their power to mark down wages. The implication for policymakers is to look for policies that induce firms to behave competitively even when they are large—capturing the efficiency benefits from labor market concentration without its costs to workers.

How much labor market power?

As the minimum wage example makes clear, implementing effective policy to redress the consequences of labor market concentration first requires identifying which markets are concentrated. One of the paper's most helpful insights is its clear justification for measuring labor market power based on the concentration of payroll. Previous research has used the number of firms or the concentration of employment, but those are not the only patterns that matter for labor market power. "You would think that it matters if the largest or smallest firm pays the highest or lowest wage, right?" Herkenhoff said. If every firm pays the same wage, then it doesn't really matter if some are big and some are small. If, instead, large employers offer not only the bulk of the job opportunities but also the only positions that pay livable wages, he added, "you would want that to be factored into your assessment of concentration."

Using a measure of how concentrated *payroll* is in local areas challenges recent ideas about employer power in labor markets. First, the average local labor market is less concentrated by the payroll measure than other measures. The main reason for this is that the most concentrated markets—those with just one firm—are very small. They are usually in rural areas and account for less than one-fifth of 1 percent of wages nationwide. Rather, the concentration in the typical local labor market is equivalent to having nine equal-sized firms. Second, local labor market concentration has fallen since the 1970s, even though large employers have remained the norm at the national level.

These statistics help us understand the where and the when of labor market concentration in the United States, which complements the paper's analysis of the harm that concentration does to workers through markdowns and misallocation. Ultimately, the combination of rigorous new measures of labor market power and improved estimates of its costs can provide important guidance to policymakers searching for solutions. "The potential gains from inducing firms to behave competitively in local labor markets are very, very large. So if you move the needle even 10 percent of the way, that can make people better off," Herkenhoff said. ★

TAKEAWAYS ↗↗

- When few employers dominate a local labor market, they underpay their workers
- Measuring degree of wage markdown is necessary to set local minimum wage
- Concentrated labor markets lead productive firms to be too small

BLUEPRINT FOR OPPORTUNITY

How can a worker who feels stuck in a low-wage job or whose job becomes obsolete start building a career with potential? For many workers without a college degree, the opportunities to earn higher wages and achieve career advancement are limited. Analysis of a randomized controlled trial of WorkAdvance, a workforce development program, by Institute advisor Lawrence Katz and colleagues shows that training programs can help workers land better jobs if the programs offer training in the skills that employers in growing industries want and the supports that employees making big transitions need to succeed. Let's see how the pieces fit together.

MOVE OUT OF LOW-PAYING JOB

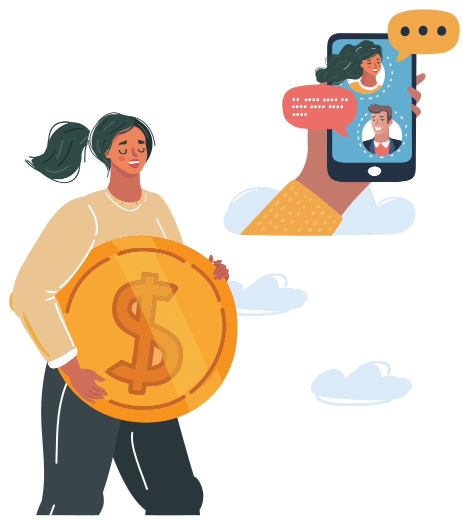
Concentrated in industries like retail and food services, workers without a college degree saw their median inflation-adjusted salaries stagnate between 2000 and 2019, **growing by a paltry 0.2%.**

DEVELOP SKILLS FOR GROWTH INDUSTRIES

Participants complete career readiness and occupational training for industries with strong local labor demand and the potential for long-term advancement. Structured training **quadruples the share of workers** who earn a credential.

LAND NEW JOB AND EARN MORE

Training programs **double the number of workers** who move into the industries targeted by the program, such as information technology and medical billing. These workers drive a **13% increase in average wages** compared with the control group.



KEEP THE MOMENTUM

Higher wages last for at least three years. Counselors contribute to this success by supporting workers dealing with challenges like child care or transportation and by helping employers fairly evaluate their new employees.

Sources: Lawrence F. Katz, Jonathan Roth, Richard Hendra, and Kelsey Schaberg, "Why Do Sectoral Employment Programs Work? Lessons from WorkAdvance," working paper (2020). Richard Hendra, David H. Greenberg, Gayle Hamilton, Ari Oppenheim, Alexandra Pennington, Kelsey Schaberg, and Betsy L. Tessler, "Encouraging Evidence on a Sector-Focused Advancement Strategy: Two-Year Impacts from the WorkAdvance Demonstration," MDRC report (2016). Kelly Schaberg, "Meeting the Needs of Job Seekers and Employers," MDRC report (2020)

DATA VISUALIZATION BY NINA LEO, LISA CAMNER MCKAY, AND ANDREW GOODMAN-BACON

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 are studies 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

“Economics is about people. If we’re not reflecting the constraints and the views and the challenges that people have, then we’re probably really not reaching our full potential.”

Mary C. Daly, President and CEO, Federal Reserve Bank of San Francisco, speaking at *Racism and the Economy: Focus on the Economics Profession* virtual event

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